A STUDY TO EVALUATE THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME REGARDING KNOWLEDGE AND PRACTICE OF BALANCED DIET AMONG SCHOOL CHILDRENS IN SELECTED SCHOOL OF RAJNANDGAON (C.G.)

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Abstract
Humans require a wide range of nutrients to maintain a healthy and active life, making a balanced diet essential for normal growth, development, and daily functioning, especially during adolescence, a critical period representing a significant proportion of the population globally and in India. This study aimed to evaluate the effectiveness of a teaching programme on knowledge and practice regarding balanced diet among school children. A pre-experimental one-group pre-test and post-test design was adopted using a convenience sampling technique. The total sample consisted of 300 children aged 11 to 14 years studying in classes 6th to 8th at a selected English medium senior secondary school in Rajnandgaon, Chhattisgarh. Data were collected using self-administered questionnaires to assess knowledge and practices related to balanced diet, with 100 students assessed daily. The pre-test results showed that 98.3 percent of children were fairly practicing a balanced diet. After the teaching programme, post-test findings revealed improvement, with 98.7 percent demonstrating excellent practice levels. The results indicated a statistically significant improvement in knowledge and practice among the children. The study concludes that structured educational interventions are effective in enhancing healthy dietary behaviors among adolescents.

Keywords: Balanced Diet, Adolescents, Nutrition Education, School Children, Dietary Practices, Teaching Programme, Knowledge Improvement.

Introduction
Nutrition, defined as the proper intake of food in relation to the body's dietary needs, is fundamental to maintaining health and well-being across all stages of life, particularly during childhood and adolescence when growth and development are rapid and highly sensitive to dietary influences, and an adequate, well balanced diet combined with regular physical activity serves as a cornerstone of good health by supporting physiological functions, strengthening immunity, and promoting optimal physical and cognitive development (WHO et al., 2016). Poor nutrition, whether due to undernutrition, micronutrient deficiencies, or excessive intake of unhealthy foods, can result in reduced immunity, making children more susceptible to infections and diseases, and can also impair physical growth, delay mental development, and negatively affect academic performance and productivity later in life, thereby contributing to a cycle of poor health outcomes and reduced quality of life (UNICEF et al., 2019). Children who consume a balanced diet that includes appropriate proportions of carbohydrates, proteins, fats, vitamins, and minerals establish a strong nutritional foundation that supports a healthy and active lifestyle, and this early adoption of healthy eating habits significantly reduces the risk of long term health issues such as obesity, diabetes, cardiovascular diseases, and other non-communicable diseases that are increasingly prevalent worldwide (FAO et al., 2017). Childhood is widely recognized as the most critical period for growth and development,

not only in terms of physical stature but also in brain development, emotional regulation, and immune system maturation, which underscores the importance of ensuring that children receive adequate energy intake along with essential nutrients such as proteins for tissue building, vitamins for metabolic processes, and minerals for bone health and physiological balance (Black et al., 2018). During adolescence, nutritional requirements further increase due to rapid growth spurts, hormonal changes, and increased physical activity, making it even more essential to provide a well formulated balanced diet that meets these heightened demands and supports the transition into healthy adulthood (Sawyer et al., 2018). A balanced diet plays a crucial role in boosting immunity by supplying antioxidants, micronutrients, and other bioactive compounds that help the body resist infections and recover from illnesses more effectively, and deficiencies in key nutrients such as iron, vitamin A, zinc, and iodine can lead to serious health consequences including anemia, weakened immunity, impaired vision, and cognitive deficits (Ritchie et al., 2017). In addition to dietary intake, lifestyle factors such as playing outdoors and engaging in regular physical activities are equally important for maintaining optimal body composition, improving cardiovascular fitness, enhancing muscle and bone strength, and supporting mental health by reducing stress and promoting overall well-being among children and adolescents (Janssen et al., 2020). Physical activity also works synergistically with a balanced diet to regulate body weight, prevent the accumulation of excess body fat, and reduce the risk of developing diet related chronic conditions such as obesity, hypertension, and metabolic disorders later in life, which are increasingly being observed even in younger populations due to sedentary lifestyles and unhealthy eating patterns (Guthold et al., 2020). Furthermore, adequate nutrition during childhood contributes to improved cognitive function, better concentration, enhanced memory, and overall academic achievement, as the brain requires a continuous supply of glucose, essential fatty acids, and micronutrients to function effectively, highlighting the link between nutrition and educational outcomes (Nyaradi et al., 2017). Ensuring a balanced diet also plays a preventive role in avoiding various forms of malnutrition including stunting, wasting, and micronutrient deficiencies, which remain major public health concerns in many developing countries, and addressing these issues through proper dietary practices can significantly improve child survival rates and long term health prospects (Development Initiatives et al., 2020). Parents, caregivers, schools, and communities all play a vital role in shaping children's dietary habits by providing access to nutritious foods, promoting healthy eating behaviors, and creating supportive environments that encourage physical activity and discourage the consumption of processed and unhealthy foods (Birch et al., 2019). School based nutrition education programmes and interventions have been shown to be effective in increasing awareness, improving dietary practices, and fostering positive attitudes towards healthy eating among children, thereby contributing to better health outcomes and reduced risk of lifestyle related diseases (Contento et al., 2016).

