"A Study to Assess the Effectiveness of Nutrition Education on Attitudes Related to Healthy Diet and Eating Habits Among Adolescents at Selected Schools of Gujarat"

Priyanka Chaube[1*], Dr. Uma Siddharth Nayak[2]

[1*]Ph.D. Scholar, Parul Institute of Nursing, Parul University, Vadodara
[2]Professor and Head of the Department of Peadiatrics, Parul Institute of Medical Science & Research, Vadodara

Abstract: Unhealthy eating behaviours such as skipping meals, high intake of energy-dense and nutrient-deficient foods such as wafers, chocolates and sweetened beverages, frequent consumption of fast foods and inadequate intake of protective foods such as fruits and vegetables have been reported in adolescents in India, as elsewhere. Besides changes in dietary patterns, there is evidence that a substantial proportion of adolescents do not meet the cur-rent WHO recommendations of accumulating at least 60 min of moderate-to-vigorous physical activity every day and limiting the daily screen time to below 2 h.

Objectives: 1) To assess the Effectiveness of a nutrition education intervention on attitudes related to healthy diet and eating habits in adolescents. 2) To find out the association between pre-test attitude score with selected socio-demographic variables.

Material and Methods: An Interventional research study conducted in the Selected Schools of Gujarat, Non-Probably Purposive sample technique was used. Total sample size was 300 Adolescents.

Result: Out of the 300 adolescents 6(2%) adolescents belongs to age group 12-14 Years,123 (41%) adolescents belong to age group 14-16 Years & 171(57%) adolescents belongs to age group 16-18 Years. Out of 300 adolescents 210(70%) adolescents are female & 90 (30%) adolescents are male. Out of 300 adolescents 5(1.67%) adolescents belongs to hindu religion,215(71.67%) adolescents belong to muslim religion,80 (26.67%) adolescents belong to Christian religion.

Out of 300 adolescents 177(59%) belongs to nuclear family,122(40.67%) belong to joint family, 1(0.33%) belong to single parent family. Out of 300 adolescents 64(21.33%) mother's of adolescents belongs agriculture occupation,81(27%) mother's of adolescent belong to laborer occupation ,23(7.67%) mother's of adolescents belongs to skilled worker occupation, 132(44%) mother's of adolescents are unemployed.

Out of 300 adolescents 86(28.67%) father's of adolescents belongs to agriculture occupation, 99(33%) father's of adolescents belongs to laborer occupation, 115(38.33%) father's of adolescents belongs to skilled worker. Out of 300 adolescents 109(36.33%) adolescents birth order were 1st, 152 (50.67%) adolescents birth order were 2nd, 32(10.67%) adolescents birth order were 3rd, 7(2.33%) adolescents birth order were 4th.

There is a statistically association between attitude score with occupation of mother's (P=0.04), & association between attitude score with occupation of father's (P=0.013).

Conclusion: Result of this study showed that the adolescent having pre-test 80.67% average attitude score, 19.33% having good attitude score regarding Healthy diet & eating habits. Adolescent having post-test 5.67% average attitude score, 94.33% having good attitude score regarding healthy diet & eating habits.

1. Introduction

Unhealthy eating behaviors such as skipping meals, high intake of energy-dense and nutrient-deficient foods such as wafers, chocolates and sweetened beverages, frequent consumption of fast foods and inadequate intake of protective foods such as fruits and vegetables have been reported in adolescents in India, as elsewhere. Besides changes in dietary patterns, there is evidence that a substantial proportion of adolescents do not meet the cur-rent WHO recommendations of accumulating at least60 min of moderate-to-vigorous physical activity every day and limiting the daily screen time to below 2 h. Healthy eating during adolescence is important as body changes during this time affect an individual's nutritional and dietary needs. Adolescents are becoming more independent and making many food decisions on their own. Many adolescents have a growth spurt and an increase in appetite and need healthy foods to meet their needs.

