Assessment of Nutritional Knowledge in Mother's Under 2-year of age Children

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ABSTRACT

Introduction: Nutrition is most important role in the growth and development of physical, psychological growth of young children (American Academy of Pediatrics 2016). Millions of children are eating more than what they do not need, and millions are eating too little of the requirement.

Aim/Objectives: To assess pre and post intervention score of knowledge regarding recommended nutrition among mothers of children under 2 years of age in the experimental and control group.

Methodology: Quasi -experimental pre-test and post-test research design was used to collect data from mothers. Total 300 mothers were enrolled into the study by using purposive sampling technique. The structured knowledge questionnaire used to assess the knowledge regarding balanced diet before and after nutrition educational teaching.

Result: The data were gathered and analyzed by using descriptive and inferential statistics. In post-test knowledge score the knowledge of mothers was Adequate 138(92%), moderate 12(8%) in experimental group however knowledge of mothers was moderate 59(39.3%) and inadequate 91(60.7%) in control group There is no significance association between the level of scores and other demographic variables Marital status, religion, Type of family, type of family, type of meal intake, occupation, Family income, previous knowledge, and source of knowledge. The calculated chi-square values were less than the table value at the 0.05 level of significance. The study findings revealed that the mothers were having moderately adequate knowledge regarding dietary practices in prevention of malnutrition.

Conclusion: As a result of the study, it was concluded that mother's education helps the child's development and this is closely related. NET knowledge will help them to improve the knowledge of nutrition.

Keywords: Knowledge, Nutrition Educational teaching, Mothers, Nutrition, Prevention.

I. INTRODUCTION

Nutrition is defined as the science of food and its close relationship to health. It is concerned especially with the roles that nutrients play in body growth, development and maintenance. Nutrition is one of the basic functions of living beings necessary for food utilization. Human beings need to have adequate nutrition to achieve normal physical condition growth and for a healthy life. Appropriate nutrition is a basic right of every human being. If people do not receive sufficient quality and quantity of nutrients, they will suffer from hunger and malnutrition. Malnutrition present in human body commonly are protein energy malnutrition, iodine deficiency disorder, iron and vitamin A deficiency anemia shortage (MOHP, 2008). 2

Nutrition is most important role in the growth and development of physical, psychological growth of young children (American Academy of Pediatrics 2016).Millions of children are eating more than what they do not need, and millions are eating too little of the requirement. At least 1 in 3 children under five are not developing well globally due to malnutrition and at least one in 2 children under 5 suffer unseen hunger from important vitamin and other necessary inadequacy nutrients. Child overweight can prominent to the early outbreak to type-2 diabetes, depression, and is a powerful predictor of adult obesity which will have serious economic and health consequences. (UNICEF 2019). 3 Exclusive breastfeeding to the newborn is recommended until the age of six months. For full-term and average weight babies, breast milk is adequate as the primary food before the age of six months. In addition to the newborn needs vitamin D (THL 2019.) 4 Children represent the most vulnerable part of any community. Their nutritional status is a sensitive and crucial indicator of community health and nutrition. Among them under nutrition is one of the largest public health problems in developing countries. Attempts to reduce child mortality in developing countries through selective primary health care focused primarily for the prevention and control of specific infectious diseases with less effort aimed at improving the basic nutritional status of children (Rao et al., 2005). 8 Nowadays the majority of guardians are confused about nutrition intake for their children, especially what children eat, how much nutrition child's body need and resources of nutrition. They wonder whether the children are getting enough vitamins and necessary nutrients required for their development. (American Academy of Pediatrics 2016). 9 Existing iron, vitamin A, zinc, and universal salt iodization programmes must be expanded, particularly in high-risk populations. Universal vitamin D supplementation is required; however, the dose requires additional research. Only in high-risk groups should vitamin B12 deficiency screening and supplementation be used. The availability of appropriately fortified foods must be addressed as soon as possible. 5,6 In 2021, 828 million people will be affected by hunger. After remaining relatively flat since 2015, the proportion of people suffering from hunger surged in 2020 and continued to rise in 2021, reaching 9.8% of the world's population.900, 000 deaths were reported in East Asia and the Pacific region. South Asia 3.1 million; There are 300,000 in Latin America and the Caribbean. It is reported that 26,000 children die every day from preventable causes (United Nations International Children's Emergency Fund, 2016). 9 Malnutrition is the major cause of disease burden in developing countries and is a principal factor inhibiting further rapid declines in child mortality. Approximately 70% of world's malnourished children live in Asia, resulting in the region having the highest concentration of childhood malnutrition (Hoque, Hossain, Parvin, Rahman and Haque, 2015). Prevalence of stunting and underweight are high in South Asia where one in every two preschool children is 12 stunted. In fact, Bangladesh has the highest prevalence of child underweight of all countries in the world except North Korea, and only seven countries

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have a higher prevalence of child stunting than that of Bangladesh (Pandey, 2015). 11 Mothers in Rajasthan, India, have low levels of nutrition education. They do not have adequate access to the media to expand their nutritional knowledge. As a result, this study, which is one of the mother's nutrition education activities, will be very important and useful. As mothers' nutritional knowledge improves, it is expected that they can apply it to improve their children's eating habits and reduce the risk of moderate or severe malnutrition. 17 Therefore; more research is needed to understand the eating habits of many children so that preventive measures can be taken as soon as possible. Based on this historical background, a study was conducted targeting mothers to identify the superiority and factors affecting the growth of their children.

II. Need for the Study

Many health experts recommend that parents, teachers and other influential people guide children to develop healthy eating habits and gain accurate knowledge about nutrition (Variyam et al., 1999). Informed mothers can make informed decisions about their children's nutrition. Effective application of nutritional knowledge is therefore expected to improve children's health through more effective care practices and knowledge (Saaka, 2014). Nutritional knowledge serves as a channel through which the mother's education influences the child's eating habits. (Varyam, 1999). 22, 23 If the assessment of dietary pattern and growth of children is done, it will provide the foundation of information for public health response. The ultimate goal is the elimination or reduction of mal nutrition and its related consequences. For the community welfare there has been various child welfare centers.

All the health services are made easily accessible and within the reach of the mothers. So, the study outcomes will provide easy accessibility of the Nutrition Education center for the welfare of the community. With this background researcher will conduct this study among rural area to know dietary adequacy, growth of children and knowledge of mothers regarding recommended nutrition.