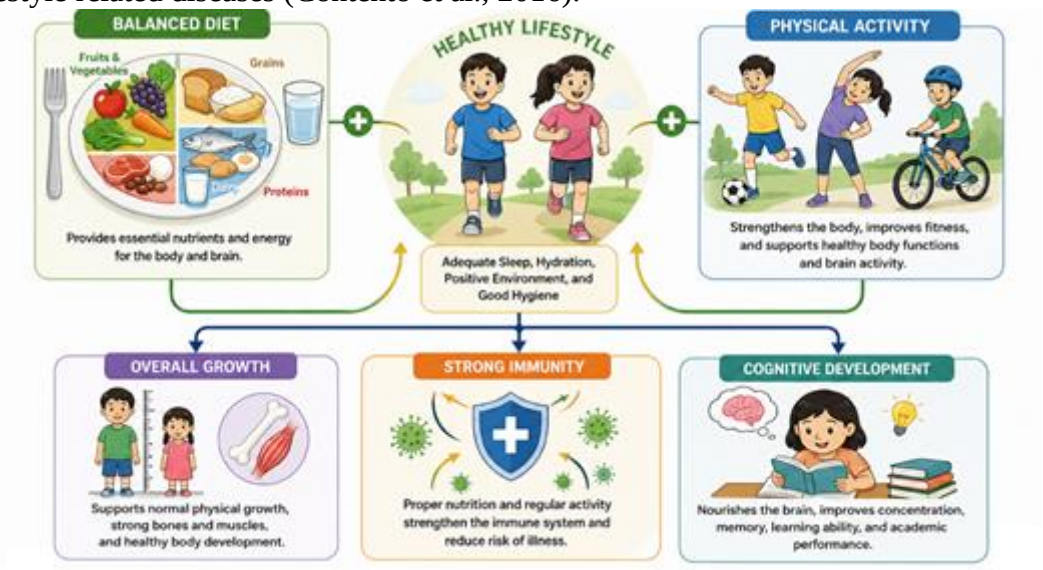


Figure 1: Conceptual framework showing the relationship between balanced diet, physical activity, and overall growth, immunity, and cognitive development among children and adolescents

Objective

- To assess the pre-test score of knowledge & practice regarding balanced diet among school children.
- To assess the post-test score of knowledge & practice regarding balanced diet among school children.
- To compare the pre-test & post-test score of knowledge & practice regarding balanced diet among school children.
- To find out association with socio-demographic variables regarding balanced diet among school children.
- To find out correlation between pre -test and post -test knowledge and practice regarding balanced diet among school children.

