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EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME (STP) ON KNOWLEDGE REGARDING HEALTH HAZARDS OF JUNK FOODS AMONG SECONDARY SCHOOL CHILDREN- A PRE-EXPERIMENTAL STUDY

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ABSTRACT

Background: Intake of junk food among children is becoming a global health concern in both industrialized and developing nations. Worldwide, diet-related illnesses account for 35 million fatalities [1]. The current study seeks to determine the effectiveness of Structured Teaching programme (STP) on knowledge regarding health hazards of Junk foods among secondary school children in Birgunj.

Materials and Methods: A pre experimental one group pretest posttest study design was used for the study. A total of 317 secondary school children of Kadambari Academy, Birgunj were included using Non probability purposive sampling technique. Data was collected by using structured knowledge questionnaire. Data was analyzed by using SPSS version 23 and Chi square was used to find the association between the variables at $p < 0.05$ level of significance. Paired t-test was used to find the effectiveness of structured teaching programme.

Results: The study results revealed that 10.4% of the secondary school children had inadequate knowledge, 77.3% moderate knowledge and 12.3% had adequate knowledge in the pretest whereas after implementing structured teaching programme, 74.8% of the children had moderate knowledge and 25.2% had adequate knowledge. A significant association was found between childrens' knowledge regarding health hazards of junk foods and gender ($p=0.009$), area of residence ($p=0.021$) and information sources regarding health hazards of junk foods ($p=0.000$) at 5% level of significance (i.e. $p<0.05$). The Mean±SD of pretest and posttest knowledge score was 13.25 ± 2.36 and 19.67 ± 2.64 respectively. The calculated t value was 8.97 at 0.05 level of significance, which showed that the structured teaching programme regarding health hazards of junk foods was effective.

Conclusion: An educational effort about the health risks associated with junk eating proved successful. Therefore, it is important to regularly develop information education and communication programs to raise adolescents' knowledge and enhance their eating habits.

Keywords: Effectiveness, Health Hazards, Junk foods, Knowledge, Secondary school children, Structured Teaching Programme

1 INTRODUCTION

Junk Food is defined by Centre for Science and Environment as ―any food, which is low in essential nutrients and high in everything else—in particular calories and sodium. Junk foods contain little or no proteins, vitamins or minerals but are rich in salt, sugar, fats and are high in energy (calories).[2]

Children develop habits at an early age and are largely influenced by their surroundings, both at home and at school, with schools serving as the second-best place for learning and nurturing. [3]

The psychological growth of teenagers, including autonomy and peer acceptance, can influence children's dietary selections and nutrient consumption, leading them to develop unhealthy eating habits such as a dependence on junk food. [4]

Because the junk foods are readily available, ready to eat and presented as fast meals, it has become increasingly popular. Junk food is made more enticing and tasty by additives, which promotes consumption. Despite the fact that junk foods are recognized to have negative health impacts such as obesity, hyperglycemia, hypertension, dyslipidemia, etc., it is still extensively consumed, particularly by teenagers. [5]

A 2024 UNICEF research states that from the present prevalence of 1.8%, the number of newborns and children under five who are overweight or obese is rising at a pace of more than 3% annually. This double burden of malnutrition, which includes both under nutrition and over nutrition, reflects Nepal's continuous dietary changes from traditional, nutrient-rich foods to ultra-processed, packaged goods that are heavy in harmful fats, sugar, and salt. These foods, which include biscuits, chips, sodas, and instant noodles, are now common place in many Nepali homes and account for about 25% of young children's overall energy intake. Because these items replace healthier options like fruits, vegetables, whole grains, and water, this pattern is alarming. The saddest fact is that the unhealthy items are chosen by caregivers due to marketing, cost, and convenience. [6]

According to a study done in three schools in the Punjab area of India, students' pre-
test knowledge of the health risks associated with junk food was 18.33%. Following an educational intervention, 81.67 % of the students had average knowledge, indicating a high degree of importance.The study came to the conclusion th at structured educational programs could enhance adolescents' knowledge. [7]

A study of primary and secondary school children in eight schools across three districts (Kathmandu, Bhaktapur, and Lalitpur) revealed that 15% of participants had no concept what a balanced diet is, and 22% believe that eating junk fo od promotes normal growth and development. [8]

Children are more vulnerable to become addicted to fast foods without knowing its long term impact on their health. [9]

Therefore, the current study was carried out to evaluate adolescents' awareness of the health risks associated with jun k food as well as the efficacy of educational interventions on these risks.

