

# Impact of Nutrition Education Program on Awareness of Muslim School Children

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## Abstract

No matter how well-educated a child's parents are, their health and nutrition will have an effect on their academic progress. These factors have substantial bearing on students' academic success. Recent advances in the attempt to improve the education for all project have focused on bettering students' health and nutrition to boost their academic performance in the classroom. Forty-eight Islamic schools participated in the study, and the results showed that only 20% of the schools adhere to the rules, and only 6% of the schools had nutritionists advising on menu design. Following this study, IMANA collaborated with MIDAN to compile a set of recommendations for educational institutions to implement. Included in these proposals are example menus with both traditional American fare and ethnic specialties, suggestions for fostering an atmosphere conducive to healthy eating, and information on where to get money for school lunch programs. The progress of a community depends on the health of its members, and since human environment influences the health of both individuals and communities, discussions on nutrition and health are worthy of provoking debates involving several aspects of the political, social, economic, and cultural developments of societies. We also conducted some in-school inspections to get a better look at the various school-based health and nutrition resources. American and cultural meals were combined in accordance with national dietary requirements by the Muslims in Dietetics and Nutrition (MIDAN) group.

**Keywords:** Muslim School, Nutrition, Education, performance, Health.

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## 1. INTRODUCTION

At all school events, the Islamic Academy of Delaware promotes the sale or distribution of healthy, nutrient-dense meals. Foods high in nutrients per calorie are called "nutrient dense" and are ideal for school lunches. To encourage the intake of nutrient rich foods in the educational context, the school has implemented the following nutrition standards controlling the sale of food, drinks and sweets. The school is dedicated to promoting the Nutrition Policy with all school nutrition workers, teachers, nurses, coaches and other school administration employees. The school will make an effort to inform students, parents, faculty, and the wider community about this regulation.

All reimbursable meals supplied as part of the National School Breakfast Program (SBP) and the National School Lunch Program (NSLP) must fulfill Federal nutritional criteria as specified by the US Department of Agriculture (USDA) Child Nutrition Program rules. The weekly average of menu items and food group portions must meet the current USDA food group and nutritional criteria, and they must be consistent with the portion sizes determined for the three school grade levels.

The WHO describe female high school students as a vital era of development that occurs between the ages of 10 and 19, Dietary habits are especially essential during this time because they impact adolescents' nutritional status as well as their long-term health. During this age Good diet is crucial for their optimal physical and cognitive development. Mainly because it's at this time that you're most likely to form habits that will serve you well for the rest of your life. similarly, this is the age when symptoms of adult-onset diseases are most likely to appear.

It is crucial to address the nutritional difficulties of school girls since their nutritional state has a harmful influence on future generations. The health of today's and tomorrow's women is profoundly influenced by their dietary state between the ages of 10 and 19. A regularly balanced diet and eating habits throughout this age can

assist to address nutritional deficiencies and linear growth stalls that occur during the first decade of life, as well as minimize harmful behaviors that lead to the adult-onset pandemic of non-communicable illnesses.

## 2. LITERATURE REVIEW

**Richa Bharti et.al (2021)** When it comes to public health issues, anemia is high on India's list of priorities. Poor nutrition education and information has been identified as a major contributor to malnutrition in a number of studies. This research focuses at examining the influence of dietary education on iron among school students. From April 2018 to February 2019, researchers conducted a cross-sectional intervention study to boost students' knowledge of nutrition. The outreach tool employed was Eat Right School initiative by Food Safety and Standards Authority of India (FSSAI). The researchers used a self-made questionnaire to gauge participants' levels of understanding before and after the intervention. School pupils from Delhi NCR and Mumbai participated in this research. There was an effort to improve understanding of iron and its functions, availability, iron deficiency anemia, iron absorption, and fortification. Chi-square test was done for comparison. Five-and-a-half percent (n=18,626) of the surveyed students were in the middle school years. There were 27355 people who indicated their gender; 58.1% were men (n=15899) and 41.9% were women (n=11456). The percentage of students who knew the importance/role of iron increased from 27.30% to 59.50%, the percentage who knew about iron deficiency anemia increased from 34.03% to 59.85%, the percentage who knew about sources of iron increased from 25.20% to 51.70%, the percentage who knew about iron absorption increased from 36.00% to 61.2%, and the percentage who knew about fortification increased from 55.4% to 76.9%. Thus, there was a very significant change across all parameters (p0.001), with scores rising by an average of 32.20 percent and with the greatest improvement found in the comprehension of iron's function. The study's findings disprove the null hypothesis and support the alternative. In contrast, the alternative hypothesis stresses the importance of nutrition education in raising students' awareness of iron and iron deficiency anemia.