Methodology

The methodology of the present study was structured to assess the effectiveness of a teaching programme on knowledge and practice regarding balanced diet among school children using a quantitative research approach, specifically a pre-experimental one-group pre-test and post-test research design, which is commonly applied in educational and interventional studies where control groups are not feasible and allows for comparison of outcomes before and after the intervention within the same group (Polit et al., 2017). The study employed a convenient sampling technique to select participants, which is widely used in field-based research due to its feasibility, accessibility, and cost-effectiveness, especially in school settings where participants are readily available (Etikan et al., 2016). The population for the study comprised children aged 11 to 14 years studying in classes 6th to 8th, and the data collection process was carried out over a period of six days, ensuring systematic inclusion of participants and minimizing disruption to academic activities. The sample included children within the same age group studying at Weidner Memorial English Medium Senior Secondary School, Rajnandgaon, Chhattisgarh, which served as the setting for the study, providing a controlled and familiar educational environment conducive for implementing the teaching programme and conducting assessments. The total sample size consisted of 300 children, which is considered adequate for pre-experimental studies to achieve meaningful statistical interpretation and improve the reliability of findings (Creswell et al., 2018). The data collection tool was carefully designed and consisted of three sections to comprehensively assess the variables of interest. Section A focused on socio-demographic variables, particularly the age of the children between 11 and 14 years, which is a critical developmental stage characterized by increased nutritional requirements and behavioral changes. Section B included a self-administered structured questionnaire aimed at assessing the knowledge of school children regarding balanced diet, which is an effective method for gathering information on awareness, understanding, and cognitive aspects related to nutrition (Sharma et al., 2020). Section C comprised an observational rating scale used to evaluate the practice of balanced diet among the children, allowing the researcher to assess behavioral aspects and actual dietary practices rather than relying solely on self-reported data, thereby enhancing the validity of the findings (Kaliyaperumal et al., 2016). The use of both questionnaire and observational methods ensured a comprehensive assessment of both knowledge and practice domains, aligning with standard research practices in health education studies. The data collection procedure involved administering the pre-test to assess baseline knowledge and practices, followed by the implementation of a structured teaching programme on balanced diet, and subsequently conducting a post-test to evaluate changes and improvements in the same variables. Ethical considerations such as informed consent, confidentiality, and voluntary participation were maintained throughout the study to ensure adherence to research standards and protection of participants' rights (World Medical Association et al., 2018).

Criteria For The Sample Selection

The criteria for sample selection were clearly defined to ensure the appropriateness and relevance of participants included in the study. The inclusion criteria comprised children aged between 11 to 14 years who were studying in classes 6th to 8th, including both boys and girls, as this age group represents early adolescence, a critical period for developing dietary habits and nutritional awareness. Children who were present and available at the time of data collection were included to facilitate smooth administration of the tools and ensure completeness of data. Additionally, only those children who were willing to participate in the study were selected, ensuring voluntary participation and adherence to ethical research principles. On the other hand, the exclusion criteria were established to eliminate participants who did not meet the study requirements. Children who were below 11 years or above 14 years of age were excluded to maintain uniformity in the sample and to focus specifically on the targeted developmental group. Furthermore, children who were absent during the period of data collection were excluded, as their participation could not be ensured throughout the study process, particularly for both pre-test and post-test assessments. Lastly, children who were not willing to participate were excluded to respect individual autonomy and ethical considerations. These inclusion and exclusion criteria helped in selecting a homogeneous group of participants, improving the validity and reliability of the study findings, and ensuring that the results accurately reflected the impact of the teaching programme on the intended population group.

Pilot Study

In order to test the feasibility, relevance & practicability of the study, a pilot study was conducted a week before the main study among 45 children between 11-14 years of selected Bal Bharati Public School Rajnandgaon (C.G.). Data were analysed to find out the suitability statistics. The pilot study revealed that the study was feasible.

Reliability of Tools

Reliability of the questionnaire were established by Cronbach's alpha method in statistical package for social sciences were used for the observational rating scale. The of tools tested with 45 samples by assessing self-administered questionnaire. The reliability coefficient of the questionnaire was r = 0.701. to assess the practice regarding balanced diet coefficient the reliability was found r = 0.735.

Data Collection Procedure

Data collection procedure for main study- Formal permission to conduct the study was obtained from the principal Weidner Memorial English Medium Senior Secondary School Rajnandgaon (C.G.) . During data collection procedure daily 100 children of age between 11-14 years of age studying in 6th-8th standard were assessed for knowledge & practice regarding balanced diet through the investigator and assessment was done by self-administered questionnaire. The total 300 childrens between 11-14 years of age were selected over a period of 6 days through this technique. Daily out of total population 100 children were taken for assessment. Daily 100 children were selected by Convenience sampling technique. The data collection procedure is follow as a list of subjects was collected from selected school. the data was collected from 12-12 2022 to 17-12-2022, time was fixed for data collection 11am-1pm, first 3 days of data collection pre-test assessment was done and structured teaching programme was provided to study subjects, than next 3 days post-test assessment was done after that information booklet distribution was done for each childrens.

