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Research Article

Effect of an Education Intervention on Knowledge of Junk Foods, Healthy Food Habits Among the School-Going Children at Selected Schools In Chennai, India – A Pre-Experimental Multicentric Trial.

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Abstract: Junk food has replaced healthy, nutritious food as a new slogan among school children because it is more tasty, convenient, less expensive, and easier to prepare. However, it has no nutritional value and contains unhealthy ingredients, which pose numerous health risks when consumed regularly. As a result, school children aged 6 to 12 are easily enticed and addicted to junk foods, impacting their growth, concentration, feelings, and behavior. Education intervention regarding common junk foods and their health hazards, as well as methods to promote healthy eating habits, will aid in improving the nutritional status of young minds and curbing junk food addiction. One shot single test pre-experimental design was used to conduct the study among 120 school children at selected schools in Chennai, India, by non-probability homogenous purposive sampling method. Demographic proforma and self-structured questionnaires were used to collect the data from the children. The knowledge was classified into satisfactory(adequate), moderate and inadequate. The education intervention was given to all the students via a structured audio-visual aid. This intervention was given in three stages, and five experts validated the questionnaire. In the pre-test, 32.5% had inadequate knowledge, 67.5% had moderate knowledge, and none had adequate knowledge, but in the post-test, 95.5% of children had adequate knowledge of junk foods and their health hazards, with a significance at P<0.01. Based on the study results, the education intervention was very effective (P<0.01) in improving school children's knowledge of junk foods, their health hazards, and the promotion of healthy food habits.

Keywords: Junk Foods, Health Hazards, Education Intervention, Knowledge

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1. INTRODUCTION

Junk foods are commonly referred to as street foods, snack foods, and fast foods. It has high calories with little or no nutritional value. The researchers suggest that certain factors inherent in fast food, like low fiber, high palatability, high calories in small volume, high sugar in liquid form, and high fat, tend to promote overeating in school children. Children tend to overeat junk foods due to their taste, convenience, low cost, and easily available everywhere. It leads to the high prevalence of childhood obesity among school-going children. These foods are readily available near the school areas, attracting children more easily. The prevalence of childhood obesity got tripled in the past 30 years. [1] A study done in Beijing, China, in 2008 reported that junk foods easily attract children and adolescents between the age of 8 and 16.[2] Many children at home after coming from school are eating junk foods and watching television, which is the cause of many debilitating diseases that ultimately lead to uncurable diseases. A nutrition survey conducted in Ireland schools revealed that 48.6% of lunches taken by school children are junk foods.[3] Worldwide the prevalence of obesity has doubled between 1990 and 2015 and has the highest prevalence among children than adults in many countries. About 10% of children aged between 5-17 years have come under the category of obese or overweight.[4] Gupta et al. conducted a systematic review and reported that in India, children between 5-19 years have a prevalence of overweight ranging between 6.1% and 25.2%, and the prevalence of obesity ranged between 3.6% and 11.7%.[5] Among school-aged children, junk food, is a major contributor to increasing overweight from 9.7% - 13.9% between 2001-2010. Other than obesity, the risk of increasing the prevalence of diet-related noncommunicable diseases such as hypertension, dyslipidemia, impaired glucose tolerance, cancers, etc., will be high in further years of life.[6] Kavita et al. reported the highest prevalence of obesity in the age group of 13-15 years and the least in the age group of 11-12years. This study strongly evidenced that as age increases, the prevalence of obesity also increases. [7] Gupta A et al. conducted a study in the rural areas of Himachal Pradesh, India, and categorized the most popular junk food items taken by school-aged children are 71% chips, 14% chocolate, 13% bakery items, 7% soft drinks, and 5% sweetened beverages. They found that 78% of the children consumed one junk food item in the last 24 hours and concluded that there is a 36% of prevalence of consumption of junk foods in rural areas of Himachal Pradesh in India. This study also suggested initiating nutrition interventions and education among school-aged children and teachers regarding the ill effects of taking junk foods.[8] Centre for Science and Environment (CSE) conducted a PAN India survey among children between 9–14 years on the intake of junk foods. Totally 13,274 children were selected for the study. They reported that 93% of the children consume junk foods in the form of packed food, 68% consume in the form of packaged sweetened beverages more than once a week, 25% consume in the form of ultra-processed foods such as pizza and burgers, which contains high levels of sugar, salt, and fat. Almost 53% of school-going children had junk food at least once daily. It stressed the highest need to spread educational awareness to school children about the adverse effects of junk foods.[9] A study conducted in Karnataka, India, in 2012 evidenced that fried and processed food contains high amounts of trans fats and saturated fats in addition to oxidized cholesterol. In 2009 Scientists from China in the National Meeting of the American Chemical Society stated that oxidized cholesterol has a lethal effect on heart health, which may lead to coronary atherosclerosis.[10] School children have many educational challenges and need more stamina and concentration. But many Nutritionists agree that eating these unhealthy junk foods is the reason for kids with attention deficit hyperactivity disorder and the childhood obesity epidemic. [11] Education on junk foods and their hazards is the key to updating the current generation's knowledge. Children are easily attracted by colorful junk food advertisements and get addicted to their taste easily. It also gets more popular due to the commercial marketing strategies, low cost, peer pressure, and ready availability. Most parents agree that they cannot stop their children from eating junk food. When parents force their children not to eat junk foods, their craving for them increases. Instead, Creating awareness about junk foods among school-going children help them to analyze the ill effects of junk foods intelligently. Promoting a healthy balanced diet among school-going children is also very much needed to help the children to take the right food at the right time. By analyzing the current scenario, this study aimed to analyze the Effect of an Education intervention on school-going children's knowledge of Junk foods, their health hazards, and healthy food habits. Several people understand that junk food, fast food, processed food, white flour, sugar, and all the junk they consume, contribute to obesity, diabetes, strokes, infarcts, and dementia. Still, many are unaware of the powerful causative role of an unhealthy diet in accompanying mental illness. Family situations initially influence children's dietary patterns and habits; nevertheless, as they start school and spend additional time away from home, they may change from home and under the direct supervision of their parents; hence targeting ignorance and imparting knowledge may play a big role in decreasing the consumption of junk foods.