III. Material and Methods

The study design was the Quasi -experimental pre-test and post-test research design design used to study the socio-demographic of mothers of children under the age of 2 years in community area of district dausa rajasthan india. This study was conducted in district dausa rajasthan. The target population of the study was post natal mothers of under 2 years of age children. The study participants were selected using purposive sampling technique. The data collection tools used were in hindi&English language. The total sampal size was calculated and 300 postnatal mothers were included in the study. The research was conducted in june 2019 – august 2023 using purposive sampaling. A total 300 postnatal mothers who visited anganwadi centers were asked to fill out tools which comprised a demographic question and revised after provide knowledge. The demographic knowledge were orgenised by using descriptive measure (frequency and pecentage) SD and range of score to describe the knowledge regarding nutrition among postnatal mothers of children under 2 years of age. The association was compaired using chi test , t test with the effectiveness of NET and for association between knowledge scoer with selected socio demographic variable. The level of significant for the study was(P>0.05 level)

Results:

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TABLE 4.1 Frequency distribution of socio demographic variables among mothers of children under the age of 2 years

S.NO.	SOCIO DEMOGRAPHIC PROILE	Experimental f(%)	Control f(%)
1.	Age of mother in years		
a)	19-22 years	24(16%)	45(30%)
b)	23-26 years	82(54.6%)	71(47.3%)
c)	27-30 years	44(29.3%)	34(22.6%)
d)	> 31 years	-	-
2.	Marital status		
a)	Married	144(96%)	139(92.6%)
b)	Divorced	6(4%)	11(7.3%)
c)	Widow/widower	-	-
d)	Separated	-	-
3.	Religion		
a)	Hindu	144(96%)	139(92.6%)
b)	Muslim	6(4%)	6(4%)
c)	Sikh	-	5(3.3%)
d)	Other	-	-
4.	Mother education		
a)	Non Formal Education	12(8%)	13(8.6%)
b)	Primary	86(57.3%)	64(42.6%)
c)	Secondary	52(34.6%)	73(48.6%)
d)	Diploma	-	-
e)	Graduate &above	-	-
5.	Type of family		
a)	Nuclear	128(85.3%)	126(84%)
b)	Joint family	22(14.6%)	24(16%)
c)	Extended family	-	-
6.	Type of meal intake		
a)	Vegetarian	101(67.3%)	115(76.6%)
b)	Non-Vegetarian	43(28.6%)	30(20%)
c)	Eggetarian	-	5(3.4%)
7.	Occupation		
a)	Homemaker	144(96%)	146 (97.3%)
b)	Government job	6(4%)	4 (2.6%)
c)	Non-Government job	-	-
8.	Family monthly income in Rs.		
a)	<10,000	2(2%)	5(3.3%)

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b)	10,000 - 20,000	148(98.6%)	145(96.6%)
c)	21,000 - 30,000	-	-
d)	>= 30,000	-	-
9.	**Age at weaning of baby**		
a)	6- 10 months	150(100%)	150 (100%)
b)	11-15 months	-	-
c)	16 – 20 months	-	-
10.	**Previous source of knowledge**		
a)	Yes	144(96%)	141 (94%)
b)	No	6(4%)	9 (6%)
11.	**If yes, then specify**		
a)	Social media	66(44%)	75 (50%)
b)	Newspaper	46(31%)	20 (13.3%)
c)	Mobile learning	24(16%)	40 (26.6%)
d)	Internet	8(5.3%)	6 (4%)

Table 4.1 depicted that frequency and percentage distribution of socio demographic profile of mothers in experimental group and in control group. The data obtained depicts that out of 150 in experimental group majority of subjects were from age group 82(54.6)% belongs to   23-26 years, 44(29.3)% belongs to 27-30 years and lowest age group frequency and percentage were24(16.0)% 19-22 years whereas in control group out of 150 mothers majority of subjects were 71(47.3%) belongs to   23-26 years, 34(22.6%)19-22 years and 45(30%) belongs to 27-30 years

Marital status out of 150 in experimental group majority of subjects were144 (96.0) % from married and   6(4.0)% mother were divorced whereas in control group out of 150 mothers majority of subjects were married 139(92.6)% and 11(7.3)% were divorced

Religion out of 150 in experimental group majority of women's were144 (96.0) % belongs from Hindu religion whereas 6(4.0) %women's belongs to Muslim religion and   whereas in control group out of 150 mothers majority of women's were 139(92.6) % belongs from Hindu religion whereas 6(4) % women's belongs to Muslim religion and Sikh religion women's were 5(3.3)%

Mothers education status out of 150 in experimental group majority of mothers belongs to Primary education 86(57.3) % and Secondary 52(34.6)%, 12(8)%   women's were Non- Formal Education however in control group out of 150 mothers majority of women's Primary education were 73(48.6)%, Secondary 64(42.6)% and only 13(8.6)% women were Non- Formal Education

Type of family out of 150 in experimental group majority of mother belongs were Nuclear family 128(85.3) % and Joint family 22(14.6)% and in control group Nuclear family126 (84% and Joint family 24(16)% Type of meal intake out of 150 in experimental group majority of mother belongs were   Vegetarian   101(67.3),   Non-Vegetarian 43(28.6)%   whereas in control group out of 150 mothers majority of mothers were Vegetarian 115(76.6)%, Non-Vegetarian 30(20)% , and only 5(343)% were Eggetarian Out of 150 in experimental group majority of mother's occupation belongs were Homemaker 144(96) % and in Government job 6(4.0) % and in control group majority of mother's occupation belongs were Homemaker 146(97.3% and only 4(2.6) % were in Government job Family monthly income out of 150 in experimental group majority of mother income were

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21,000 - 30,000 148(96)% and 10,000 - 20,000 2(2)% and in control group majority of mother income were 21,000 - 30,000 145(96.6)% and only 5(3.3)% 10,000 - 20,000

Age at weaning of baby out of 150 in experimental group majority of mother's weaning starting age were 6- 10 months 150(100) %   and also in control group 150(100) %

Previous source of knowledge out of 150 in experimental group majority of mother were Yes 144(96.0) % and No   6(4.0) % and in control group Yes 141(94) % and No 9(6) % previous knowledge.

