

# Effectiveness of Health Education on Knowledge and Practice Regarding the Importance of Well-Balanced Nutrition Among School Students

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## Abstract

**Introduction:** Students are the future of the nation they spend more time in school than home. They need to know about the importance of a balanced diet. Balanced nutrition is important for the students, basis for lifetime health, strength, and intellectual abilities in the students. Balanced nutrition in school students give information, and skills for healthy food selection which enhance the health and prevent diseases. **Methods:** Quasi-experimental study was conducted to assess the effectiveness of health education on knowledge and practice regarding the importance of well-balanced nutrition among school students with (n=70) in the school of Ali Raza Abad Raiwind Road Lahore, Pakistan. The educational interventional program involves four weeks of intervention about the importance of well-balanced nutrition. **Results:** The results of the study showed that there is significance effectiveness of health education on knowledge and practice regarding the importance of well-balanced nutrition among school students. A total of (n=70) students participated in this study, the mean score of the pre-data collection was 17.17 with the standard deviation of 3.526, and after the educational interventional program the mean score of post data collection was 27.07 with the standard deviation 2.845, and the difference between pre and post mean score was 9.900 which was a statistically significant difference pre and post data collection. **Conclusions:** The study findings revealed that health education on the importance of well-balanced nutrition was effective by improving the knowledge and practice of school students.

**Keywords-** Effectiveness. Health education. Knowledge. Practice. Well-balanced nutrition. School students.

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## I. INTRODUCTION

Balanced nutrition is important for the students, it is the basis for lifetime health, strength, and intellectual abilities in the children. Also, physical growth and mental development is the dynamic period (Sharma, Wade, & Srivastava).

Students pass more time in the school rather anywhere except home. The essential problem in education is the fitness of students. Now the priority of schools is the dynamic advancement of health. Humanity in school-age children is low but sickness and physical imperfections constitute major complications (Gokhale, Borgaonkar, Shanbhag, Solanki, & Rasal, 2017).

Community health can be increased through school services, which is an inexpensive and influential resource. As all children are not alike and belong to a variety of socioeconomic and cultural contextual and with dissimilar immunity position the school-going child is susceptible to pressure, tension and endangerment of group life. A child is easy targets of many non-communicable diseases such as dental caries, anaemia, visual and hearing defects because of their susceptible developing phase (Asghar, Gupta, Srivastava, Srivastava, & Zaidi, 2017).

Nutritional level of school students in the community enhances the health of the students. By balancing diet, nutritional intervention program to check the status of the nutrition. (Asfaw, Wondaferash, Taha, & Dube, 2015).

Improper nutrition leads to undernutrition in school students were age, sex, daily meal incidence, and the maternal age are major interpreters of undernutrition in students. Houses of the children also linked with nutritional status. Improve the economic level of the community, policymakers consider the greater supplies for health education regarding student's nutrition. Screening the diet and supplementary feeding program to the undernourished children are important (Degarege, Degarege, & Anmut, 2015).

Nutrition education in school students give students information, and skills for healthy food selection, and behaviour of dietary nutrition, behaviour largely affect to change the nutritional status of the school children. Poor food selection in the children leads to diseases like obesity, and other chronic diseases. Fatness and long-lasting disorders in school-age children are owing to poor food choices in childhood. The change of food choices at the school system is not fruitful through existing methods. Through health education improve the nutritional level,

and increase the knowledge about the choice of diet in children. 97% of nutrition education is important 53% can be improved through education in students and short term 16%. However, food selection in school and home reinforce what is done in the school, and effectiveness regarding well-balanced nutrition education programme on the school students (Perera, Frei, Frei, Wong, & Bobe, 2015).

Influence of nutrition intake and status lead to the consumption of milk, and other dairy products by school students have diminished in recent decades. Dairy products in students is an important dietary source of many micronutrients which involve calcium, iodine, phosphorus, magnesium, zinc, potassium, vitamin D, vitamin A, and vitamin B2. In school students' dairy products provide energy, high quality of protein, and essential and nonessential fatty acids. In students, dairy products play an important role for the students in growth development (Dror & Allen, 2014).

## **II .MATERIAL & METHODS**

### **Setting**

This study was conducted at boys' high school in a rural community of Lahore.

### **Research design**

The quasi-experimental study design was used in this study by using a pre and post-test phase.

### **Population**

The target population of the study was 150 students of class 9<sup>th</sup> in selected high school in Lahore.

### **Sampling**

Convenient sampling techniques were used in this study for data.

### **Research instrument**

A well-structured and adopted questionnaire from the study of (Anu, 2013) was used to collect the data from the participants.