2. MATERIALS AND METHODS

2.1 Study primer

This study utilized the quantitative approach with a pre-experimental one-group pretest- posttest design. The study was conducted in the selected private schools of southern Chennai city, Tamil Nadu, India. The population of this study includes all children of both sexes between the age group 6-12 years in selected private schools at Southern Chennai. The academic and ethical committee of the institute approved it. (SCON/ IRC/2017/4). After Ethical considerations: i) Written informed consent was obtained from the school-going children and their parents, ii) Permission was obtained from the school authority before starting the data collection, iii) Children were allowed to withdraw from the study at any time possible.

2.2 Sample collection, Inclusion, and exclusion criteria

A sample of 120 children between 6-12 years willing to participate in this study and met the selection criteria was selected by the Convenience sampling technique. The criteria adopted to include the samples are Children in the age group of

6-12 years of both sexes, Children who were coming to school, and Children who were willing to participate in this study. In addition, people below and beyond the age group of 6-12 years and who were suffering from any systemic illness were excluded from the study. Study objectives were explained to the children before starting the study, and consent was obtained.

2.3 Data collection

The tool adopted for the study are Demographic Proforma and a Self-structured questionnaire on Junk foods and their health hazards. Demographic proforma consists of 15 items such as age, gender, religion, educational status of the father, educational status of the mother, occupation of mother, occupation of father, types of family, total members of children in the family, family income per month, previous information regarding junk foods, source of information regarding junk food, where do they consume junk food, pocket money per month in rupees and body mass index. Self-structured Questionnaire has been developed to assess the knowledge of junk foods and their health hazards. It has 40 multiple-choice questions, categorized into two parts: i) Knowledge of junk foods and ii) The effects of junk foods on health. The right answer carries one mark, and the wrong answer carries a 0 mark. Based on the marks obtained, it categorized the knowledge into Inadequate, moderate, and adequate. The reliability of the questionnaire is .90 (Cronbach α). 5 experts reviewed the content validity of the questionnaire. The explanation and description of the entire questionnaire are beyond the scope of the article Data collection was carried out from the three selected schools in the southern part of Chennai. Prior permission was obtained from the principals for their approval to carry out the study in the respective schools. The investigator has chosen the interview method for the collection of data. A total sample of 120 school-going children was selected for the study using the non-probability convenience sampling method. A brief introduction about the self and research questionnaires was given. The questionnaire was filled out by the selected sample of school-going children aged between 6-12 years who met the selection criteria. An adequate explanation was given to the samples before the collection of data. Data collection was done in three stages.