Out of 150 in experimental group majority of mother knowledge from Social media 66(44) %, Newspaper 46(31) % Mobile learning 24(16)% and only Internet mothers were 8(5.3)%

And in control group majority of mother knowledge from Social media 75(50%), Mobile learning 20(13.3) %, Newspaper 40(26.6) % Internet 6(4) %.
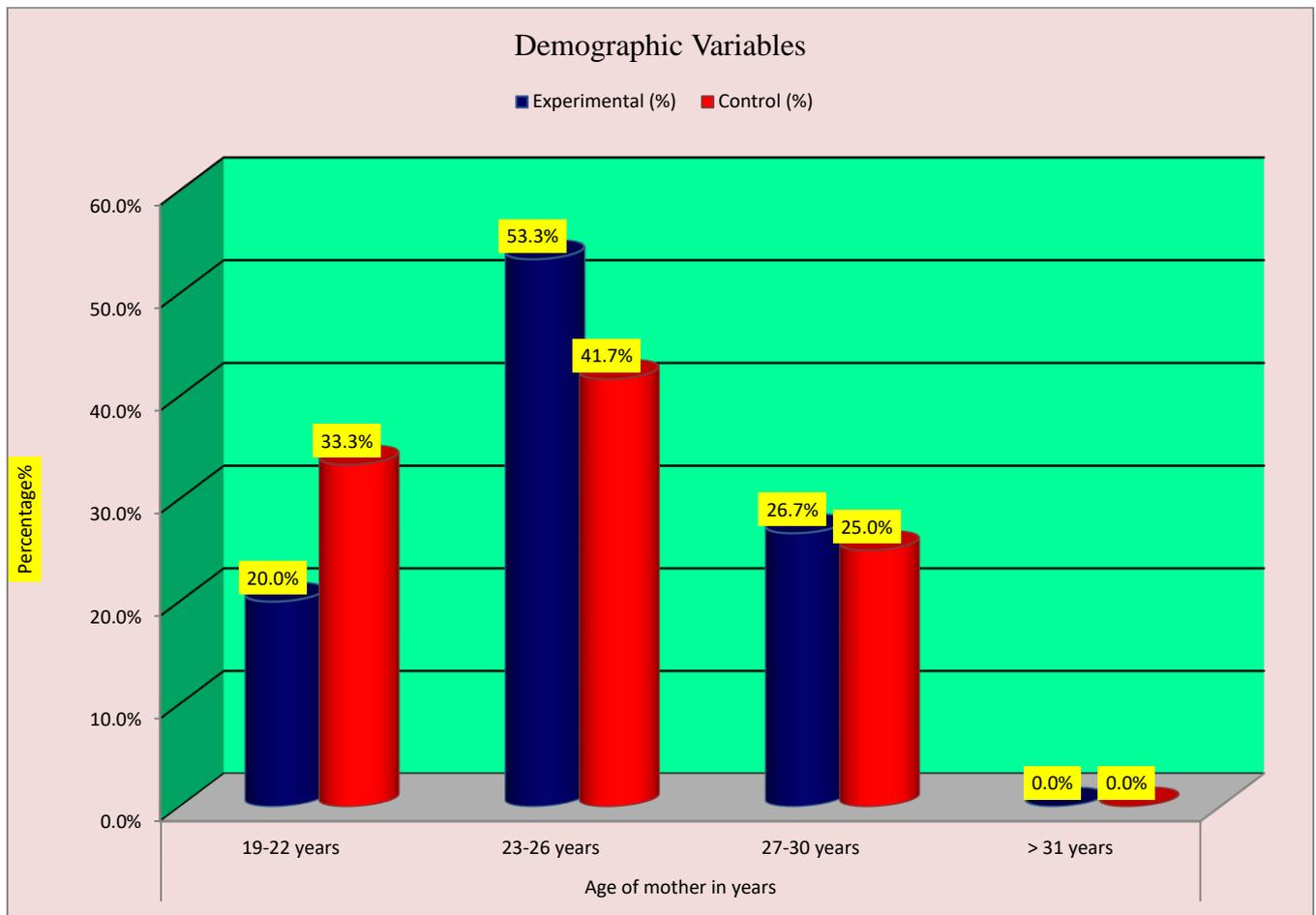