S.No	Days	No. of Sample	Implementation
1.	First day	100	Pre-test + Structured Teaching programme
2.	Second day	100	Pre-test + Structured Teaching programme
3..	Third day	100	Pre-test + Structured Teaching programme
4	Fourth day	100	Post-test + information booklet distribution.
5	Fifth day	100	Post-test + information booklet distribution

6	Sixth day	100	Post-test + information booklet distribution

Results

This chapter deals with the description of sample analysis and interpretation of data collected to assess the knowledge and practice of students regarding balanced diet among school children.

Organization of findings

A. Frequency and percentage distribution of selected demographic variables regarding balanced diet among school children.

B. Assessment of pre-test and post -test knowledge score of study subject.
Assessment of pre-test and post-test practice score of study subject.

C. Association of pre-test and post-test knowledge among study subject.
Association of pre-test and post-test practice among study subject
Association of post-test knowledge with socio-demographic profile of study subjects.
Association of post-test practice with socio-demographic profile of study subjects.

D. Correlation between pre-test knowledge and pre-test practice among study subject.
Correlation between post-test knowledge and post-test practice among study subject.

Section-I

1.1 Frequency and percentage distribution of Respondents by Demographic Variables.

S. No	Characteristics	Category	Respondent	
			Frequency	Percentage
1.	Age(In Year)	11 Years	50	16.7%
		12 Years	47	15.7%
		13 Years	99	33.0%
		14 Years	104	34.7%
2.	Gender Of Student	Female	163	54.3%
		Male	137	45.7%
3	Religion	Christian	39	13.0%
		Hindu	186	62.0%
		Muslim	14	4.7%
		Other	61	20.3%

4.	Education Qualification	6th	100	33.3%
		7^{th}	100	33.33%
		8th	100	33.33%
5.	Type Of Family	Joint Family	150	50.0%
		Nuclear Family	150	50.0%
6.	Size Of Family	>5 Members	121	40.3%
		3 Members	51	17.0%
		4 Members	80	26.7%
7.	Dietary Pattern Of Family	5 Members	48	16.0%
		Non-Vegetarian	154	51.3%
		Vegetarian	146	48.7%
8.	Total Income	<=10,000	9	3.0%
		>20,000	125	41.7%
		10,001 - 20,000	166	55.3%
9.	Occupation Of Father	Businessmen	91	30.3%
		Farmer	7	2.3%
		Government Job	82	27.3%
		Other (Private Job, Daily Wages)	120	40.0%
10	Occupation Of Mother	Businesswomen	58	19.3%
		Farmer	4	1.3%
		Government Job	55	18.3%
		Other (Housewife)	183	61.0%
11	Drainage System	Closed	296	98.7%
		Open	4	1.3%
12	Area Of Residence	Rural	27	9.0%

		Urban	273	91.0%

SECTION-II

Pre-test knowledge score of study subject regarding balanced diet before attending structured teaching programme regarding balanced diet.

Pre-test knowledge	Frequency (fr)	Percentage (%)
Elementary knowledgeable	141	47.0%
Intermediately knowledgeable	159	53.0%
Adequately knowledgeable	0	0%
Highly knowledgeable	0	0%
Total	**300**	**100.0%**