2.4 Three staged protocol

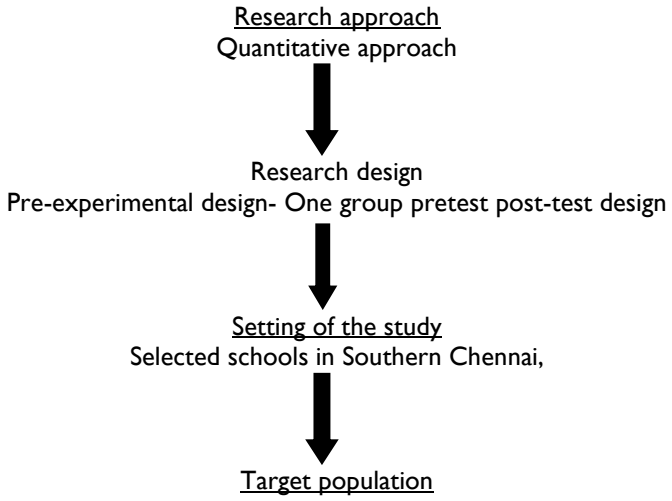
The first stage focussed on collecting the pretest using the demographic proforma and self-structured questionnaires. Forty-five minutes were allotted for the samples to understand and complete the questionnaire properly. The second stage focused on educational intervention, which was planned for one hour three days a week. The video-assisted teaching was given on Junk foods and their health hazards and the promotion of healthy food habits. The first day of the intervention focused on what junk foods are, their meaning, and promoting factors of eating junk foods among school-going children. On the second day, the intervention was focused on common junk foods used by children, such as soft drinks and cola beverages, chocolate, chewing gum, fried fast foods and fries, ice candy, and ice cream. Detailed information was given on each category of junk food items and how it induces hazards to health. On the third day, the intervention is focused on the psychological effect of junk foods and how to overcome it, balance diet, and promote healthy eating habits in school-going children. Doubts were clarified, followed by the education intervention. The children were motivated to do active interaction and group discussions during the intervention. The third stage posttest was carried out with the same samples using the same questionnaires, followed by completing the intervention.

