A study to assess the effect of parent-child-programme on knowledge regarding balanced diet among school children in selected schools, at Kulasekharam, Kanyakumari District

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ABSTRACT

School going period is considered a nutritionally critical period of life. The importance of nutrition in school-age children has been emphasized because malnutrition during these can decrease not only in physical and mental development but also in learning the ability of the children. In a school environment playing a board game has many benefits for children of all age groups, helping to develop their visual alertness increase their attention span, assisting with memory strategies and reasoning. The study was a quasi-experimental study with a quantitative approach. The study was conducted in 2 government schools (Koodathooki & Kalladimamoodu) at Kulasekharam. The data collection period was one month. the population was school-age children between the age group of 9-11 years. Purposive sampling technique was used, the sample size was 40. The tools used for data collection were demographic variables and a structured questionnaire. The questionnaire consists of 20 items regarding a balanced diet. The findings revealed that the pretest means a score of the school-age children was 6.20. The post-test mean score of school-age children was 16.32. It showed that before implementing the snake and ladder game, the school-age children had a poor level of knowledge regarding a balanced diet. The 't' value was 18.08, df =79, table value = 3.90 and P < 0.0001, so it is highly significant. The pretest means a score of parents of school-age children was 5.46. The post-test mean score of parents of school-age children was 16.46. It showed that before implementing the intervention, the parents of school-age children had a poor level of knowledge regarding a balanced diet. The t value was 9.04, df = 29 and table value = 4.25 and P<0.0001, so it is highly significant. There is no statistically significant association between the pretest level of knowledge with the selected demographic variables.

Keywords— Effect, Parent-Child-Program, Balanced diet, Knowledge, School children

1. INTRODUCTION

"Health is a relationship between you and your body"

-Terriguillements

Children are the wealth of tomorrow; children are major consumers of health care. A child is a unique individual; he or she is not a miniature adult, not a little man or woman. India is the second-most populous country in the world with over 1.21 billion people. The children age 0-15 years constitute about 31.1%, about 15% consist of school children. They are not only large in number but vulnerable to various health problems and considered as special risk groups.

The World Bank estimates that India is one of the highest-ranking countries in the world for the number of children suffering from malnutrition. The prevalence of underweight in India is among the highest in the world and is nearly double that of Sub- Saharan Africa with dire consequences for mortality, morbidity, productivity and economic growth.

The **Global Nutrition Report (2018) India** reveals that India has the highest number of stunted kids with 46.6 million children who are stunted, followed by Nigeria, (13.9 million) and Pakistan (10.7 million). School going period is considered a nutritionally critical period of life for several reasons. The importance of nutrition in school-age has been emphasized because malnutrition during these can decrease not only in physical and mental development but also the learning ability of the children.

According to a national family survey of 2017, the percentage of stunted children under five reduced from 48% in 2005 -06 to 38% in 2015- 2016. there has been a rise in the percentage of children who are wasted from 19.8% to 21% during this period. The increased incidence of wasting was noted in Punjab, Goa and Maharashtra. The survey also reported that more than half of India's children are anemic (58%) caused by a nutritional deficiency of iron, and other essential minerals and vitamins in the body.

Games are an innovative and challenging educational method. They have also been used as a teaching strategy in medical education. One such game is **"Snake and Ladder game".** It is used as a fun way method of learning about the topic of health.

In a school environment playing board games has many benefits for children of all age groups helping to develop their visual alertness, increase their attention span, assisting with memory strategies and reasoning.

2. STATEMENT OF THE PROBLEM
A study to assess the effect of parent–child-program on knowledge regarding a balanced diet among school children in selected schools, Kulasekharam, Kanyakumari district.

3. OBJECTIVES
The objectives of the study were
- To assess the knowledge of school children regarding a balanced diet before Snake and Ladder gaming.
- To find the effect of Snake and Ladder game among school children.
- To assess the knowledge of parents regarding a balanced diet before Video Teaching Program.
- To find the effect of Video Teaching programs among parents of school-age children.
- To find out the association between the knowledge of school children regarding a balanced diet with selected demographic variables such as age, sex, education, and occupation of parents, income, religion, area of residence, type of family, hobbies, source of information and type of play.

