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Effectiveness Of The Health Education On Knowledge Of Immunization Among Parents Of Children Under Five Years

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Abstract:
Background*: Immunization refers to "The process whereby a person is made resistant to a disease, typically by the administration of vaccines". Immunization is primarily used to prevent a wide range of infectious disease. Especially on children below five years of age it plays a vital role and great impact. It protects them from potential life threatening disease.*
Materials and Methods*: In this Pre experimental one group pre-test post-test study, 50 parents of children under five years who attended the outpatient department and those whose children were hospitalized were selected using non-probability purposive sampling technique to assess the knowledge regarding immunization and to assess the effectiveness of Health Education regarding immunization. Data was collected from about 8-9 samples in a day for a period of 6 days. Knowledge regarding immunization was assessed using the self-structured questionnaire followed by health education and collection of post education.*
Results*: In the pretest, 17(34%) have adequate knowledge, 22 (44%) have moderate knowledge, 11(22%) have inadequate knowledge. In the posttest 49 (98%) have adequate knowledge, 1(2%) have moderate knowledge. Z test was used to analyze the effectiveness of the health education. The calculated z score (-11.377) was found to be statistically significant at 0.05 level of significance.*
Conclusion: *Health education significantly improved the knowledge of parents of children under five year regarding immunization.*
Key Word*: Assess, Effectiveness, Children under five, Knowledge, Immunization.*

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I. Introduction

Immunization refers to the introduction of an immune response that may be manifested through active or passive immunity or both. The Universal Immunization Program was introduced in 1985 to improve the coverage of immunization within the country. Revised immunization includes changes to recommendation for influenza, Hepatitis A, Tetanus, Diphtheria, and acellular Pertussis vaccines. Immunization is an important cost effective weapon for combating child mortality associated with infectious diseases. Immunizing a child significantly decreases the cost of treating diseases thereby reduces suffering and promotes healthy childhood. [1]

More than one in five deaths of children under 5 in the world happens in India. More than half of these deaths are due to vaccine preventable and treatable infections such as pneumonia, diarrhea and sepsis. India's infant mortality rate is 39 meaning about 9.9 lakh babies die within one year of birth mostly from preventable causes. Unvaccinated children are more at risk of dying before their 5th birthday making vaccines the most cost-effective public health intervention to prevent diseases and death. Immunization has helped bring down the annual mortality of children under five from 3.3 million to 1.3 million deaths that is 17000 deaths each day. [2]

Parents' knowledge, attitude, and practices regarding immunization are the most important factors that could contribute to their immunization decisions. Thus, parents' decisions about immunization are very crucial for enhancing the immunization rate and compliance. Their compliance, in turn, leads to full immunizations of children, which prevents VPDs in children and for inhibiting any possible immunization errors. Since immunization is the only personal choice but also a community responsibility to protect vulnerable population, parents are taught to follow recommended schedule to ensure that their children are protected and contributed to community health. [3]

Studies have been published globally regarding parents' knowledge, attitude, and practices about immunizations in children. In Mizoram very few studies have been carried out and we were not able to retrieve any published studies regarding knowledge of under five mothers regarding immunization. Therefore we developed interest in carrying out this study.

Objectives of the study

1. To assess the knowledge of parents of children under five years pre and post health education regarding immunization
2. To assess the effectiveness of health education on immunization regarding knowledge of immunization among parents of children under five years.

Hypothesis

There is a significant difference between the knowledge scores pre and post health education regarding immunization among parents of children under five years.

Projected outcome

- The study will reveal the existing knowledge regarding immunization.
- The study aid in prevention of disease by immunization.
- Parents will gain knowledge regarding immunization.

II. Material And Methods

Research approach: Quantitative research approach

Research design: Pre experimental one group pre-test post-test design

Study setting: The study was conducted at Synod Hospital, Durtlang, Aizawl, Mizoram.

Duration of the study: One week

Sample size: 50 parents of children under five years.

Sample technique: Non- probability convenient sampling technique was used.

Sampling criteria:

Inclusion criteria:

- Parents of hospitalized children under five years at Pediatric Ward, Synod Hospital, Durtlang, Aizawl, Mizoram.
- Parents of children under five years who attended Pediatric OPD at Synod Hospital, Durtlang, Aizawl, Mizoram.
- Parents who can speak in Mizo and English language.