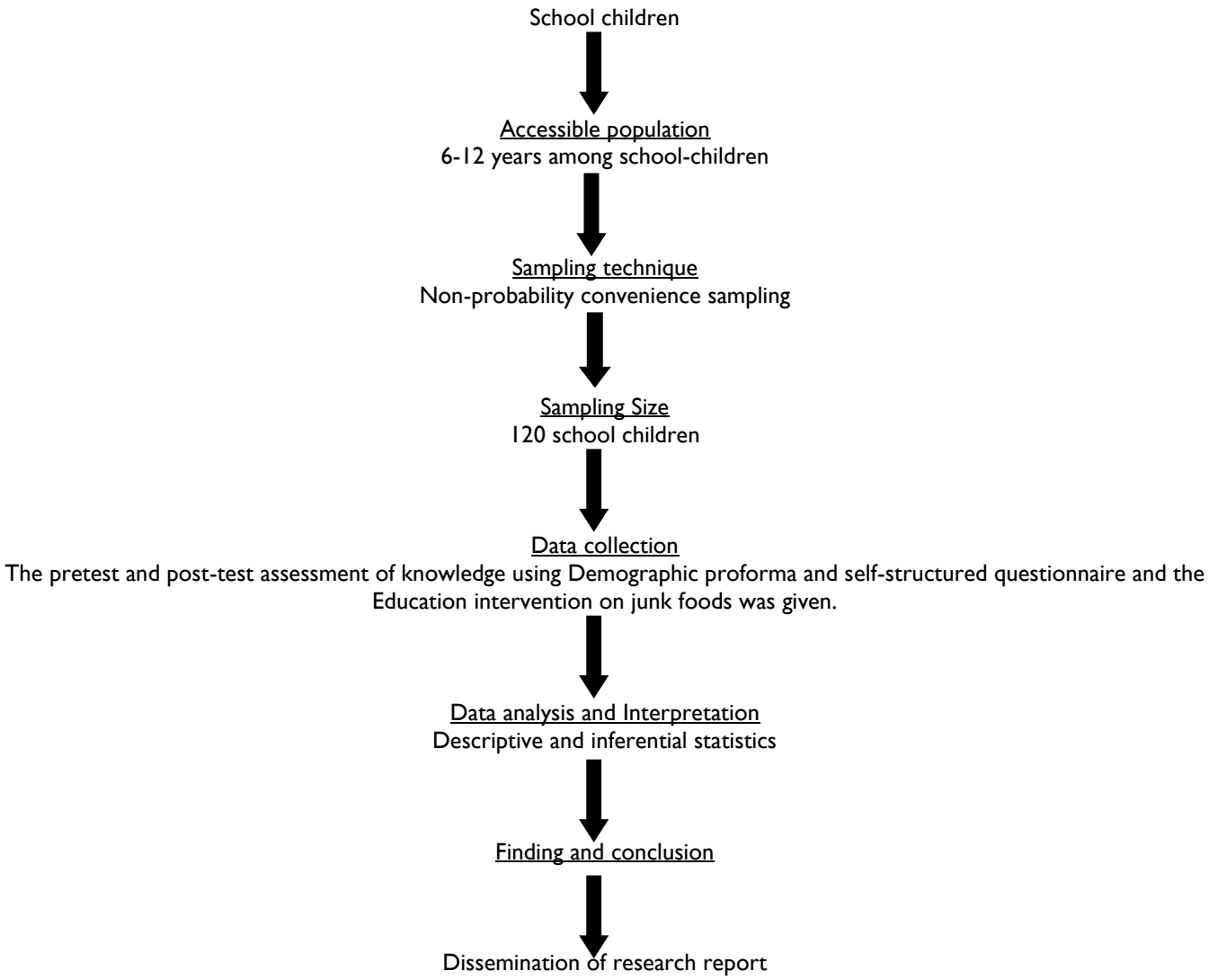
3. STATISTICAL ANALYSIS

Data analyses were done by using descriptive and inferential statistics. Descriptive Statistics uses frequency and percentage distribution to analyze the demographic variables and the level of knowledge. Mean, and standard deviation was used to analyze the effects of junk food. Inferential Statistics used Paired "t" test to analyze the effectiveness of the educational intervention on junk foods and their health hazards.

3.1 Consort flow chart

3.1.1 Schematic Representation of Research Design





4. RESULTS

The results were organized according to the study's objectives, based on the analysis and Interpretation of data collected from 120 school-children at selected schools in southern Chennai. Table 1 represents subjects' frequency and percentage distribution per socio-demographic variables. The study interpreted that the majority, 45% of school children, are between 11-12 years, 17.5% are between 10-11years, 19.2% are between 8-9 years, and 18.3% are between 6-7years. The study also resulted that most of the families (49.16%) are nuclear families 52.5% of the family have two children. 40% of the children eat junk food once a week, and 28.33% of school children eat junk food almost every day. 55% of the children receive pocket money from their parents or relatives, around 1- 100 rupees. 24.16% of children expressed that they already received good knowledge, and 55% received little knowledge regarding junk foods. However, due to its color and appealing appearance, they were attracted to buying junk foods. Mass media is the major source of information regarding junk foods for school children (49.16%). 75.16% bought junk food from Fast-food Canteens and 20% from the outside area. The current study also revealed that 4.16% of children are overweight. Table 2 compares the pretest and post-test levels of knowledge on junk foods and their health hazards among school children at selected schools in southern Chennai. In the pre-test, 39 (32.5%) had inadequate knowledge, and 81 (67.5%) had moderate knowledge of junk foods and their health hazards. All of the children needed an adequate level of knowledge. In the post-test, 115 (95.5%) had adequate knowledge, and 5 (4.17%) had moderate knowledge of junk foods and their health hazards. None of the children had come under the category of inadequate knowledge. Table 3 expresses the effectiveness of the educational intervention on junk foods and its health hazards among the children at selected schools in southern Chennai. Educational intervention's effectiveness was analyzed using the Mean, standard deviation, and Student's paired 't-test. The difference in pretest and post-test knowledge scores was analyzed by the difference in mean 20 with a standard deviation of 5. The Student's paired 't-test value is 43.6 (df=6) (0.01). Table 4 describes the individual attitude towards junk food and the statistically significant reduction.