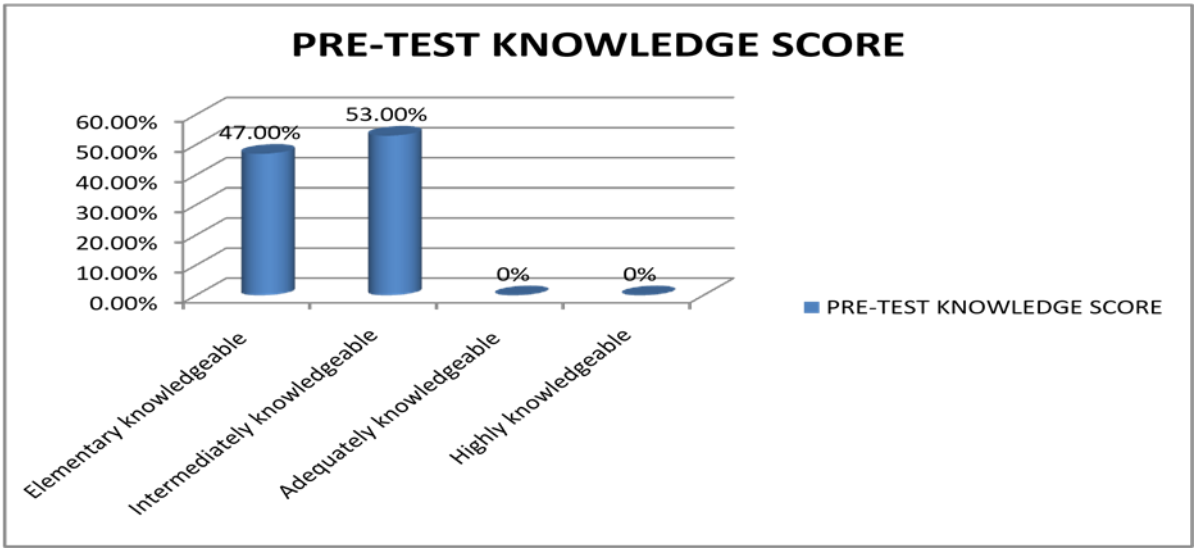


Figure 2: Pre-test Knowledge Score

SECTION-III

Post-test knowledge score of study subject regarding balanced diet before attending structured teaching programme regarding balanced diet.

Post-test knowledge	Frequency (fr)	Percentage (%)
Adequately knowledgeable	4	1.3%
Highly Knowledgeable	296	98.7%
Intermediately knowledgeable	0	0%
Elementary knowledgeable	0	0%

Total	300	100.0%

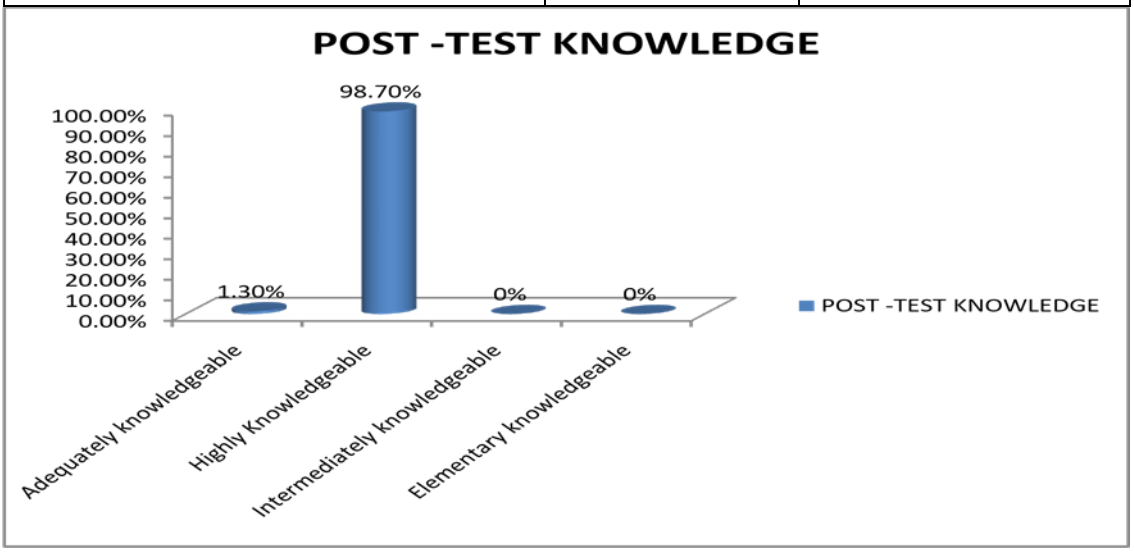


Figure 3: Post-test Knowledge Score

Pre-test practice score of study subject regarding balanced diet before attending structured teaching programme regarding balanced diet.