Figure No.4.1 : Bar diagram showing the percentage distribution according to the age of mothers of children under the age of 2 years
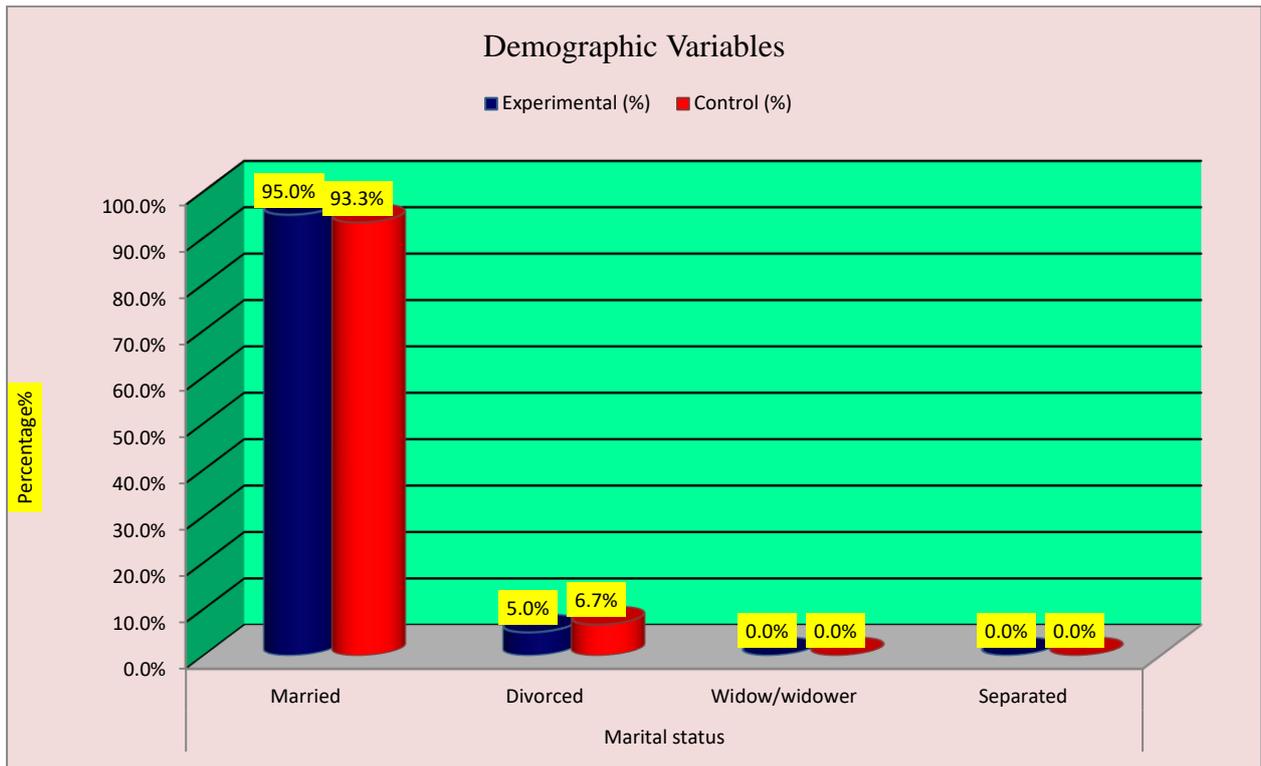
Figure No.4.2 : Bar diagram showing the percentage distribution according to marital status of mothers of children under the age of 2 years
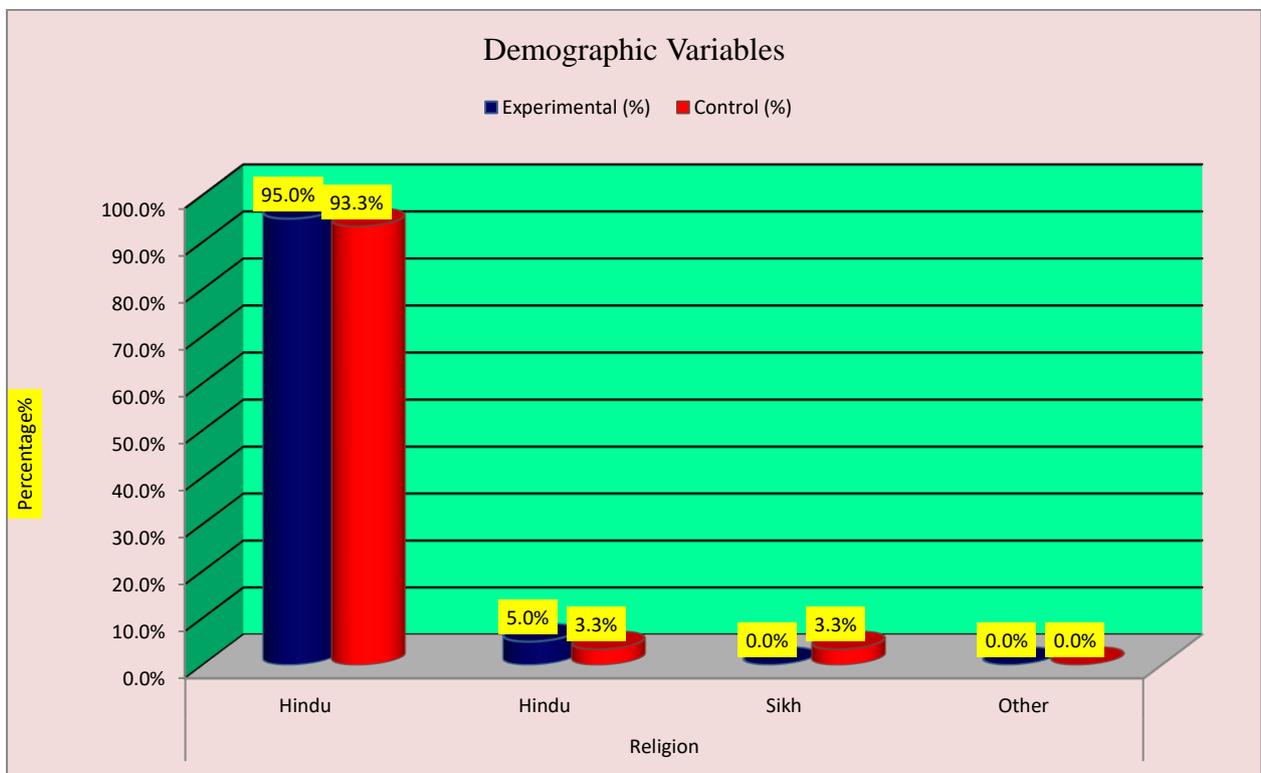

Figure No.4.3 : Bar diagram showing the percentage distribution according to religion of mothers of children under the age of 2 years