Table-1: Frequency and percentage distribution of demographic variables of school children at selected schools in southern Chennai.

S.NO.	DEMOGRAPHIC VARIABLE	DISTRIBUTION OF RESPONSE	
		FREQUENCY	PERCENTAGE
1	**AGE IN YEARS**		
a.	6-7 years	22	18.3%
b.	8-9 years	23	19.2%
c.	10-11 years	21	17.5%
d.	11-12 years	54	45%
2.	**Gender**		
a.	Male	65	54.2%
b.	Female	55	45.8%
2.	**Religion**		
a.	Hindu	88	73.3%
b.	Christian	22	18.3%
c.	Muslim	8	6.7%
d.	Others	2	1.7%
3.	**Educational Status of Father**		
a.	Illiterate	20	16.7%
b.	Primary school level	32	26.6%
c.	High school / Higher secondary level	51	42.5%
d.	Graduate Professional	17	14.2%
4.	**Educational status of Mother**		
a.	Illiterate	21	17.5%
b.	Primary school level	24	20%
c.	High school / Higher secondary level	64	53.3%
d.	Graduate Professional	11	9.2%
5.	**Occupation of Father**		
a.	Salaried	59	49.2%
b.	Business	19	15.8%
c.	Coolly	32	26.7%
d.	Others	10	8.3%
6.	**Occupation of Mother**		
a.	Home Worker	49	40.8%
b.	Salaried	58	48.3%
c.	Business	5	4.2%
d.	Coolly	8	6.7%
7.	**Types of Family**		
a.	Nuclear family	59	49.2%
b.	Joint Family	49	40.8%
c.	Broken family	4	3.3%
d.	Three generation family	8	6.7%
8	**Total members of children in the Family**		
a.	One	17	14.2%
b.	Two	63	52.5%
c.	Three	22	18.3%
d.	Above three	18	15%
9.	**The family income per month**		
a.	Below 5,000	35	29.2%
b.	5001-10000	40	33.3%
c.	10001-15000	32	26.7%
d.	15000 above	13	10.8%

10.	**Frequency of eating junk food**		
a.	Every day	34	28.4%
b.	Once a week	48	40%
c.	Once a month	10	8.3%
d.	Very rare	28	23.3%
11.	**Pocket money per Month in Rupees**		
a.	No pocket Money	36	30%
b.	1-100 rupees	66	55%
c.	101-500 rupees	9	7.5%
d.	Above 500	9	7.5%
12.	**Have you obtained previous information regarding junk food?**		
a.	I know a little bit	66	55%
b.	I know very well	29	24.2%
c.	I am not interest	10	8.3%
d.	No idea	15	12.5%
13.	**If yes , source of information regarding junk food**		
a.	Family Members	23	19.2%
b.	Mass Media	59	49.2%
c.	Teacher	36	30%
d.	Health Professional	2	1.6%
14.	**From where you consume junk food**		
a.	From outside shop	24	20%
b.	School Canteen	6	5%
c.	Fast food Canteen	89	74.2%
d.	Temple	1	0.8%
15.	**Body Mass Index**		
a.	Underweight	93	77.5%
b.	Normal	22	18.3%
c.	Overweight	5	4.2%

Table 2: Comparison of pretest and posttest levels of knowledge on the effectiveness of junk food among school children at selected schools in southern Chennai

LEVEL OF KNOWLEDGE	INADEQUATE		MODERATE		ADEQUATE	
	F	P	F	P	F	P
PRETEST	39	32.5%	81	67.5%	0	0
POSTTEST	0	0	5	4.17%	115	95.5%