Exclusion criteria:

- Parents of hospitalized children who are above five years at Pediatric ward, Synod Hospital, Durtlang, Aizawl, Mizoram.
- Parents of hospitalized children who are above five years who attended Pediatric OPD at Synod Hospital, Durtlang, Aizawl, Mizoram.
- Parents who are unwilling to participate.

Description of tools

The tool consisted of 2 parts

- PART-1: Socio-demographic data

It includes age, religion, types of family, educational qualification, address, occupation and monthly income.

- PART-2: Self Structured Questionnaire

It consist of 20 (twenty) questionnaire regarding immunization to assess the knowledge of parents under five years.

Procedure of data collection

1. Formal permission was obtained from the concerned authorities of Synod Hospital, Durtlang.
2. Ethical permission and informed written consents was obtained from all the participants to conduct the study.

3. Data collection was done for 6 days
4. Data was collected from about 8-9 samples in a day and around 30 minutes was needed in completing data collection
5. Knowledge regarding immunization was assessed using the self-structured questionnaire followed by health education.
6. Post education knowledge was then collected.

Statistical analysis

Data was analyzed based on the objectives of the study. Analysis was done using descriptive and inferential statistics. Analysis was done under 3 sections.

- Section I: Assessment of the distribution of socio-demographic variables of parents of children under five years using frequency and percentage.
- Section II: Assessment of the knowledge of parents of children under five years pre and post health education regarding immunization using frequency and percentage
- Section III: Assessment of the effectiveness of health education on knowledge regarding immunization among parents of children under five years using z test.

III. Results

Section I: Assessment of the frequency and percentage distribution of socio-demographic variables of parents of children under five years

Table 1: Frequency and percentage distribution of parents of children under five year according to their demographic variables, n=50

Demographic variables	*Group*	*Frequency (f)*	*Percentage (%)*
Age group	a. Below 30 years	22	44%
	b. 30-40 years	26	52%
	c. 40-50 years	2	4%
Educational Qualification	a. Below class 10	22	44%
	b. Undergraduate	21	42%
	c. Post graduate	12	24%
Address	a. Rural	14	28%
	b. Urban	36	72%
Occupation	a. Government servant	8	16%
	b. Manual labor	9	18%
	c. Private employee	14	28%
	d. Unemployed	19	38%
Monthly Income	a. Below 30,000	27	54%
	b. 30,000-50,000	16	32%
	c. 50,000-70,000	3	6%
	d. 70,000 above	4	8%
Religion	a. Christianity	50	100%
	b. Hindu	-	-
	c. Muslim	-	-
	d. Others	-	-
Types of family	a. Nuclear family	26	52%
	b. Joint family	21	42%
	c. Extended	-	-

The data presented in Table1 reveals that, out of 50 parents of children under five years, with regard to age, majority 26 (52%) were 30-40 years old. With regards to educational qualification majority 22 (44%) were below class 10.With regards to address 36 (72%) were living in urban area. In terms of occupation, majority 10 (38%) were unemployed. With regards to monthly income 27(54%) had monthly income below 30,000. With regard to religion 50 (100%) are Christian. In context of types of family 26 (52%) were from nuclear family.

Section II: Assessment of the knowledge of parents of children under five years pre and post health education regarding immunization

Table 2: Frequency and percentage distribution of knowledge of parents regarding immunization n=50

Level of Knowledge	*Pre-test*		*Post-test*	
	f	*%*	*f*	*%*
Adequate	17	34%	49	98%
Moderate	22	44%	1	2%
Inadequate	11	22%	0	0%

Data on Table2 reveals that before giving health teaching 17 (34%) of the participants had adequate knowledge, 22 (44%) had moderate knowledge and 11(22%) had inadequate knowledge. Whereas after giving health teaching 49 (98%) of the participants have adequate knowledge, 1(2%) had moderate knowledge and none of the participants had inadequate knowledge.