Pre-test practice	Frequency (fr)	Percentage %
Fair practice	295	98.3%
Poor practice	5	1.7%
Good practice	0	0%
Excellent practice	0	0%
Total	300	100.0%

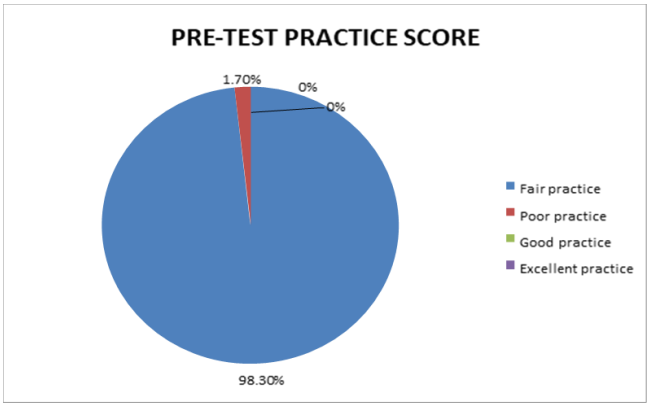


Figure 4: Pre-test Practice Score

Section-III

Post-test practice of subject regarding balanced diet before attending structured teaching programme regarding balanced diet.

Post -test practice	Frequency (fr)	Percentage %
Excellent practice	296	98.7%
Good practice	4	1.3%
Fair practice	0	0%
Poor practice	0	0%
Total	300	100.0%

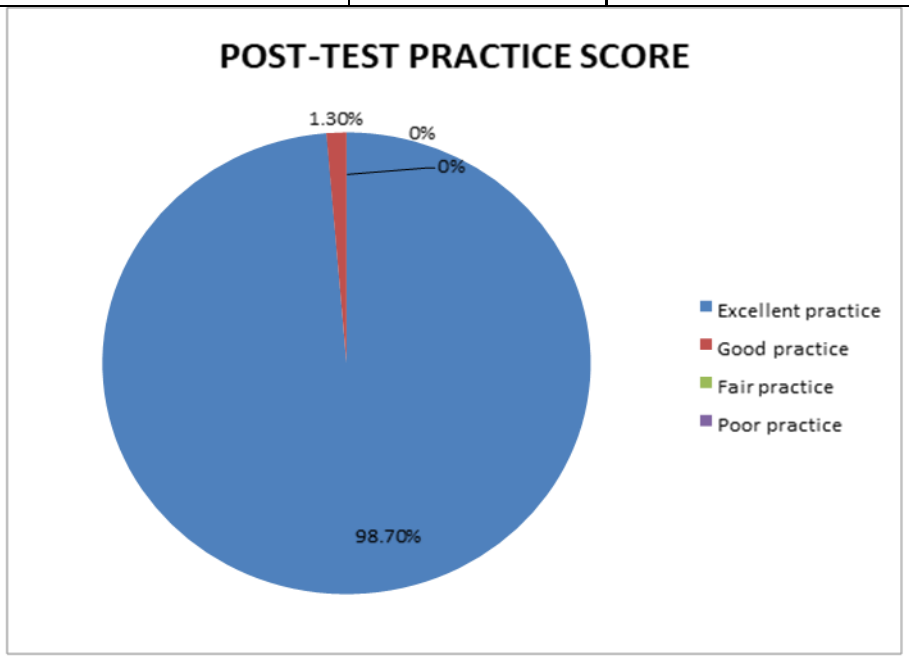


Figure 5: Post-test Practice Score

SECTION IV

Association of pre and post-test knowledge of subject regarding balanced diet before attending structured teaching programme regarding balanced diet.

Pair 1	Mean	N	Std. Deviation	t-value, df, Sig.
Pre-test knowledge score	8.32	300	1.912	-138.12, 299,

Post-test knowledge score	26.02	300	0.983	<0.001, Significant

Section-V

Association of post-test knowledge with socio-demographic profile of subject regarding balanced diet before attending structured teaching programme regarding balanced diet.

Socio-demographic variables		**Post-test knowledge**		**Total**	**Chi-square, df p-value**
		Adequately knowledgeable	**Highly Knowledgeable**		
Age	11 Years	0	50	50	1.255,3,0.74, NS
	12 Years	1	46	47	
	13 Years	1	98	99	
	14 years	2	102	104	
Sex	Female	2	161	163	0.031,1, 0.621, NS
	Male	2	135	137	
Religion	Christian	1	38	39	4.959, 3, 0.175, NS
	Hindu	2	184	186	
	Muslim	1	13	14	
	Other	0	61	61	
Educational Qualification	6th	1	98	99	0.484, 2, 0.785, NS
	7th	1	99	100	
	8th	2	99	101	
Type of Family	Joint Family	1	149	150	1.014,1, 0.622, NS
	Nuclear Family	3	147	150	
Size of Family	>5 Members	1	120	121	1.865, 3, 0.601, NS
	3 Members	1	50	51	
	4 Members	2	78	80	
	5 Members	0	48	48	