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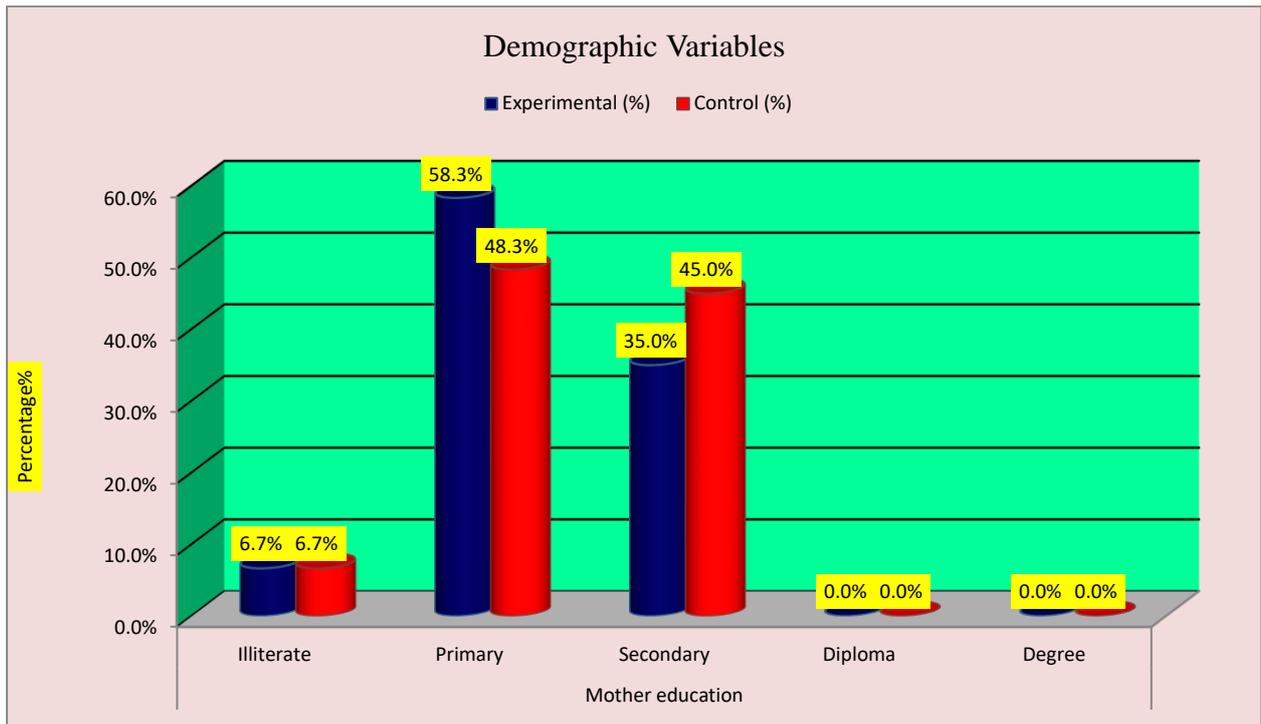
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Figure No.4.4 : Bar diagram showing the percentage distribution according to education of mothers of children under the age of 2 years
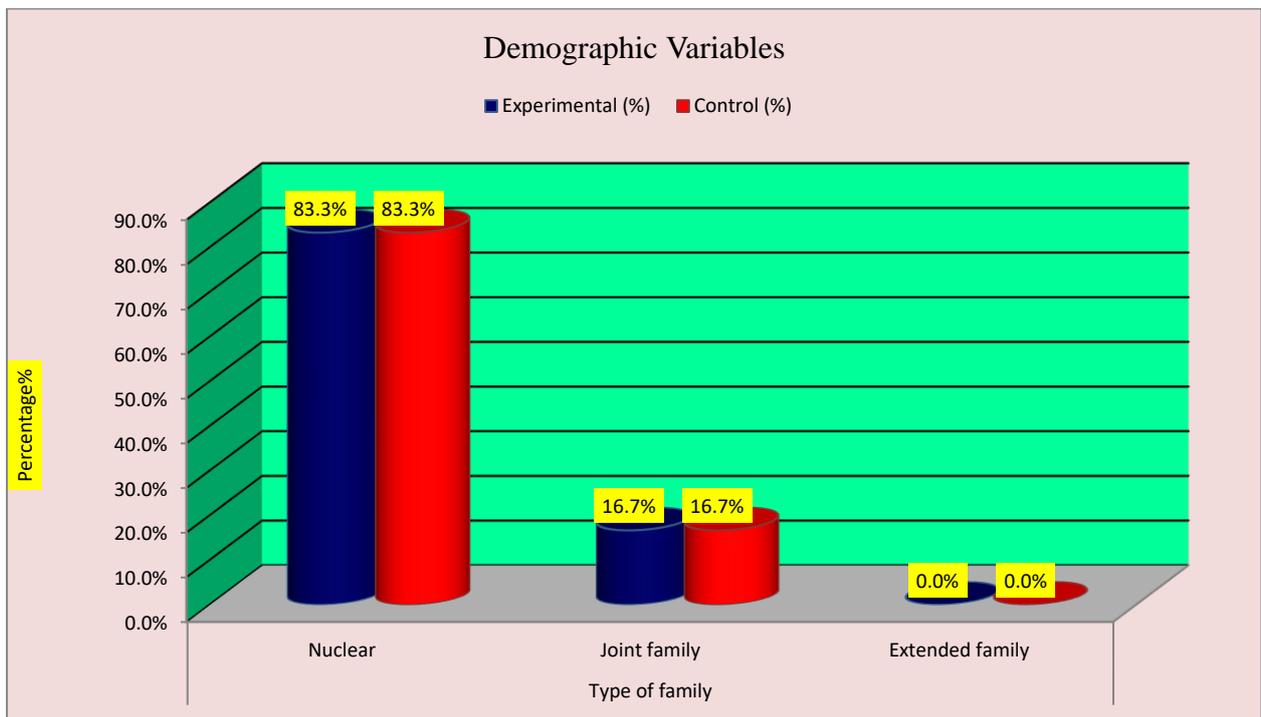

Figure No.4.5 : Bar diagram showing the percentage distribution according to type of family of mothers of children under the age of 2 years