Adolescence is characterized by a rapid phase of growth and development during which the requirement of nutrition and micronutrients is relatively high. Although there is a decreasing trend in the prevalence of under nutrition among adolescents, the current prevalence of under nutrition is still very high (41.9%). Adolescents with good nutrition knowledge are more likely to follow healthy eating habits.

Objective of the study
1) To assess the Effectiveness of a nutrition education intervention on attitudes related to healthy diet and eating habits in adolescents.
2) To find out the association between pre-test attitude score with selected socio-demographic variables.
Hypothesis
H1: There will be significant association between pre-test attitude score with selected socio-demographic variables

2. Methodology

An interventional research (Quantitative) approach was considered to be the most appropriate and adopted in order to a pre-experimental study to assess the effectiveness of nutrition education intervention on attitudes related to healthy diet and eating habits in adolescents

The research design refers to all researcher's overall plan for obtaining answer to the research question and it spells out strategies that researchers adopted to develop information that is accurate, objective and interpretable. Pre- experimental research design will be use to attain the objectives of present study. Setting is the physical location and condition in which data collection takes place in a study. The study setting was selected schools of Gujarat

The population referred to as the target population, which represents the entire group or all the elements like individuals or objects that meet certain criteria for inclusion in present study   population refers to a adolescent**.** Sample refers to subset of a population that is selected to participate in a particular study. Sample size of this study is 300**,** Non probability purposive sampling technique will be used for this study.

3. Results

Out of the 300 adolescents 6(2%) adolescents belongs to age group 12-14 Years, 123 (41%) adolescents belong to age group 14-16 Years & 171(57%) adolescents belongs to age group 16-18 Years. Out of 300 adolescents 210(70%) adolescents are female & 90 (30%) adolescents are male. Out of 300 adolescents 5(1.67%) adolescents belongs to hindu religion, 215(71.67%) adolescents belong to muslim religion, 80 (26.67%) adolescents belong to Christian religion.

Out of 300 adolescents 177(59%) belongs to nuclear family, 122(40.67%) belong to joint family, 1(0.33%) belong to single parent family. Out of 300 adolescents 64(21.33%) mothers of adolescents belongs agriculture occupation,81(27%) mother's of adolescent belong to laborer occupation ,23(7.67%) mother's of adolescents belongs to skilled worker occupation, 132(44%) mother's of adolescents are unemployed.

Out of 300 adolescents 86(28.67%) father's of adolescents belongs to agriculture occupation, 99(33%) father's of adolescents belongs to laborer occupation, 115(38.33%) father's of adolescents belongs to skilled worker. Out of 300 adolescents 109(36.33%) adolescents birth order were 1st, 152 (50.67%) adolescents birth order were 2nd, 32(10.67%) adolescents birth order were 3rd, 7(2.33%) adolescents birth order were 4th.

There is a statistically association between attitude score with occupation of mother's (P=0.04), & association between attitude score with occupation of father's (P=0.013).

Table 1: Analysis and interpretation of demographic data. [N=300]

Demographic Data		Frequency	Percentage
Age of adolescents	10-12 Year	0	0
	12-14Year	6	2.00
	14-16Year	123	41.00
	16-18Year	171	57.00
Gender	FEMALE	210	70
	MALE	90	30
Religion	HINDU	5	1.67
	MUSLIM	215	71.67
	CHRISTIAN	80	26.67

|			
	OTHER	0	0
Type of family	NUCLEAR FAMILY	177	59.00
	JOINT FAMILY	122	40.67
	EXTENDED	0	0
	SINGLE PARENT FAMILY	1	0.33
Occupation of Mother	AGRICULTURE	64	21.33
	LABORER	81	27.00
	SKILLED WORKER	23	7.67
	UNEMPLOYED	132	44.00
Occupation of Father	AGRICULTURE	86	28.67
	LABORER	99	33.00
	SKILLED WORKER	115	38.33
	UNEMPLOYED	0	0
Order of the Children	1	109	36.33
	2	152	50.67
	3	32	10.67
	4	7	2.33