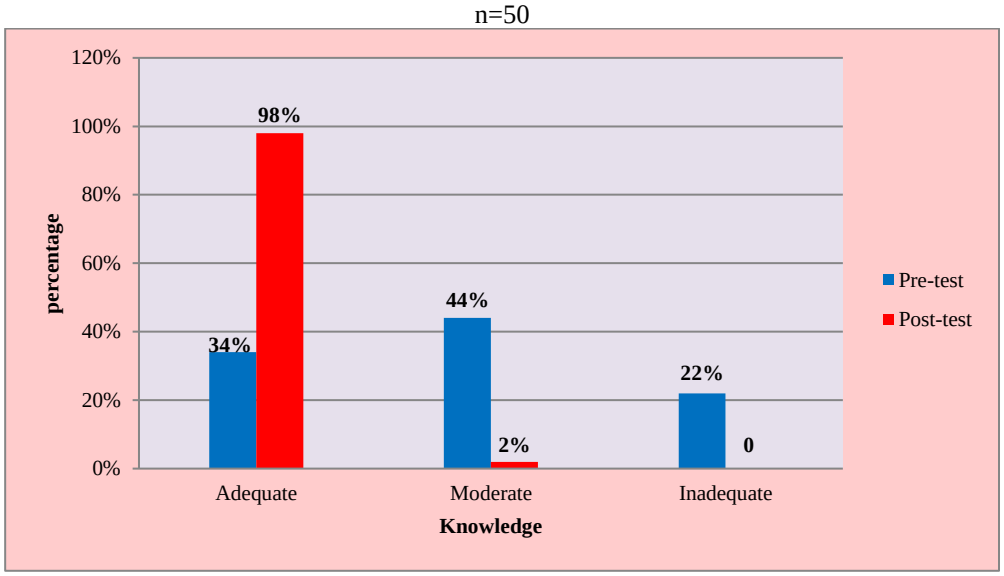

Figure 1: Percentage distribution of knowledge of parents of children under five years regarding immunization

Section III: Assessment of the effectiveness of health education on knowledge regarding immunization among parents of children under five years

Table 3: Effectiveness of health education on knowledge of immunization among parents of children under five years
n=50

Knowledge	Mean	SD	Mean diff	z score	p value	Remarks
Pre-test	14.86	2.02	4.1	-11.377	0.000	S*
Post-test	18.96	1.75				

Data on Table 3 shows that calculated p value (0.000) for the z score (-11.377) is statistically significant at 0.05 level of significance as it is lesser than 0.05. Hence, the health education was effective and the hypothesis which states that there is a significant difference between the knowledge scores pre and post health education regarding immunization among parents of children under five years was accepted.

IV. Discussion

The present study findings reveals that out of 50 participants 17(34%) have adequate knowledge, 22(44%) have moderate knowledge, 11(22%) have inadequate knowledge regarding immunization of children under 5 years old. Contrary to this study where the percentage of participants with adequate knowledge is acceptable, findings of a study conducted by Vaithilingan S, Bakkialakshmy N. and Safali A. K. (2023) showed that from the sample taken among 75 mothers of children under five years old 40(53%) were found to have moderate knowledge, 28(37.34%) had inadequate knowledge and 7(9.34%) had adequate knowledge regarding immunization. [4]

In the present study assessment of the effectiveness of the health education was analyzed using z test. Findings revealed that the calculated p value (0.000) for the z score (-11.377) was statistically significant at 0.05 level of significance as it is lesser than 0.05 indicating that the health education was effective. Similarly in a study conducted by Udaykar S, John J. K(2016), assessment of the effectiveness of planned teaching program was done using paired t-test. The p value was found to be 0.000, by comparing both the means of pre-test and post-test, using paired t-test. As the $p<0.005$ the test is significant at 0.001 level. So the planned teaching was highly effective in increasing knowledge regarding Immunization among Mothers of under-five Children in selected Community Setting. [5]

V. Conclusion

The knowledge of parents is a key tool in timely immunization of children. Many children are not immunized due to lack of knowledge of parents. The study revealed that the health education was effective in increasing the knowledge of parents of children under five years regarding immunization. Therefore, in order to promote the number of children getting immunized, it is necessary to organize educational programs for parents to eliminate false information and beliefs.

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