### **Data gathering procedure**

A formal written letter of permission to conduct the research. And the questionnaire was distributed to the school students.

### **Analyze data**

Data analysis was done by comparing pretest and a post-test score of the questionnaire with the use of paired t-test in SPSS version 21 statistical software for data analysis, in pre and post-test results. A 95% confidence level is used for the study and a  $P \leq 0.05$  was considered statistically significant.

### **Ethical consideration**

All the rules and regulations administered by the ethical committee of Lahore School of Nursing, The University of Lahore all the informed consent taken from all the participants. All the data kept confidential.

### **Study timeline**

This study took 3 months (September 2018, to December 2018).

## **III .RESULT**

This chapter includes 2 portions of the analysis. First analysis the demographic data, then structured knowledge and practice questionnaire. In demographic data 8 questions, in knowledge and practice questionnaire 40 questions present. Question data was analyzed by the use of distribution of each characteristic.

### **Section I**

The analysis showed that there is significant association found with age, religion, area of residence, type of family, education of parents, occupation of parents, exposure to previous knowledge, and the sources of information among school students, and source of information regarding the importance of well-balanced nutrition at  $p < 0.05$  and there was no association found among school students.

## DEMOGRAPHIC ANALYSIS

**Table 01: Shows the demographic characteristics of the participants.**

Variables		Frequency	Percentage	
1. Age Group		Mean=10.48		
	(12-14) years	24	34.3%	
	(18-20) years	46	65.7%	
2. Religion	Christian	4	5.7 %	
	Muslim	66	94.3%	
3. Area of residence	Urban	46	65.7%	
	Rural	24	34.3%	
4. Type of Family	Nuclear	52	74.3%	
	Joint	18	25.7%	
5. Education of Parents	No Formal Education	16	22.9 %	
	Primary Education	20	28.6 %	
	Secondary Education	23	32.9%	
	Higher Secondary Education	4	5.7%	
	Graduate and Above	7	10.0%	
6. Occupation of parents	Government Employee	17	24.3 %	
	Private Employee	12	17.1%	
	Business	38	54.3%	
	Coolie	1	1.4%	
	Others	2	2.9%	
7. Exposure to previous knowledge	Yes	68	97.1%	
	No	2	2.9%	
8. Sources of information	School curriculum	40	57.1%	
	Family members	6	8.6%	
	Mass media	17	24.3%	
	Health personnel	7	10.0%	
Post-Test	27.07	70	2.845	.340

*Research Hypothesis*– There is an effect of health education on knowledge and practice regarding the importance of well-balanced nutrition among school students.

### Section II

This section explains the pre and posts analysis of data by using paired't' test.

#### Pre and post knowledge analysis of the data

**Table 02: Paired Samples Statistics**

	Mean	N	Std. Deviation	Std. Error Mean
Pre-Test	17.17	70	3.526	.421
<b>Paired Samples Test</b>				
	Paired Differences			
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference
				Lower Upper
Pre – Post	-9.900	3.337	.399	-10.696 -9.104

Pre-intervention results were 17.17 was mean with a sample size of 70, and after the post-intervention result of mean was 27.07. The standard deviation of the pre-intervention result was 3.526 and standard error was .421 on the other hand post result of post-intervention of standard deviation was 2.845 and standard error was 0.340.

#### Table 03: The Paired difference between pre and post knowledge

There is no null hypothesis, the null hypothesis was rejected, and the alternative hypothesis accepted because the confidence interval was less than 5 in both pre and post-intervention results. **Table 04: The Paired difference between pre and post knowledge**

<b>Paired Samples Test</b>			
	T	Df	Sig. (2-tailed)
Pre - Post	24.822	69	.000

The above tables show that the difference between pre and post result mean score was 9.90 with a standard deviation of 3.337, df was 69, and T 24.822 that indicate a significant improvement in the knowledge and practice regarding the importance of well-balanced nutrition. at a 95% confidence interval with  $p < 0.05$ .

#### IV .DISCUSSION

This quasi-experimental study finds out the positive impact of health education on school students. Finding of this study indicated that there is a significant effect of health education on the students to improve their knowledge and practice regarding the importance of well-balanced nutrition. According to the global nutrition report, 24 low- and middle-income managements assign 2.1% used to reduce the undernutrition, where 30% spend on the other things like gardening, education, health, and social security. Roundabout 2 billion people suffer from micronutrient malnutrition, 800 million people suffer from calorie decency, 2 billion people are overweight, one in 12 with type 2 diabetes, 159 million people are too short for their age, and 50 million do not weigh enough for their height wasted out of the total population of 7 billion (Achadi et al., 2016).