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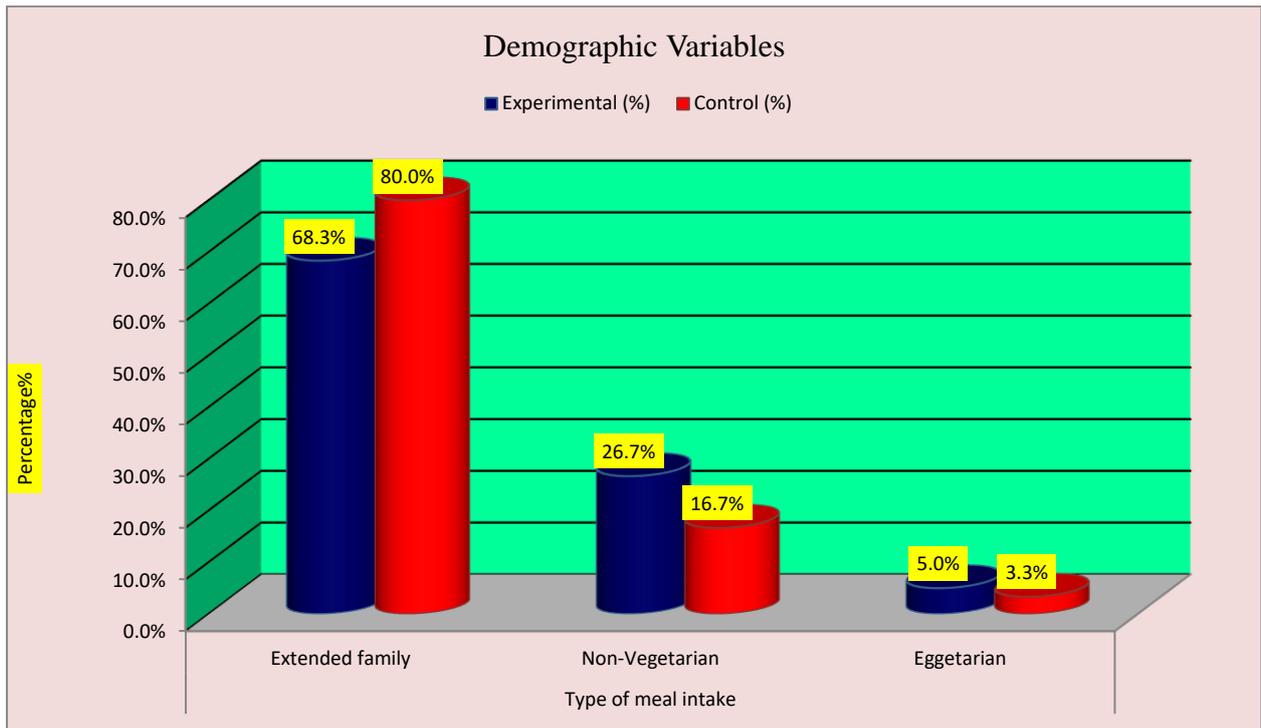
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Figure No.4.6. Bar diagram showing the percentage distribution according to their type of meal intake of mothers of children under the age of 2 years
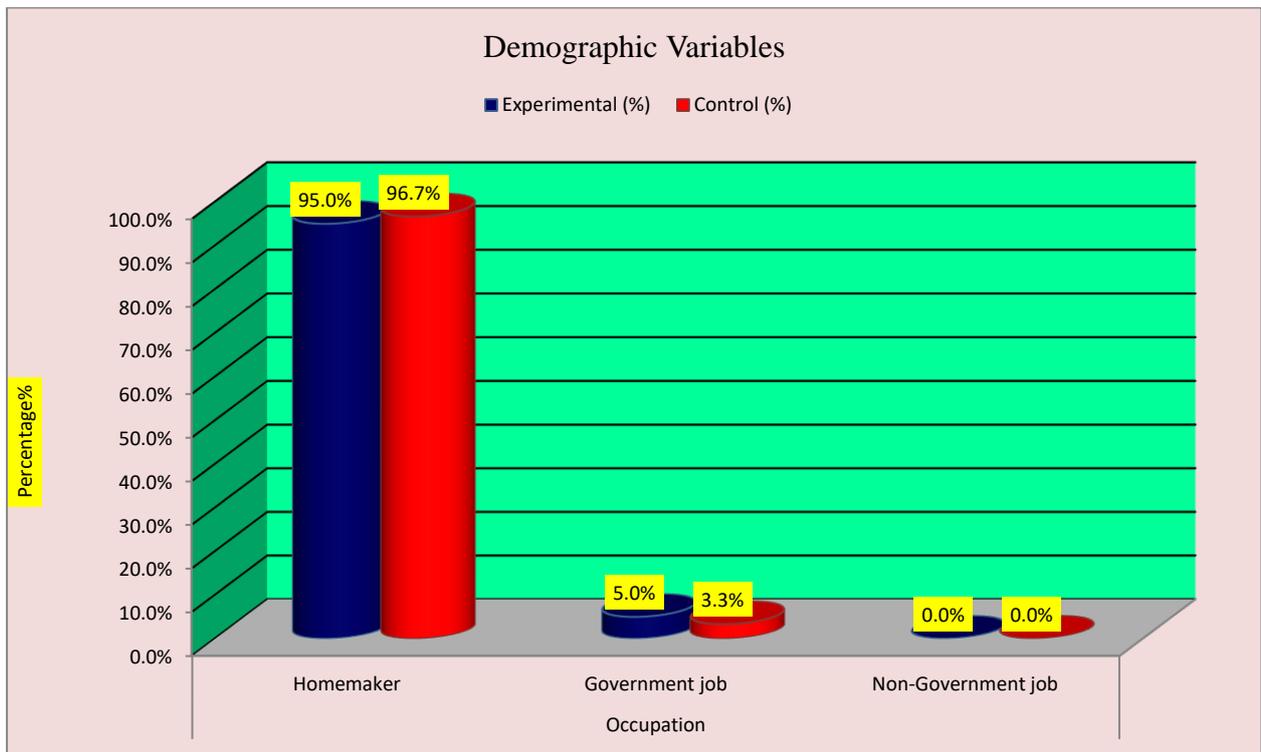