4. METHODOLOGY
4.1 Research approach
Quantitative research approach.

4.2 Research Design
Quasi-experimental one group pre-test post-test design.

4.3 The setting of the Study
The study was conducted in two government schools at Kulasekharam (Koodathooki and Kalladimamoodu). The total strength of each school is around 150 and 100. the investigator has selected this setting due to the availability of the samples and its accessibility to the investigator.

4.4 Population
The population consists of all school-age children between the age group of 9-11 years who are studying in government schools of Koodathooki and Kalladimamoodu whoever fulfill the inclusion criteria.

4.5 Sample size
The sample size consists of 40 children.

4.6 Sampling Technique
Purposive sampling technique was used for the selection of samples. The samples were selected based on the inclusion and exclusion criteria.

4.7 Criteria for Selection of Sample
Inclusion Criteria
- Students between the age group of 9-11years.
- Students who are willing to participate in the study.
- Students who scored average and below-average knowledge (<75%).

Exclusion criteria
- Students who scored above 76%.
- Students who are absent on the day of data collection

4.8 Evelopment and Description of the Tool
Section A

Demographic variables such as age, sex, education of parent, family income, occupation, type of residence, type of family, religion, source of information, hobbies and type of play

Section B
- Structured questionnaire for the parent
- Structured questionnaire for school children.

Scoring Interpretation
- 76 – 100% – Above average
- 51 - 75% - Average
- < 50% - Below average

Description of the Intervention
Snake and ladder game used to improving the knowledge of the school children regarding balanced diet by explaining the different food items through the compartments containing protein-rich food like milk, egg, fish, pulses, iron-rich food like dates, spinach, pomegranates, carbohydrate-rich food like rice, cereals, potatoes, fat-rich food like cheese, nuts, and vitamins etc. In this game chart, the ladder is indicating the food that should be taken by the child for improving the body weight and a snake is indicating food that should be avoided by the childlike junk foods such as noodles, chips, ice cream, chocolate, cake pizza, burger and lack of exercise. School children were playing the game for 1 hour on an alternative day for 2 weeks. The parents of school children were educated through a video teaching program for 30 minutes and the school children were educated through snake and ladder game for 1 hour on an alternative day for 2 weeks**.**

Reliability of the Tool
The tool was subjected to the test for its reliability. The test re-test method was used to find the reliability of the tool r= 0.9 which indicates the tool is reliable.

5. DATA COLLECTION PROCEDURE
The data collection was done from 1/2/2019 to 28/2/2019. The investigator introduced the self to the child and parents and also explained the purpose of conducting the study. A good rapport was created with the child and family and then got their oral consent. The demographic variables were collected from the school children with the help of a self-structured questionnaire. After that, the investigator has done the pre-test level of knowledge in school children by a structured questionnaire which consists of 20 items regarding the balanced diet. The pre-test level of knowledge in parents of selected school children was done with a structured questionnaire which also contains 20 items regarding a balanced diet. Before introducing a snake and ladder game, the investigator had explained about the balanced diet in a play-way method**.** Then the investigator divided the children into 10 groups and allowed them to play the game for 1 hour on an alternative day for 2 weeks. At the end of the one month, the post-test was conducted for the school children by using the same structured questionnaire. For the parents of the selected school children, a video teaching program was given by the investigator regarding a balanced diet. Firstly, the investigator-assessed the pre-test level of knowledge regarding a balanced diet by a structured questionnaire. After that, the investigator gave a video teaching program for parents of selected school children for ½ hour. After one month the post-test level of knowledge assessed with the help of a structured questionnaire. The practice checklist was given to the selected parents of school children. After completing the post-test, the investigator extended her thanks to the school authority and participants for their full co-operation.