2 MATERIALS AND METHODS

2.1 Study design

A pre experimental one group pretest posttest study design was used for the study.

2.2 Study population

The study population were the secondary school children studying in standard 9 and 10 of Kadambari Academy, Birgunj.

2.3 Sampling techniques

Non probability Purposive sampling technique was used.

2.4 Sample size

317 secondary school children.

2.5 Inclusion and Exclusion criteria

- Inclusion criteria included the students- who were available and were willing to participate in the research study.
- Exclusion criteria included the students who were sick/having health related issues at the time of data collection.

2.6 Data collection

After getting ethical approval from the Institutional Review Committee of National Medical College Teaching Hospital (Ref. F-NMC/763/082-083), formal permission was taken from the concerned authority i.e. from the Principal of Kadambari Academy. The research instrument was developed in English language for which the content validity of research instrument was ascertained by extensive literature search and consultation with subject related experts before data collection. The reliability of the research instrument was calculated by Split half method and was found to be 0.79. Informed written consent was taken from the concerned authority whereas written informed assent was taken from the respondents after explaining the purpose of data collection. A self-administered structured Knowledge questionnaire was used to collect the data by researcher herself from 25 February 2026 to 22 March 2026. First pretest knowledge was assessed using self-developed structured knowledge questionnaire and then structured teaching program was administered. After 7 days of intervention, post test was conducted to assess the effectiveness of structured teaching program using the same structured knowledge questionnaire. The data was collected and recorded systematically so as to organize in a way that facilitated computer entry.

2.7 STATISTICAL ANALYSIS

After collecting data, it was organized for editing, classifying and coding. Statistical Package for Social Sciences (SPSS) version 23 was used for data analysis by using descriptive statistics (frequency, percentage) and inferential statistics i.e. Chi square test was used to find out the association between knowledge regarding health hazards of junk food and demographic variables. The level $p < 0.05$ was considered to be significant. Paired t-test was used to find the effectiveness of structured teaching program.

3 RESULTS

Table 1: Socio demographic characteristics of secondary school children(n=317)

Variables	Categories	Frequency	Percentage (%)
Age (in years)	< or equal to 15 years	188	59.31
	Above 15 years	129	40.69
Mean ±SD	15.56±1.78		
Gender	Female	126	39.7
	Male	191	60.3
Religion	Hindu	293	92.4
	Muslim	21	6.7
	Other	3	0.9
Class	9	162	51.1
	10	155	48.9
Father's education	Able to read and write	9	2.8
	Basic education	18	5.7
	Secondary education	91	62.8
	Higher education	199	28.7
Mother's education	Not literate	9	2.8
	Able to read and write	16	5.0
	Basic education	53	16.4

	Secondary education	83	26.2
	Higher education	157	49.5
Father's Occupation	Farmer	5	1.6
	Government employee	33	10.4
	Private employee	109	34.4
	Self employed	170	53.6
Mother's occupation	Homemaker	212	66.9
	Government employee	20	6.3
	Private employee	38	12.0
	Self employed	47	14.8
Type of family	Nuclear	84	26.5
	Joint	175	55.2
	Extended	23	7.3
	Single parent	35	11.0
Monthly pocket money	Less than or equal to Rs 1000	18	5.7
	Above Rs. 1000	299	94.3
Dietary pattern	Vegetarian	57	18.0
	Non-vegetarian	23	7.3
	Mixed	237	74.8
Residence	Urban	255	80.4
	Rural	62	19.6
Previous exposure to information regarding health hazards of junk foods	Family members	136	42.9
	Mass media	146	11.0
	Friends and relatives	35	46.1