Figure No.4.7: Bar diagram showing the percentage distribution according to their occupation of mothers of children under the age of 2 years
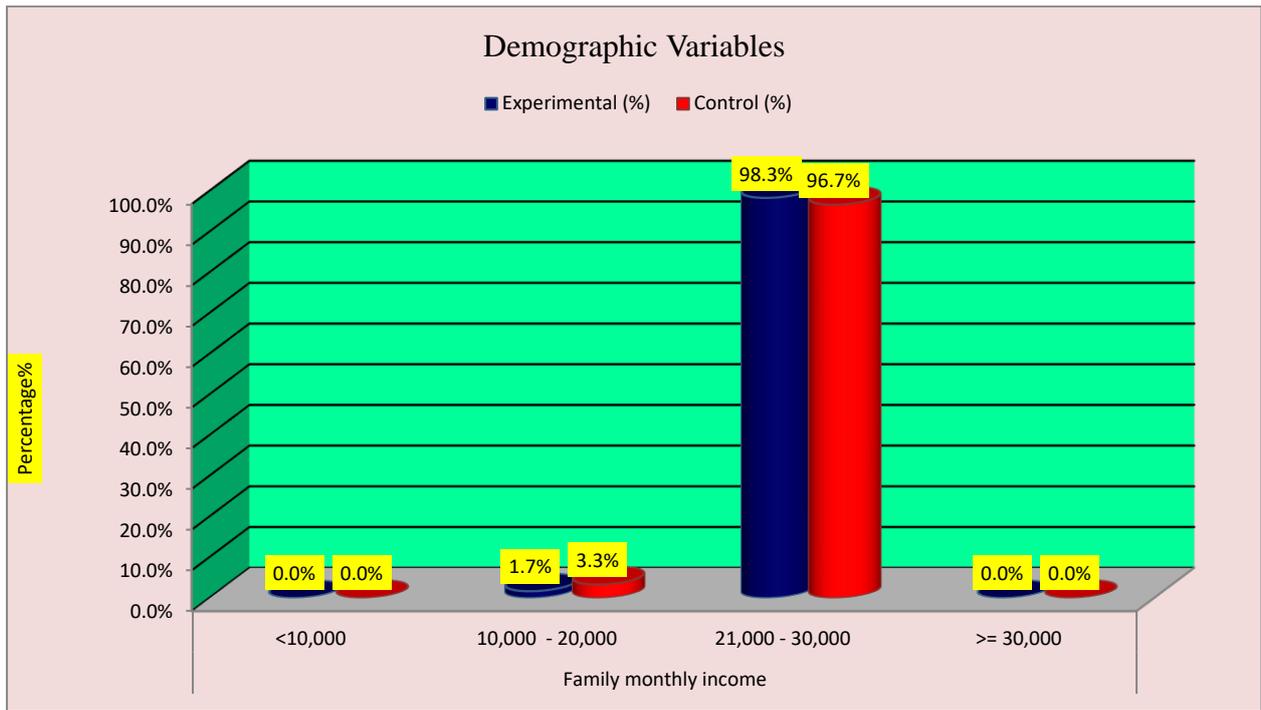
Figure No.4.8 Bar diagram showing the percentage distribution according to family monthly income of mothers of children under the age of 2 years
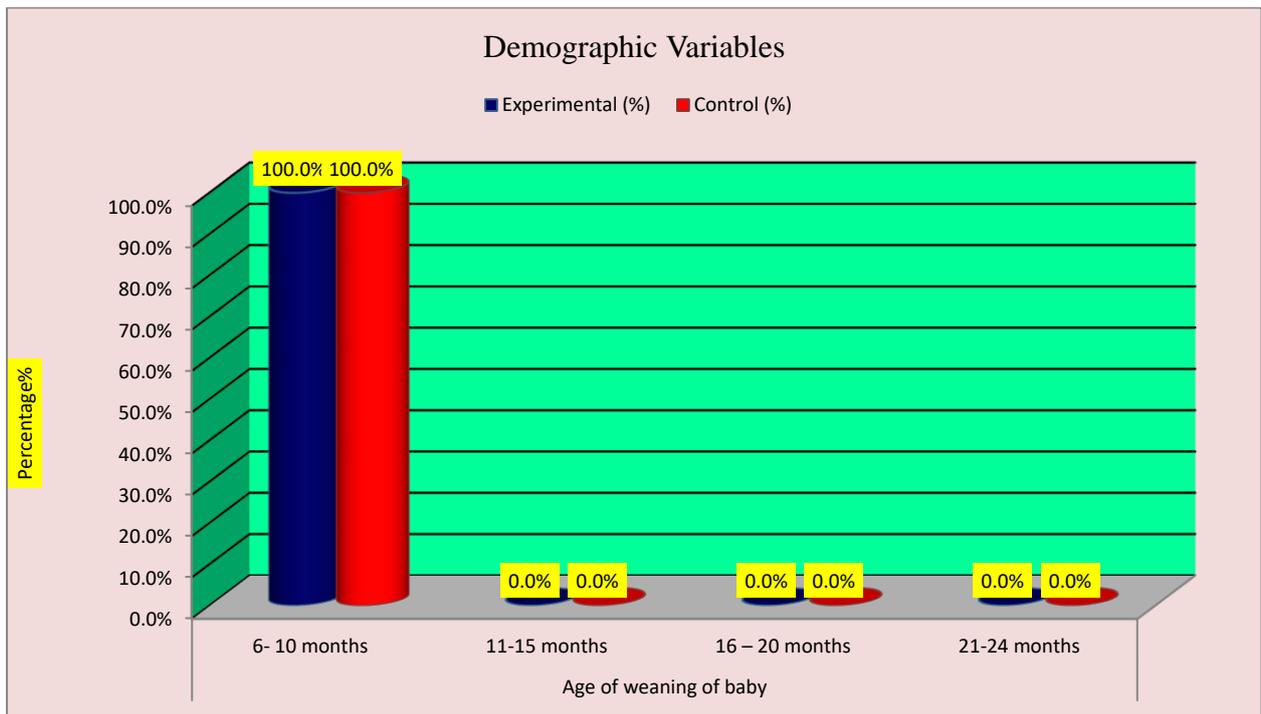

Figure No.4.9 Bar diagram showing the percentage distribution according to age of weaning of mothers of children under the age of 2 years

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Table 4.2 : Showing Frequency & Percentage distribution of Pre-Experimental and Pre-Control Group of Knowledge Scores among mothers of children under the age of 2 years

CATEGORY SCORE KNOWLEDGE	PRE EXPERIMENTAL	PRE CONTROL
ADEQUATE(17-24)	9(6%)	0(0%)
MODERATE(9-16)	28(18.7%)	63(42%)
INADEQUATE(0-8)	113(75.3%)	87(58%)

Maximum=24 Minimum =0

Table 4.2 depicts that In pre-test knowledge score the knowledge of mothers was Adequate 9(6%), moderate 28(18.7%) and inadequate 113(75.3%) in experimental group however knowledge of mothers was moderate 63(42%) and inadequate 87(58%) in control group figure in 4.10

Table No 4.3 : Comparison of descriptive statistics between Pre Experimental and Pre Control Group of knowledge among mothers of children under the age of 2 years

N=300

Descriptive Statistics		Mean Score	S.D.	Median Score	Maximum	Minimum	Range	Mean%
PRE	Experimental	8.72	3.037	8	19	6	13	36.32
	Control	8.50	1.456	8	14	6	8	35.42

Maximum=24 Minimum=0

Table 4.3 depicts that Mean score in pretest in experimental group was 8.72 higher than the control group was 8.50, SD in experimental group was 3.037 and in control group was 1.456, Maximum score in experimental group was 19 and in control group was 14 and Minimum score in experimental group was 6 and in control group was 6 however Mean % score in experimental group was 36.32 and in control group was 35.42 show in figure 4.11
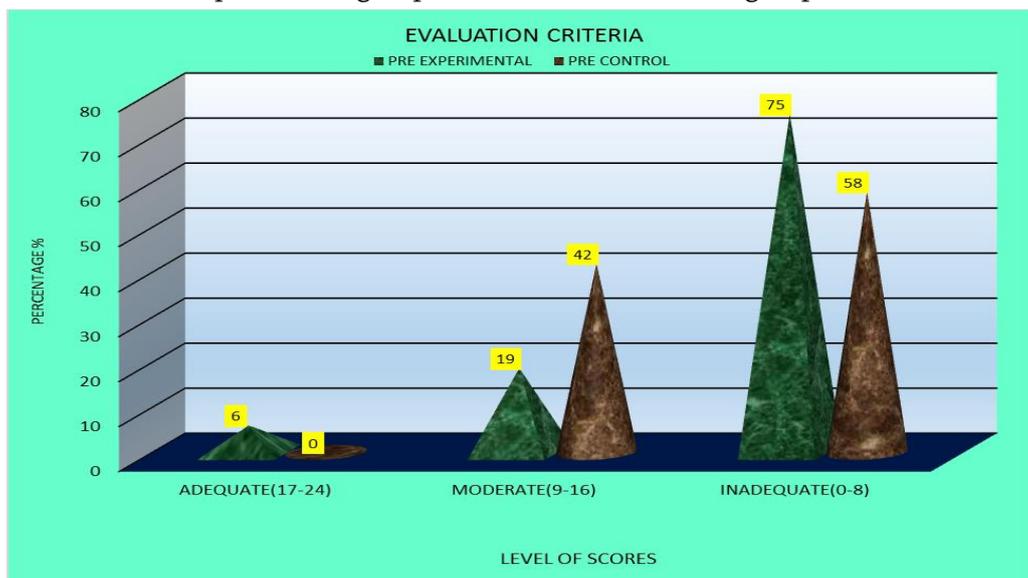