Dietary Pattern	Non-vegetarian	1	153	154	1.125, 1, 0.289, NS
	Vegetarian	3	143	146	
Total Income	<=10,000	0	9	9	5.676, 2, 0.059, NS
	>20,000	4	121	125	
	10,001 - 20,000	0	166	166	
Occupation of father	Business men	1	90	91	1.123, 0.772, NS
	Farmer	0	7	7	
	Government job	2	80	82	
	Other	1	119	120	
Occupation of mother	Business women	1	57	58	9.695, 0.021, S
	Farmer	0	4	4	
	Government job	3	52	55	
	Other	0	183	183	
Drainage System	Closed	4	292	296	0.055, 0.947, NS
	Open	0	4	4	
Area of Residence	Rural	0	27	27	0.401, 0.684, NS
	Urban	4	269	273	
Total		4	296	300	

Conclusion

The study included various socio-demographic variables such as age of the child, gender, religion, educational qualification, type of family, size of family, dietary pattern of the family, total monthly family income, occupation of father, occupation of mother, drainage system, area of residence, type of house, and ventilation facilities at home to understand their influence on knowledge regarding balanced diet among school children. Analysis of the findings revealed that there was a statistically significant improvement in the knowledge of the study subjects after the implementation of the structured teaching programme, indicating its effectiveness in enhancing awareness about balanced diet. The post-test scores showed a marked increase compared to the pre-test scores, reflecting better understanding and retention of nutritional information among the participants. Further analysis of association between post-test knowledge and selected socio-demographic variables indicated that the occupation of the mother had a statistically significant association with the knowledge levels of the children, suggesting that maternal influence plays an important role in shaping children's nutritional

awareness and practices. However, no statistically significant association was found between post-test knowledge and other demographic variables such as age, gender, religion, educational qualification, type of family, family size, dietary pattern, income, occupation of father, and housing or environmental conditions. This indicates that the structured teaching programme was effective across different demographic groups and was not significantly influenced by most background characteristics, thereby demonstrating its broad applicability and usefulness in improving knowledge regarding balanced diet among school children.

Recommendation

Based on the findings of the investigator propose the following recommendation.

1. More research needs to conducted with large sample size in different setting to increase utilization of the generalization of the findings.
2. A comparative study can be conducted on the assessment of knowledge and practice of school children among government and private school children.
3. A similar study can be conducted among other age group.

Refernces

1. Afshin, A., Sur, P. J., Fay, K. A., et al. (2019). Health effects of dietary risks in 195 countries. The Lancet, 393(10184), 1958–1972.
2. Birch, L. L., Savage, J. S., Ventura, A. (2019). Influences on the development of children's eating behaviours. Current Opinion in Behavioral Sciences, 9, 94–100.
3. Black, R. E., Victora, C. G., Walker, S. P., et al. (2018). Maternal and child undernutrition and overweight in low-income and middle-income countries. The Lancet, 382(9890), 427–451.
4. Brown, J. E., Isaacs, J. S., Krinke, U. B., et al. (2017). Nutrition through the life cycle. Cengage Learning.
5. Burns, N., Grove, S. K. (2019). Understanding nursing research: Building an evidence-based practice. Elsevier.
6. Choudhary, M., Shekhawat, R. (2019). Impact of nutrition education on adolescents. International Journal of Adolescent Medicine and Health, 31(2), 1–6.
7. Contento, I. R. (2016). Nutrition education: Linking research, theory, and practice. Jones and Bartlett Learning.
8. Creswell, J. W., Creswell, J. D. (2018). Research design: Qualitative, quantitative, and mixed methods approaches. Sage Publications.
9. Development Initiatives. (2020). Global nutrition report: Action on equity to end malnutrition. Development Initiatives.
10. Etikan, I., Musa, S. A., Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. American Journal of Theoretical and Applied Statistics, 5(1), 1–4.
11. Food and Agriculture Organization of the United Nations. (2017). The future of food and agriculture: Trends and challenges. FAO.
12. Gibney, M. J., Margetts, B. M., Kearney, J. M., et al. (2016). Public health nutrition. Wiley-Blackwell.
13. Gropper, S. S., Smith, J. L. (2018). Advanced nutrition and human metabolism. Cengage Learning.
14. Gupta, N., Goel, K., Shah, P., et al. (2018). Childhood obesity in developing countries. Indian Journal of Pediatrics, 79(4), 1–7.
15. Guthold, R., Stevens, G. A., Riley, L. M., et al. (2020). Global trends in insufficient physical activity among adolescents. The Lancet Child and Adolescent Health, 4(1), 23–35.
16. Jain, S., Chaturvedi, R. (2020). Dietary habits among adolescents. Journal of Family Medicine and Primary Care, 9(5), 2200–2205.
17. Janssen, I., Leblanc, A. G. (2020). Systematic review of the health benefits of physical activity and fitness in school-aged children and youth. International Journal of Behavioral Nutrition and Physical Activity, 17(1), 1–16.