Figure: 1 Frequency of Age of children
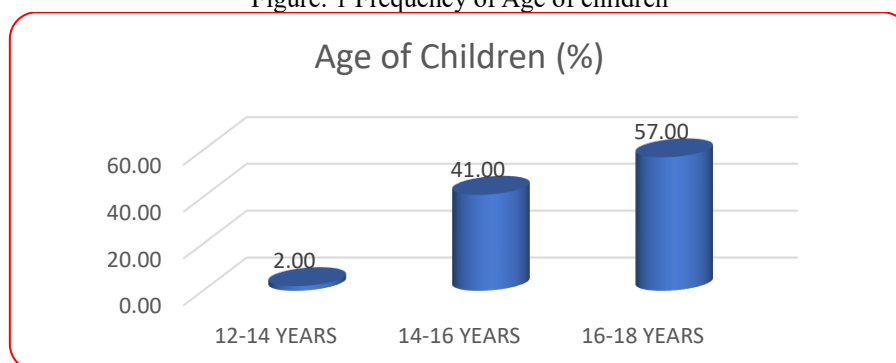
Figure: 1 Out of the 300 adolescents 6(2%) adolescents belongs to age group 12-14 Years,123 (41%) adolescents belong to age group 14-16 Years & 171(57%) adolescents belongs to age group 16-18 Years.
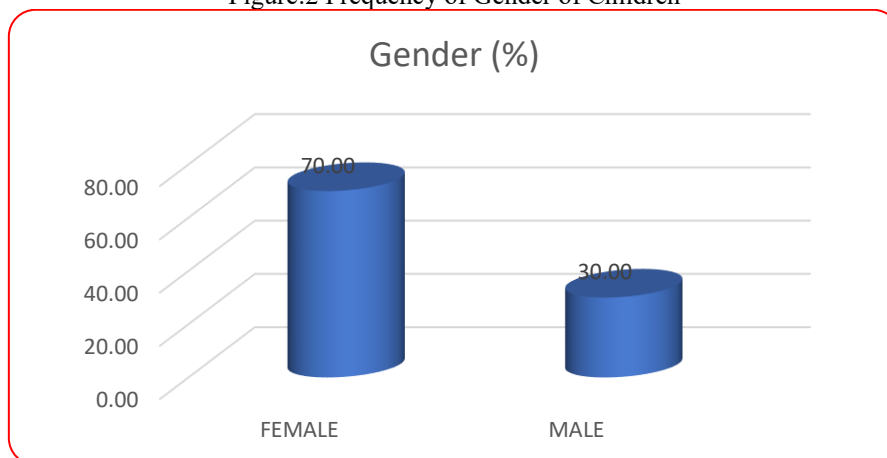
Figure:2 Frequency of Gender of Children

Figure:2 Out of 300 adolescents 210(70%) adolescents are female & 90 (30%) adolescents are male

Figure:3 Frequency of Religion of Children

Religion (%)

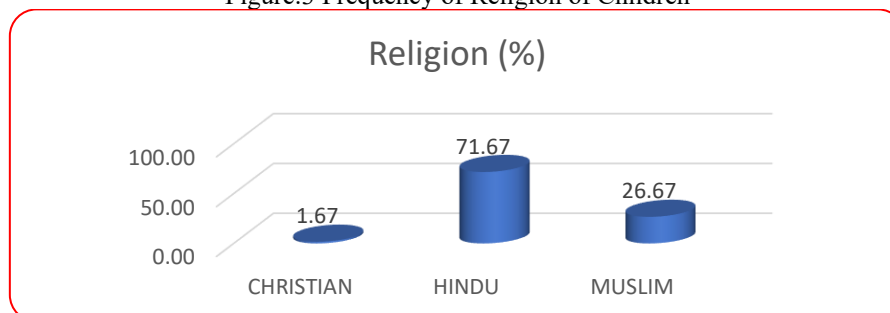| CHRISTIAN	HINDU	MUSLIM
1.67	71.67	26.67