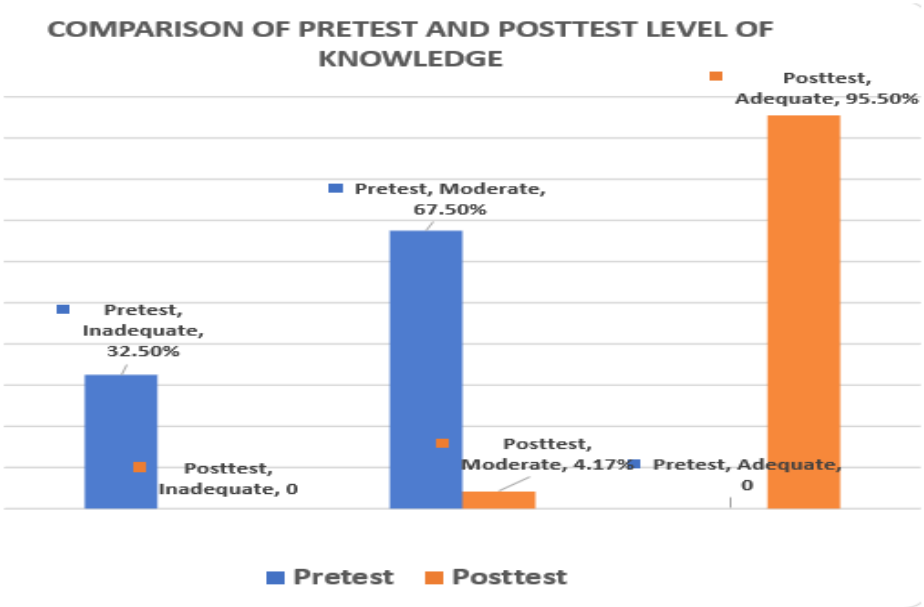


Fig 1: comparison of pretest and posttest levels of knowledge on the effectiveness of junk food among school children at selected schools in southern Chennai

Table-3: effectiveness of the educational intervention on junk foods and its health hazards among the school children at selected schools in southern Chennai

GROUP	MEAN DIFFERENCE.	DIFFERENCE IN STANDARD DEVIATION	STUDENTS PAIRED "t" TEST VALUE	TABLE VALUE
The difference in pretest and posttest knowledge score	20	5	43.6	0.01**

Table 4 Different constructs and their differences

	Pre-test	Post-test	Significance
Attitude toward junk food	3.2±0.1	2.1 ±0.21	<0.001
Subjective norm toward junk food	4.22±0.4	2.9±0.6	<0.01
Perceived behavioral control for junk food	2.9±0.55	2.05±0.15	<0.005
Behavioral intention toward junk food	2.75±0.65	2.1±0.25	<0.05

5. DISCUSSION

5.1 Knowledge and Effect

As junk foods are tastier and more attractive, based on the study results, 40% of children eat junk foods once a week, and 28.3% eat almost every day. It was confirmed by the Gnanagowri V (2012) study, which stated that 60% of children eat junk foods daily, and 22% eat once a week. Both studies strongly insisted that children mostly use their pocket money to buy these junk foods.[12]

5.2 Instrument and knowledge

Pal MS (2021) assessed the knowledge level of adolescent school children and revealed that 29% of the children mainly received information through mass media. The current study also insisted that 49.2% of the children received the information through mass media.[13] Mass media plays a vital role in attracting children to junk foods. Junk food Industries have tried to encourage children to consume their low-nutritional junk food products through different marketing strategies that are advertised through mass media. Colorful and attractive advertisements and packaging easily reach children, provoking their desire to eat junk foods.

5.3 Junk foods and obesity

Many kinds of the literature suggest that children who consume junk foods regularly are overweight. An Iranian study by Darvishi L et al. assessed the relationship between junk food intake and weight in 6-7 years old children. Convenient random sampling was used to select the normal-weight children, and the National center for health statistics (NCHS) plan was used to select the children with weights below the 5th percentile and above the 95th percentile at the primary school. The study found that the intake of junk foods is higher among children with weight below the 5th percentile and over the 95th percentile of NCHS than normal weight. The highest amount of junk food intake was observed for those children with weights over the 95th percentile of NCHS. These children very frequently take cookies, biscuits, and syrup.[14] The current study revealed that 4.2% of children are overweight among school children who consume junk foods regularly. A report by the World Health Organization stated that over 340 million children and adolescents aged between 5-19 years were overweight or obese in 2016, which spiked very high to 18 % from the report submitted in 1975 as just 4%. This spike was similar among boys and girls. [15] A school-based descriptive cross-sectional study conducted among 633 adolescent school children in Jaffna Education Division, Sri Lanka, found that most participants knew that junk food is not healthy, even though they prefer to eat it due to its new taste, color, and attractiveness. But students need to gain knowledge of food additives.[16] This was supported by the present finding that about 24.2% of school children had good knowledge, and 55% had some knowledge about junk foods.