Table 1: Demographic Data

S. No	Demographic variables	Number	%	χ^2	df	Table value
1.	**Age of children** • 9 years • 10 years • 11 years	16 12 12	40.00 30.00 30.00	1.79	1	4.92
2.	**Gender** • Male • Female	25 15	62.50 37.50	7.89	2	3.90
3.	**Education** • 4th std • 5th std • 6th std	15 14 11	37.50 35.00 27.50	9.67	1	2.67
4.	**Educational status of mother** • Primary • High school • Higher secondary • Graduate & Above	30 10 0 0	75.00 25.00 0.00 0.00	7.56	2	3.19
5.	**Educational status of father** • Primary • High School • Higher Secondary • Graduate & Above	10 25 5 0	25.00 62.50 12.50 0.00	2.12	1	2.01
6.	**Occupation of mother** • Home maker • Coolie • Medical profession • Other profession	10 30 0 0	25.00 75.00 0.00 0.00	6.54	1	1.90
7.	**Occupation of father** • Home maker • Coolie • Medical profession • Other profession	0 40 0 0	0.00 100.0 0.00 0.00	1.35	1	2.12
8.	**Religion** • Hindu • Christian • Muslim • Others	30 10 0 0	75.00 25.00 0.00 0.00	2.76	1	1.93
9.	**Income** • 15754-31506 • 11817-15753 • 7878-11816 • 4727-7877	0 0 5 35	0.00 0.00 12.50 87.50	1.45	2	2.91
10	**Dietary pattern** • Vegetarian • Non-vegetarian • Both	0 25 15	0.00 62.50 37.50	3.67	1	1.95
11	**Hobbies** • Watch television • Playing • Reading • Gardening	15 20 0 5	37.50 50.00 0.00 12.50	2.45	2	1.02
12	**Type of family** • Nuclear • Joint • Extended	25 15 0	62.50 37.50 0.00	1.44	1	2.85
13	**Area of residence** • Urban • Rural	0 40	0.00 100.0	2.90	2	2.23
14	**Source of information** • Friends • Relatives • Medias • All the above	10 0 20 10	25.00 0.00 50.00 25.00	3.45	1	2.18
15	**Type of play** • Indoor play • Outdoor play	20 0	100.0 0.00	1.78	1	1.56

6. MAJOR FINDINGS OF THE STUDY AND DISCUSSION

The data are organized and presented in the following four sections

Section A– Demographic variables of samples selected for the study.

Section B– This section deals with the effect of the parent-child program on knowledge regarding a balanced diet.

Table 2: Comparison of Mean Values Between the pre and post-test of Children's

Observation	Pre-test		Post test		Mean difference	't' test	df	Table value
	Mean	SD	Mean	SD				
Values	6.20	1.45	16.32	1.55	10.12	18.08	79	3.90

Table 3: Comparison of mean values between the pre and post-test of mothers

Observation	Pre-test		Post test		Mean difference	't' test	df	Table value
	Mean	SD	Mean	SD				
Values	5.46	1.68	16.46	3.41	11.00	9.04	29	4.25

Section C – Association between knowledge of school children regarding a balanced diet and selected demographic variables.

- In this study, there is no statistically significant association between pretest score and socio-demographic variables such as age, sex, education, and occupation of parents, income, religion, area of residence, type of family, hobbies, source of information and type of play.

6.1 Recommendations

- A similar study can be conducted with large samples and different settings.
- Parent-child programs can be conducted on different topics related to health and hygiene.
- A similar study can be done in a community set up.

6.2 Nursing Implications

The findings of the study revealed that the effect of the parent-child program on knowledge regarding balanced diet among school children have implication in the areas of the nursing profession .it is explained in the following heading like nursing practice, nursing education, nursing administration and nursing research.

6.3 Nursing Education

- The parent-child program is one of the educational interventions that can be included in the nursing curriculum, community health nursing.
- In-service education can be conducted to the community health nurses regarding the parent-child program in various aspects.

6.4 Nursing Practice

- Nursing students can be instructed to practice a parent-child program in the community set up as well as the hospitalized children.
- Nurses can utilize the parent-child program to give health teaching about various topics related to health for a hospitalized child.
- Community health workers can use this method in the community area to spread the health messages to the community people

6.5 Nursing Administration

- The nurse administrator should encourage the staff and student to implement the parent-child program on different health needs in the community

- It can also practice for all other settings like schools, hospital and other health care organizations.