Figure:3 Out of 300 adolescents 5(1.67%) adolescents belongs to hindu religion,215(71.67%) adolescents belong to muslim religion,80 (26.67%) adolescents belong to Christian religion.
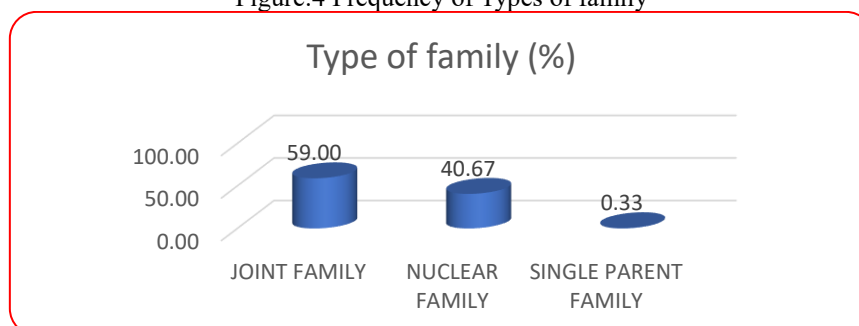
Figure:4 Frequency of Types of family

Type of family (%)

JOINT FAMILY	NUCLEAR FAMILY	SINGLE PARENT FAMILY
59.00	40.67	0.33

Figure:4 Out of 300 adolescents 177(59%) belongs to nuclear family,122(40.67%) belong to joint family, 1(0.33%) belong to single parent family.
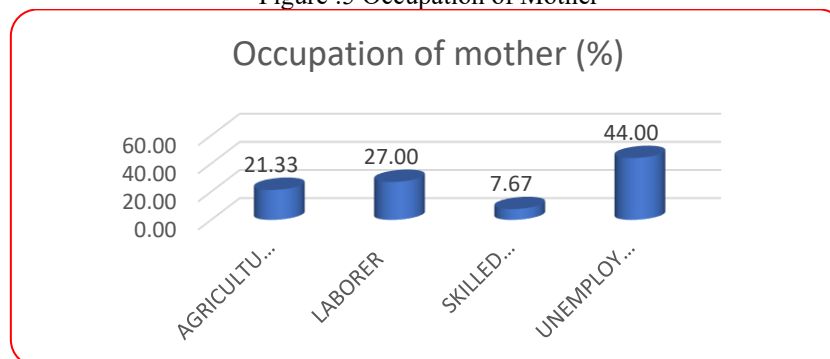
Figure :5 Occupation of Mother

Occupation of mother (%)

AGRICULTU...	LABORER	SKILLED...	UNEMPLOY...
21.33	27.00	7.67	44.00

Figure:5 Out of 300 adolescents 64(21.33%) mothers of adolescents belongs agriculture occupation,81(27%) mother's of adolescent belong to laborer occupation ,23(7.67%) mother's of adolescents belongs to skilled worker occupation, 132(44%) mother's of adolescents are unemployed.
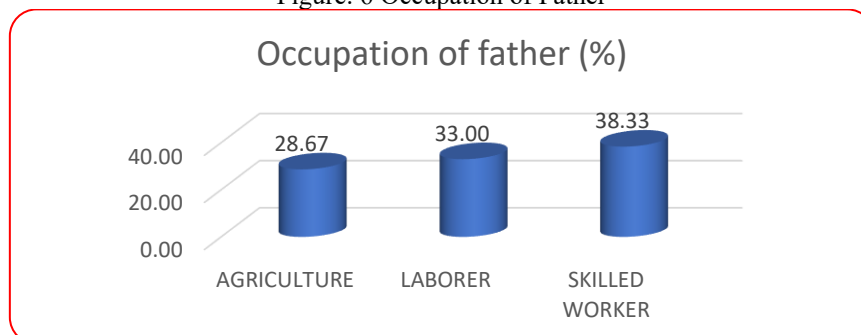
Figure: 6 Occupation of Father