5.4 Knowledge and health hazards

The main objective of the current study focussed on education intervention on knowledge of Junk foods and its health hazards and promotion of healthy food habits among the school-going children at selected schools of Chennai. It revealed that 32.5% of children had inadequate knowledge and 67.5% had moderate knowledge, and none had adequate knowledge of junk foods and their health hazards in the pretest. In the post-test, 95.5% had adequate knowledge, and 4.17% had a moderate knowledge of junk foods and their health hazards. None of the children had come under the category of inadequate knowledge. The difference in pretest and post-test knowledge scores was analyzed by the difference in Mean of 20±5 at the $P < 0.01$. It showed the effectiveness of educational intervention in upgrading school-going children's knowledge of junk foods, their health hazards, and healthy food habits. A similar result was found in the study conducted by Vardanjani AE et al. on assessing the Effect of nutrition education on knowledge, attitude, and performance about junk food consumption among female primary schools in Shahr-e-kord city in 2011. Seventy-two primary school girl students were selected for this

experimental and prospective study by multistage sampling method. At the end of the nutrition education, the knowledge level in the post-test was improved with the mean value of 93.52 ± 8.93 immediately and 90.27 ± 8.79 two months after the intervention in the experimental group ($P < 0.001$), which was only the Mean of 28.94 ± 15.10 in the pre-test. The present study ultimately supported that education on knowledge of junk foods and their health hazards has improved among the school students in updating their knowledge.[17] Today's children are creating the future world; surely, education on junk foods helps them shape their life healthier. Priya J and Sundari SG (2019) conducted a study to assess the effectiveness of an information education communication (IEC) package on knowledge regarding the health hazards of junk foods. Sixty samples of school-going children were selected from Govinda Reddy Palayam, Vellore, India. Demographic proforma were collected, and multiple-choice questionnaires were used to assess the levels of knowledge regarding the health hazards of junk foods before the intervention. The study revealed that the pre-test means the value of 10.5 was increased after the Information Education Communication (IEC) package to a mean of 14 in the post-test, which has the paired "t' test value of levels of knowledge at 17.37 is highly significant at $p<0.001$. It strongly stressed the effectiveness of an informal education communication package regarding the health hazards of junk foods. [18]

5.5 Nutrition education and knowledge

A similar study in India in 2012 also stressed the importance of nutrition education to school children between the ages of 8 and 12. A structured nutrition teaching program conducted among 100 school children on the health hazards of junk foods was found to have a positive effect in improving school children's knowledge. The mean value in the pre-test was 9.92, which increased to 20.88 in the post-test after the teaching program, which was significant at $p<0.05$.[12]. The study was also supported by another study conducted by Ud din Bhat MA in Punjab, India (2022) also revealed that a planned teaching program was effective in upgrading the knowledge of adolescents of school children on the effects of junk foods. Nutrition education on junk foods, their health hazards, and promoting healthy behavior successfully improved school children's knowledge.[1] Suchitra et al. [19] found that two thousand students between the ages of 8 and 17 were interviewed about their eating habits and asked to complete proforma and anthropometric measurements. Seventy-two percent of the children questioned were malnourished, but only 0.06% were obese. Although nutrition was significantly better in private school children, 58% were still underweight. Children from both groups had a clear preference for fast food. But they did not intervene to get awareness results. The same authors[20-21] have found a 10% overall prevalence of metabolic syndrome; however, the rate of having any metabolic anomaly was 43%, with college students exhibiting at least one constituent of metabolic syndrome. Furthermore, 14.3% of students had two major components of metabolic syndrome. In another study, the awareness among college teachers on nutrition could be much higher. Hence awareness programs need to be strengthened. There are certain characters and behaviors which need detailing in this section.

5.6 Socio-demographic Characteristics

Socio-demographic characteristics, such as age, income, education, and race, are associated with junk food intake. For example, studies have shown that individuals with lower incomes and education levels are more likely to consume more junk food. Children and adolescents also tend to consume more junk food than adults. Additionally, some research suggests that non-white racial and ethnic groups may be more likely to consume more junk food than white individuals. However, it's important to note that more research is needed to fully understand the complex relationship between socio-demographic factors and junk food intake.