Table 2: Level of knowledge regarding health hazards of junk foods among secondary school children(n=317)

Level of knowledge	**Pre test score**		**Post test score**	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Inadequate knowledge (≤50% of total score)	33	10.4	0	0
Moderate knowledge (51-75% of total score)	245	77.3	237	74.8
Adequate knowledge (>75% of total score)	39	12.3	80	25.2

Table 2 revealed that in pretest score 12.3 % of the secondary school children had adequate knowledge, 77.3% of the secondary school children had moderate knowledge and least i.e. 10.4% of the children had inadequate level of knowledge. Whereas after implementing structured teaching programme, the post test score revealed majority 74.8% had moderate knowledge and 25.2% had adequate level of knowledge regarding health hazards of junk foods.

Table 3: Effectiveness of Structured teaching programme on knowledge regarding health hazards of junk food among secondary school children(n=317)

Knowledge score	Mean±SD	Paired t value	p-value
Pre test	13.25 ± 2.36	8.97	0.007*
Post test	19.67 ± 2.64		

* significance at p <0.05

Table 3 showed that the Mean±SD pretest and post test knowledge score was 13.25 ± 2.36 and 19.67 ± 2.64 respectively. The calculated t value was 8.97 at 0.05 level of significance, which showed that the structured teaching programme regarding health hazards of junk foods was effective.

Table 4: Association between level of knowledge regarding health hazards of junk foods and demographic variables among secondary school children (n=317)

Variables	Level of knowledge			Chi-square value	p-value
	Inadequate	Moderate	Adequate		
	No (%)	No (%)	No (%)		
Age (in years)					
≤15 years	18(5.7%)	150(47.3%)	20(6.3%)	1.724	0.422
>15 years	15(4.7%)	95(30%)	19(6%)		
Gender					
Male	28(8.8%)	141(44.5%)	22(6.9%)	9.323	0.009*
Female	5(1.6%)	104(32.8%)	17(5.4%)		
Religion					
Hindu	28(8.8%)	229(72.2%)	36(11.4%)	3.122#	0.213
Muslim & others	5(1.6%)	16(5.0%)	3(0.9%)		
Class					
9	19(6.0%)	130(41.0%)	13(4.1%)	5.858	0.053
10	14(4.4%)	115(36.3%)	26(8.2%)		
Father's occupation					
Farmer/self employed	23(7.3%)	135(42.6%)	17(5.4%)	4.931	0.085
Private/government employee	10(3.2%)	110(34.7%)	22(6.9%)		
Mother's occupation					
Homemaker/self employed	27(8.5%)	201(63.4%)	31(9.8%)	0.147	0.929
Private/government employee	6(1.9%)	44(13.9%)	8(2.5%)		
Father's education					
Upto secondary	13(4.1%)	91(28.7%)	14(4.4%)	0.097	0.953
Higher than secondary	20(6.3%)	154(48.6%)	25(7.9%)		
Mother's education					
Upto secondary	27(8.5%)	180(56.8%)	27(8.5%)	1.533	0.465
Higher than secondary	6(1.9%)	65(20.5%)	12(3.8%)		
Family type					
Nuclear/ single parent	7(2.2%)	94(29.7%)	18(5.7%)	5.058	0.080
Joint/extended	26(8.2)	151(47.6%)	21(6.6%)		
Monthly pocket money					
≤ Rs.1000	30(9.5%)	232(73.2%)	37(11.7%)	1.116#	0.669