6.6 Nursing Research

Parent-child program is an important way of transferring knowledge to the society so, the nursing researchers conduct various through the parent-child program.

7. CONCLUSION

From the result of the study, it was concluded that administering the parent-child program among school children and mothers of school children was effective in improving their level of knowledge regarding a balanced diet. Therefore the investigator felt that more importance should be given for educating diet to reduce malnutrition among school children. The parent-child program helps the children to practice good balanced nutrition in their life practice.

8. REFERENCES

[1] Soni, D. (2017) Textbook of Nutrition,4th edition. Vikas and company (medical publishers), Punjab: 243-268

[2] Swaminathan, M. (1986) Hand Book of Food and Nutrition, 5thedition, published by Bangalore Printing And Publishing Co. Ltd, Bangalore: 180

[3] Singh, R. (2012) Food and nutrition for nurses, 1st edition, Jaypee Brothers Medical Publishers, New Delhi 199.

[4] Dutta, P. (2009) Pediatric Nursing, 2nd edition, Jaypee Brothers Medical Publishers New Delhi, 47

[5] Marlow, D.R. (1998) Textbook of Pediatric Nursing, 6th edition, W.B. Saunders Company, London, 1003.

[6] Padmaja, A. (2016) Textbook of child health nursing 1stedition, Jaypee Brother Medical Publishers, New Delhi 170.

[7] George, J.B. (1995) Nursing Theories, 4thedition, California Appleton, 23-26.

[8] Polit, F.P. (1999) Nursing Research Principles and Methods, 7th edition, William and Wilkin Publication, Philadelphia

[9] Suresh, S.K. (2012) Nursing Research and Statistic, 2ndedition, Saunders Elsevier, New Delhi.

[10] Dennis, L.B. (2005) Introduction to human development and Health Issues, 5th edition, W.B. Saunders Publication, Philadelphia.

[11] Awate, R.V., Ketkar, Y. A., &Somaiya, P. A. (1997). Prevalence of nutritional deficiency disorders among rural primary school children (5-15 years). Journal of the Indian Medical Association, 95(7), 410-1.

[12] Shivaprakash, N. C., & Joseph, R. B. (2014). Nutritional status of rural school-going children (6-12 years) of Mandya District, Karnataka. Int J Sci Stud, 2(2), 39-43.

[13] Zhou, J. (2018). Results from a Quasi-experimental Study of a Training Intervention for Healthy Eating Behaviors of Students. NeuroQuantology, 16(2).

[14] De Lepeleere, S., De Bourdeaudhuij, I., Cardon, G., &Verloigne, M. (2017). The effect of an online video intervention 'Movie Models' on specific parenting practices and parental self-efficacy related to children's physical activity, screen-time and healthy diet: a quasi-experimental study. BMC public health, 17(1), 366.

[15] Kutwal, D., &Jagtap, V. (2018). A study to assess the effect of snake and ladder game on knowledge regarding a balanced diet among school children in selected schools,4(6), 159-164.

[16] Hadisuyitno, J., Aswin, A.A., &Utaminingtyas, S.I. (2017). The Effectiveness of Snake and Ladder Game to Street Food Safety Knowledge Level at Elementary School

Students. IEESE International Journal of Science and Technology, 6(4), 1-4.

[17] Hassanzadeh-Rostami, Z., Mirshekari, M., H Ranjbaran, H., Khosravi, S., &Faghih, (2018) Effect of Game-Based Nutrition Education on Nutritional Knowledge of Preschool Children. S Int J NutrSci, 3(1):50-55

[18] www.teflcourse.in.social.jrank.org/pages/492/play.html

[19] www.child-development-guide.com/importance-of-play.html

[20] http://www.springerlink.com/content/k774tg5410r5227h

[21] www.pellegraresearchlibrary.org

[22] https://completewellbeing.com/article/snakes-ladders-of-life/

[23] http://www.speechlanguage-resources.com/simple-board-games.html

[24] http://www.renfrewshire.gov.uk/article/5951/Snakes-and-ladders-gamesupports-rehabilitation-of-people-with-convictions

[25] https://www.globalhungerindex.org/case-studies