Dietary behaviour was the strongest average scale to relate the optional food selection to change the behavioural intents. The stronger the behaviour correlates the healthy eating pattern (Spinks & Hamilton, 2016).

The school students in single families, where only one mother and father and students lead to the nuclear or single family, lead to a higher risk of wasted and stunted in students. students mother's education play an important role or predictor to reduce the malnutrition burden in students by giving education to the school students (Khan, Khan, & Raza, 2015).

In Pakistan, 70-80% of students had no plan for mealtime, and they do not care for their food, and 47% of them avoid their first meal of the day. Students tend to possess inappropriate eating habits, and take a smaller amount of food that makes them ill and lethargic which lead to the absenteeism, and effect the classroom performance (Arshad, Ahmed, Yasin, Manj, & Umair, 2014).

The prevalence of undernutrition in school children was 5.4%, 3.7% in children with educated mothers, and whose mothers were illiterate lead to the undernutrition which is common in where nutrition is similar with illiterate and intermediate educated mothers of children. 50.5% of school-age children were boys, and 49.5% of girls were more prevent in school children where no knowledge to the children about the importance of well-balanced nutrition (Sharma et al.).

Most common morbidity found was caries 61.1% followed by ear wax 38.1%. Also, 10.3% had signs of vitamin deficiencies. Asghar et al in their study found 37.05% had dental caries and 10% had ear discharge and vitamin A deficiency in 4.70% (Asghar, 2017).

Intake of fruits and vegetables have a positive effect towards education and health, it seems that education about the nutrition most important influencing factors, supply the essential grounds for increase the attitude, knowledge and the performance of the school students and in the society especially improve the health (Javadzade et al., 2015).

The unhealthy diet causes diseases to improve the healthy diet pattern and improve health. Focused on the especially in fruits, vegetables, and other salts. Change the behaviour of the school student by health education (Afshin et al., 2015).

Nutrition also leads to the risk factor of 17% obesity in the people in other studies, and overweight effect there is no difference of obesity in males and females (Ogden, Carroll, Fryar, & Flegal, 2015).

Imbalanced nutrition leads to overweight and underweight was large, representative presence of the dual problem of malnutrition in students. Other factors not linked with weight signifying the need to discover other risk factors for this overweight and underweight involve hereditary factors and socioeconomic level (Manyanga et al., 2014).

Through the result of the study of Ali Ayub and Hussain 9% of schoolchildren were stunted, 11% of children were underweight, and 4% of children were wasted. The uneducated family, family members large, late and early weaning habits, and poverty the main factors linked to the malnutrition (Ali, Ayub, & Hussain, 2015).

Unhealthy food practices and junk foods like burger, coffee, burger, sweets, snacks, cold drinks, and other bakery items mostly used by students during school time. The pattern of junk food also showed variations in the age of school students, the ratio was greater in old students than new students and with time the habits of unhealthy foods were increased. Most of them were using chappati, and parathas, processed food in over diet and use of curry or salad as a major type of food used seem to change the traditional lunch and dinner of the students. The consumption of carbonated drinks or fizzy drinks at a high level on the daily routine and the students did not know the calories being consumed daily which lead to an unhealthy life. The students who came with breakfast done daily, and actively participate in class activities and mentally prepared for everything and those students who come not with breakfast done become sleepy whole day, due to missing breakfast their energy level also decreased. Which lead to the student's fatigue and feel hungry during class (Khalid, Khalid, & Shah, 2018).

The education about nutrition delivered and stimulate by different ways, which benefit the school students more than 200 million and they did not get their education developmental potential, which lead to the school

students develop and enhance the knowledge (Yousafzai et al., 2014).

Health education about nutrition promotes healthy eating habits which make a powerful contribution to prevent communicable diseases. Health education about eating habits was more effective among school students and in the society and they never narrow or broaden the health gaps between the high and low standard in poor and rich people (McGill et al., 2015).

The education about food safety and nutrition among school students were a great impact on the student's nutrition knowledge in school. The educational program about nutrition and food safety was very beneficial and effective for school students, and the health education about nutrition and food safety to be applicable, practicable, and improve the health (Zhou et al., 2016).

### Limitations

A more comprehensive study needs to be examined with more generalizability by increasing sample size because this study has a small sample size and conducted in only one community.

### Conclusion

It is concluded that health education in the school students related to the importance of well-balanced nutrition is much effective for healthy life and behaviour improved by changing the dietary patterns, and it is the need to develop awareness in students about the knowledge and practice of importance of well-balanced nutrition. Health education related to the importance of well-balanced nutrition has the potential to make a great effect on the health of school students. The training of teachers, families and motivation, both are important for their role in the importance of well-balanced nutrition. In this study health education related to the school students accomplish a significant effect on the school students.

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