More than Rs. 1000	3(0.9%)	13(4.1%)	2(0.6%)		
Area of residence					
Urban	21(6.6%)	199(62.8%)	35(11.0%)	7.512#	0.021*
Rural	12(3.8%)	46(14.5%)	4(1.3%)		
Dietary pattern					
Vegetarian	6(1.9%)	44(13.9%	7(2.2%)		
Non vegetarian	5(1.6%)	16(5.0%)	2(0.6%)	3.342#	0.496
Mixed	22(6.9%)	185(58.4%)	30(9.5%)		
Information sources regarding health hazards of junk foods					
Family members	16(5.0%)	125(39.4%)	7(2.2%)		
Mass media	14(4.4%)	90(28.4%)	30(9.5%)	22.035#	0.000*
Relatives/friends	3(0.9%)	30(9.5%)	2(0.6%)		

Fisher exact test, * significance at p <0.05

Table 4 represented a significant association between level of knowledge regarding health hazards of junk foods and gender (p=0.009), area of residence (p=0.021) and information sources regarding health hazards of junk foods (p=0.000) at 5% level of significance (i.e. p<0.05).

4 DISCUSSION

The demographic characteristics of the respondents revealed that 59.31% of the secondary school children were of less than or equal to 15 years of age. Majority i.e. 60.3% were Male, 92.4% followed Hindu religion, 48.9 % were from Class 10, fathers of 62.8% children had completed secondary education whereas mothers of 49.5% of the children had higher education. Majority 53.6% childrens' father were self-employed, 66.9% of the childrens' mother were homemaker, more than half i.e. 55.2% of the children belongs to nuclear family, majority 94.3% of the children receives above Rs.1000 monthly pocket money, among all 74.8% had mixed dietary pattern whereas 80.4% children resides in urban area, 46.1% of the children had received information regarding health hazards of junk foods from mass media.

The study results revealed that 10.4% of the secondary school children had inadequate level of knowledge, 77.3% had moderate knowledge and 12.3% had adequate level of knowledge before implementing structured teaching programme whereas after intervention 74.8% of the children had moderate level of knowledge and 25.2% had adequate level of knowledge.

The study findings are consistent with the study conducted by Deepa S.P., Priya. C, Gowri. R, et.al (2026) which stated that in the pre-test, majority 64.71% of adolescents had moderately adequate knowledge, 35.29% had adequate knowledge, whereas in the post-test after the structured teaching program on health hazards of junk foods and its prevention, majority 94.12% had adequate knowledge and 5.88% had moderately adequate. [10]

The present study finding is also consistent with the findings of the study conducted by Shalin S. (2020) which revealed that in the pretest, mean knowledge score was 13.46 with S.D 2.61whereas; the posttest mean was 14.23 with S.D 3.05 respectively. There was a statistically significant improvement in the study subjects after the structured teaching programme (p<0.05). [11]

The present study revealed a significant association between level of knowledge regarding health hazards of junk foods and gender (p=0.009), area of residence (p=0.021) and information sources regarding health hazards of junk foods (p=0.000) at 5% level of significance (i.e. $p<0.05$).

The study findings are inconsistent with the findings of the study conducted by Deepa SP, Priya C, Gowri R, et.al (2026) which showed a significant association between the post-test knowledge score regarding health hazards of junk foods and its prevention with the variables like educational status mother and number of adolescents consuming junk foods. [10]

5 CONCLUSION

According to the study findings, the organized teaching program has found to be successfully effective to enhance childrens' understanding of the health risks associated with junk food. This research findings suggests integrating

consistent health education initiatives in schools to promote nutritious eating behaviors among school children. Even school health nurses can be instrumental in coordinating and executing structured educational programs aimed at preventing health issues related to junk foods.

STATEMENTS ON COMPLIANCE WITH ETHICAL STANDARDS

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Disclosure of conflict of interest

The authors declare no conflict of interest regarding this manuscript.

Statement of ethical approval

Approved by Institutional Review Committee of National Medical College (IRC-NMCTH).

Statement of informed consent

Informed written consent was taken from the concerned authority whereas written informed assent was taken from the respondents after explaining the purpose of data collection.

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