18. Kaliyaperumal, K. (2016). Guideline for conducting a knowledge, attitude and practice study. Community Ophthalmology, 4(1), 7–9.
19. Kaur, H., Kaur, S. (2018). Knowledge and practices regarding nutrition among school children. Nursing Journal of India, 109(3), 100–104.
20. Kulkarni, B., Radhakrishna, K. V. (2016). Nutritional deficiencies in children. Indian Journal of Medical Research, 144(4), 502–516.
21. Kumar, S., Preetha, G. S. (2018). Health promotion: An effective tool for global health. Indian Journal of Community Medicine, 37(1), 5–12.
22. Mehta, M., Grover, K. (2017). Nutritional status of school children. International Journal of Food Sciences and Nutrition, 6(2), 45–50.
23. Mishra, A., Sharma, D. (2019). Role of balanced diet in immunity. Journal of Nutrition and Health Sciences, 6(1), 1–6.
24. Nyaradi, A., Li, J., Hickling, S., et al. (2017). The role of nutrition in children's neurocognitive development. Frontiers in Human Neuroscience, 11, 97.
25. Pandey, R., Tiwari, S. (2020). Effect of health education on dietary practices. International Journal of Nursing Education, 12(4), 50–55.
26. Patel, P., Shah, K. (2020). Nutritional awareness among adolescents. International Journal of Community Medicine, 8(3), 200–205.
27. Polit, D. F., Beck, C. T. (2017). Nursing research: Generating and assessing evidence for nursing practice. Wolters Kluwer.
28. Rao, S., Swaminathan, S. (2017). Role of nutrition in child development. Indian Journal of Pediatrics, 84(12), 1–6.
29. Ritchie, H., Reay, D. S., Higgins, P. (2017). The impact of global dietary guidelines on climate change. Global Environmental Change, 42, 76–84.
30. Sawyer, S. M., Azzopardi, P. S., Wickremarathne, D., et al. (2018). The age of adolescence. The Lancet Child and Adolescent Health, 2(3), 223–228.
31. Sharma, M., Branscum, P. (2017). Nutrition education in schools: A systematic review. Health Education Journal, 76(6), 645–658.
32. Sharma, S., Yadav, R., Sharma, M., et al. (2020). Assessment of knowledge regarding balanced diet among school children. International Journal of Health Sciences and Research, 10(5), 120–125.
33. Singh, A., Bassi, S., Nazar, G. P., et al. (2019). Impact of school-based nutrition education interventions. Public Health Nutrition, 22(2), 1–10.
34. Srivastava, A., Mahmood, S. E. (2017). Nutritional status and its determinants. Journal of Clinical and Diagnostic Research, 11(9), 1–5.
35. Thomas, B., Bishop, J. (2017). Manual of dietetic practice. Wiley-Blackwell.
36. United Nations Children's Fund, World Health Organization, World Bank Group. (2019). Levels and trends in child malnutrition. UNICEF.
37. Verma, P., Kaur, G. (2019). Effectiveness of teaching programme on knowledge regarding diet. Nursing and Midwifery Research Journal, 15(2), 75–82.
38. Whitney, E., Rolfes, S. R. (2018). Understanding nutrition. Cengage Learning.
39. World Health Organization, United Nations Children's Fund, Food and Agriculture Organization. (2016). Global nutrition report: From promise to impact. WHO Press.
40. World Medical Association. (2018). Declaration of Helsinki: Ethical principles for medical research involving human subjects. JAMA, 310(20), 2191–2194.