Figure: 6 Out of 300 adolescents 86 (28.67%) father's of adolescents belongs to agriculture occupation, 99(33%) father's of adolescents belongs to laborer occupation, 115 (38.33%) father's of adolescents belongs to skilled worker.
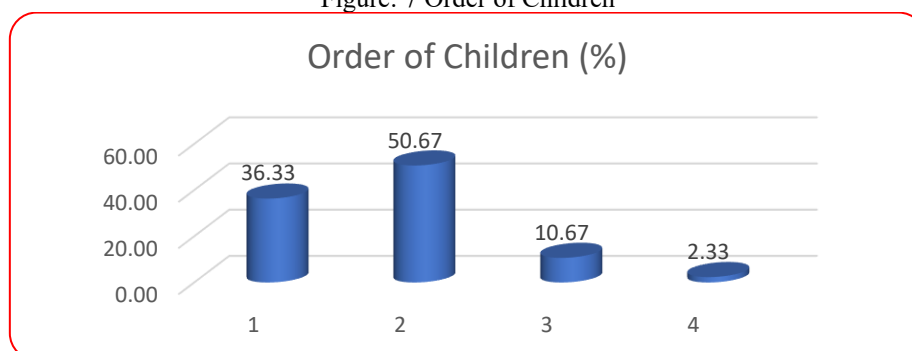
Figure: 7 Order of Children

Figure :7 Out of 300 adolescents 109(36.33%) adolescents birth order were 1st, 152 (50.67%) adolescents birth order were 2nd, 32(10.67%) adolescents birth order were 3rd, 7(2.33%) adolescents birth order were 4th.

Table: 2 Association of attitude score with sociodemographic variables.

Demographic Variables		Pre Test Attitude		Total	Value	df	p-Value	Significance/Non-Signififance
		2. Average	3. Good					
Age of Children	12-14 YEARS	5	1	6	.031	2	.985	NS
	14-16 YEARS	99	24	123				
	16-18 YEARS	138	33	171				
Gender	FEMALE	166	44	210	1.177^a	1	.278	NS
	MALE	76	14	90				
Religion	CHRISTIAN	4	1	5	.666^a	2	.717	NS
	HINDU	171	44	215				
	MUSLIM	67	13	80				
Type of family	JOINT FAMILY	141	36	177	.487^a	2	.784	NS
	NUCLEAR FAMILY	100	22	122				
	SINGLE PARENT FAMILY	1	0	1				
Occupation of mother	AGRICULTURE	43	21	64	13.315^a	3	.004	S
	LABORER	71	10	81				

	SKILLED WORKER	22	1	23				
	UNEMPLOYED	106	26	132				
Occupation of father	AGRICULTURE	61	25	86	8.614^a	2	.013	S
	LABORER	87	12	99				
	SKILLED WORKER	94	21	115				
Order of Children	1	89	20	109	2.420^a	3	.490	NS
	2	122	30	152				
	3	24	8	32				
	4	7	0	7				

In the above-mentioned table data presented that age of children is non-significant at 0.985 level, Chi-square value is 0.031. Gender is non-significant at 0.278 level, Chi-square value is 1.177. Religion is non-significant at 0.717 level, Chi-square value is 0.666. Types of family is non-significant at 0.784 level, Chi-square value is 0.487. Occupation of the mother is significant at 0.004 level , Chi-Square value is 13.315. Occupation of the father is significant at 0.013 level , Chi-Square value is 8.614. Order of the children is non-significant at 0.490 level, Chi-square value is 2.420.

4. Discussion:

In the present study we found that Result of this study showed that the adolescent having pre-test 80.67% average attitude score, 19.33% having good attitude score regarding Healthy diet & eating habits. Adolescent having post-test 5.67% average attitude score, 94.33% having good attitude score regarding healthy diet & eating habits.

5. Conclusion:

Result of this study showed that the adolescent having pre-test 80.67% average attitude score, 19.33% having good attitude score regarding Healthy diet & eating habits. Adolescent having post-test 5.67% average attitude score, 94.33% having good attitude score regarding healthy diet & eating habits.

Ethical Declaration and consent:
Parul University Institutional ethical committee for human research (PU-IECHR) review this study and granted ethical approval, consent has been granted from all participants.
Fundings:
This study was not supported by any financial source and did not receive funding.
Conflict of Interest:
The authors declared no conflict of interest.

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