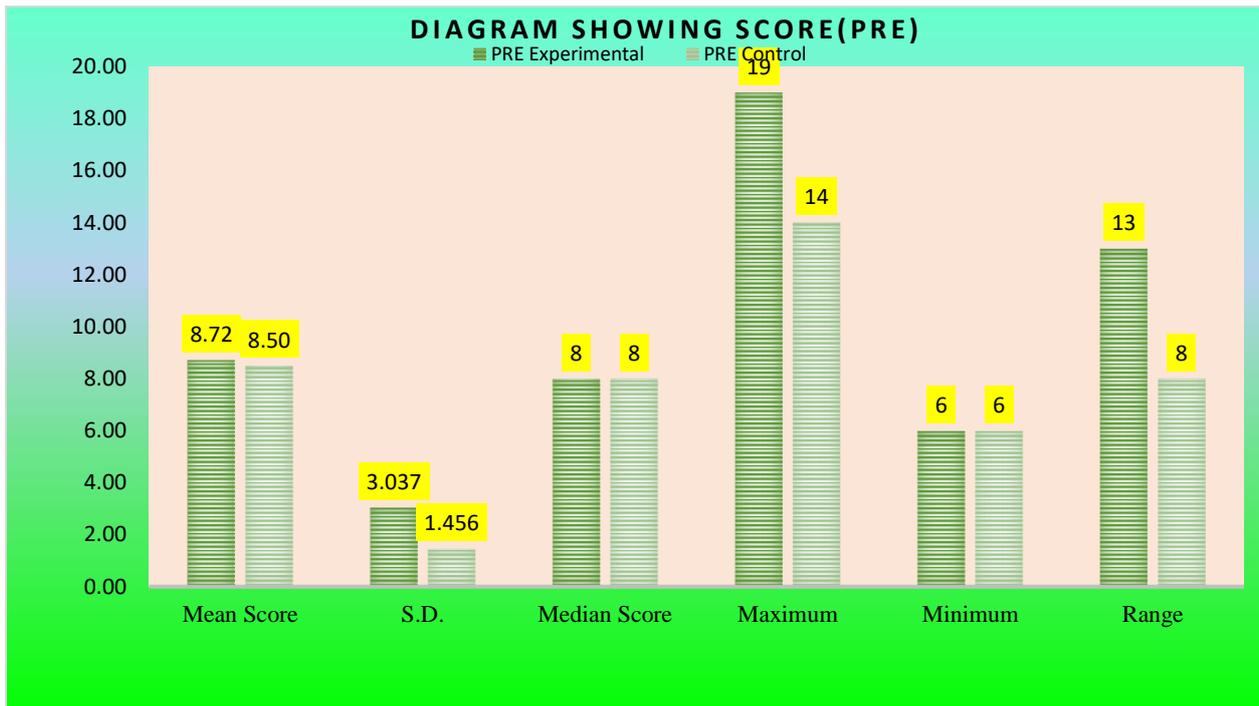**Figure No.4.10 :** Cone bar showing the Knowledge Scores in Pre-Experimental and Pre-Control group.

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Figure no. 4.11 : Bar diagram representing comparison of descriptive statistics of Pre-Experimental and Pre-Control Knowledge Scores.

Table 4.4 : Showing Frequency & Percentage distribution of Post-Experimental and Post-Control Group of Knowledge Scores among mothers of children under the age of 2 years

CATEGORY SCORE	POST EXPERIMENTAL GROUP	POST CONTROL GROUP
ADEQUATE(17-24)	138(92%)	-
MODERATE(9-16)	12(8%)	59(39.3%)
INADEQUATE(0-8)	-	91(60.7%)

Maximum=24 Minimum =0

Table 4.4 depicts that in post-test knowledge score the knowledge of mothers was Adequate 138(92%), moderate 12(8%) in experimental group however knowledge of mothers was moderate 59(40%) and inadequate 91(60.7%) in control group show in figure 4.12

Table 4.5 Mean score; Mean %, SD, Mean difference Comparison of descriptive statistics between Post Experimental and Post Control Group among mothers

Descriptive Statistics	Mean Score	S.D.	Median Score	Maximum	Minimum	Range	Mean%
Experimental	19.87	3.525	21	24	10	14	82.78
Control	8.53	1.408	8	14	6	8	35.56

Maximum=24 Minimum=0

Table 4.5 depicts that Mean score in posttest in experimental group was 19.87 higher than the control group was 8.53, SD in experimental group was 3.525 and in control group was 1.408, Maximum score in experimental group

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was 21 and in control group was 8 and Minimum score in experimental group was 24 and in control group was 14 however Mean % score in experimental group was 82.78 and in control group was 35.56 show in figure 4.13

IV. Discussion

In present Study , Age of weaning of baby out of 60 in experimental group majority of mother's weaning starting age were 6- 10 months 60(100) % and also in control group. And Mothers education status out of 60 in experimental group majority of mothers belongs to Primary education 35(58.3) % and Secondary 21(35.0)%, 4(6.7)% women's were Non- Formal Education however in control group out of 60 mothers majority of women's Primary education were 29(48.3)%, Secondary 27(45)% and only 4(6.7)% women were Non- Formal Education. And In the present study depicts that mean score in pretest in experimental group was 7.73 lower than the control group was 8.17, SD in experimental group was 2.711 and in control group was 1.542, Maximum score in experimental group was 19 and in control group was 14 and Minimum score in experimental group was 5 and in control group was 5 however Mean % score in experimental group was 32.22 and in control group was 34.03. and Mean score in posttest in experimental group was 20.18 higher than the control group was 8.43, SD in experimental group was 2.67 and in control group was 1.442, Maximum score in experimental group was 24 and in control group was 14 and Minimum score in experimental group was 10 and in control group was 6 however Mean % score in experimental group was 84.10 and in control group was 35.14.

V. Conclusion

We can conclude on the basis of this study that mother's education helps the child's development and this is closely related NET knowledge will help them to improve the knowledge of nutrition

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