5.7 Behavioural Intention toward Junk Food Consumption

Behavioral intention refers to an individual's perceived likelihood of engaging in a specific behavior. For example, in the context of junk food consumption, behavioral intention refers to an individual's perceived likelihood of consuming foods high in fat, sugar, and calories. It can be influenced by various factors, including personal attitudes and beliefs, social norms, and perceived control over the behavior.

5.8 Attitude toward Junk Food Consumption

Attitude refers to a person's overall evaluation of an object, issue, or behavior. For example, in the context of junk food consumption, the attitude would refer to a person's overall evaluation of consuming foods high in fat, sugar, and calories. In addition, it can include their beliefs about these foods' taste, convenience, and health effects. Various factors, including personal values, past experiences, and exposure to information about the topic, can influence attitude. For example, a positive attitude toward junk food consumption might involve enjoying the taste of these foods and not being particularly concerned about the health risks associated with consuming them. On the other hand, a negative attitude might involve believing that these foods are unhealthy and not enjoyable to eat.

5.9 Subjective Norm toward Junk Food Consumption

Subjective norm refers to an individual's perception of how important others think it is for them to engage in a specific behavior. For example, in the context of junk food consumption, subjective norm refers to an individual's perception of how important their friends, family, and other relevant social groups believe it is for them to consume foods high in fat, sugar, and calories. It can be influenced by social pressure and the opinions of those around them. For example, suppose someone feels that their friends and family consider it important for them to consume junk food. In that case, they may feel more inclined to engage in the behavior themselves, as they want to be perceived as someone who is socially accepted. Conversely, if someone perceives that those around them disapprove of junk food consumption, they may feel less inclined to engage in the

behavior, as they do not want to be perceived as deviating from social norms.

5.10 Perceived Behaviour Control toward Junk Food

Perceived behavior control refers to an individual's perception of their ability to perform a specific behavior successfully. In the context of junk food consumption, perceived behavior control refers to an individual's perception of their ability to successfully consume foods high in fat, sugar, and calories, despite personal or external barriers. Many factors can influence perceived behavior control, including self-efficacy (the belief in one's ability to perform a behavior), the availability of resources (e.g., money, transportation), and personal skills. For example, if someone perceives that they can make healthy food choices, they will have a higher perceived behavioral control in their ability to avoid eating junk food. On the other hand, if someone perceives that it is too difficult to resist the urge to eat junk food or that healthy food options are not easily accessible, they will have a lower perceived behavior control. In general, it's believed that individuals with high perceived behavior control are more likely to engage in a specific behavior than those with low perceived behavior control. In addition, according to the theory of planned behavior (TPB), human actions result from behavioral intention influenced by irrational attitudes, norms, and perceived behavioral control. Regarding eating junk food, attitude could be personal or negative, whereas "subjective norms" could be how much a person values and pursues the opinions of people who are significant to them[22]. Hence, the students need knowledge and their mentors and friends to behave properly about junk foods so that the aim is completed. Therefore, we should have gone into the aspect of this study.

6. CONCLUSION

School-children are very much fond of Junk food. However, due to the lack of knowledge and guidance, the children are addicted to it. The present study revealed that the educational intervention was very effective in helping the children understand the health hazards of junk foods and promoting healthy eating habits. Educational intervention's effectiveness was analyzed using the Mean, standard deviation, and Student's paired 't-test. The difference in the mean value of 20 ±5 analyzed the difference in pretest and post-test knowledge scores. The Student's paired 't-test value is 43.6 at the P=0.01 significance level. The study recommends the need for the conduction of long-term studies by enhancing the educational program not only on junk foods and their health hazards, they need to give much stress on promoting healthy food habits and balanced diet by involving the children, teachers, parents, and health professionals to get long term benefits.

7. AUTHOR CONTRIBUTION STATEMENT

K. Mageswari Mohanram, and Helen Shaji J. C contributed to the design and implementation of the research, to the analysis of the results and to the writing of the manuscript.

8. CONFLICT OF INTEREST

None declared.

9. REFERENCES

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