**Idelia G. Glorioso et.al (2020)** Preventing childhood obesity and improving overall health should begin with nutrition instruction for both children and their moms in the classroom. The purpose of this research was to ascertain whether or not nutrition education modules were successful in increasing mothers' and children's understanding of healthy eating. Similarly, research was conducted to ascertain whether or not children's attitudes and actions changed throughout time. Using these methods, we were able to create five distinct nutrition education modules with focused messaging on: the healthy plate, fruits and vegetables, protein sources, nutrient-dense energy sources, water, and healthy drinks. There were 60 total sessions of nutrition instruction for pupils in grades 2 and 3, each lasting 25 minutes. Two groups of 83 students each were given either (1) nutrition education alone or (2) nutrition education with feeding. At the same time as the kids were learning about nutrition, nine one-hour sessions were held just for the moms. The mothers were also divided into groups based on where their children fell. Knowledge, attitude, and behavior (KAB) ratings increased from pre- to post-test for students in both groups. The findings of the moms' seminars showed that participants' post-test scores were greater than their pre-test scores. An rise from a pre-test average of 67.232.8 to a post-test average of 71.833.7 was seen in Group 1. The designed nutrition education modules were successful in instilling healthy eating habits in young learners, the authors write. By integrating these lessons into the pre-K through 12th-grade curriculum, we can better stress the significance of a healthy diet in the development of young children. As an added bonus, mother-to-mother workshops may serve as a link between academic and community-based nutrition programs.

**Mohammad Saeed Jadgeal et.al (2019)** Good nutrition is especially crucial throughout the school years to promote a child's proper and healthy growth as they experience both fast mental and physical advancements. The purpose of this research was to determine whether or not teaching elementary school girls about healthy eating habits via peer education based on TPB led to significant improvements in their eating habits and weight management in 2017. A total of 160 female fourth-graders were selected using multi-stage random selection for this quasi-experimental research, and they were split evenly between a control group and an intervention group. A valid and reliable researcher-created questionnaire was used to gather the data. The first section of the survey gathered information on the respondents' backgrounds and levels of knowledge, while the second focused on the TPB's core concepts. The intervention group received the educational intervention from their peers who had been taught to use the question and response technique (two 45-minute training session). The same questionnaire was used for the post-test two months following the intervention. Data were examined by paired and independent t-test, Spearman correlation and regression using SPSS 16 software. After the session, there was a dramatic improvement in the participants' cognitive abilities, which went from 8.01 to 9.95. The intervention led to an increase in all measures of behavioral nutrition, from 10.41 to 11.83. From 8.82 to 10.05, behavioral intent increased dramatically. The subjective norms indicated a considerable improvement from 9.18 to 10.42. The mean score on the measure of perceived behavioral control rose significantly from 8.48 to 10.00.

The findings demonstrate that primary school children's behavioral nutrition is favourably impacted by expanding their knowledge and TPB components as a consequence of TPB-based nutrition instruction delivered via peer training.

**Suzana Janson Franciscato et.al (2019)** The rising rates of childhood obesity highlight the need of beginning nutrition education programs at a young age. Thus, it makes sense to undertake a program to improve students' diets and lifestyles in the context of the school environment when students are present. The present research aimed to compare and contrast the effects of the "Nutriamigos®" Program on the food and nutrition literacy of children of varying socioeconomic status, sex, age, and Body Mass Index in two distinct types of schools (BMI). Studying the effects of an educational intervention before and after the fact. Two schools, one public and one private, were chosen for this intervention's evaluation. A convenience sample of 341 children, aged 6-10, was selected at random from two schools, one serving a mostly affluent population and the other serving a more diverse one. Nutritional status was evaluated by using the Body Mass Index. A questionnaire used both before and after the session assessed participants' understanding of food and nutrition. A total of 12 lessons, each lasting 50 minutes, made up the dietary intervention. When comparing the levels of food and nutrition knowledge before and after the intervention, there was a statistically significant increase. Success for the "Nutriamigos®" Program means that it can be implemented successfully in both public and private schools, and that it need not be modified for use with children of various sexes or of varying body types.

**Chetan S Patali et.al (2018)** In India it is observed from various nutrition surveys that the nutritional status of pregnant and lactating mothers and infants is not satisfactory, this is probably due to lack of basic knowledge regarding proper nutrition and wrong customs prevalent in the community besides non-availability and low intake of food. An effort was made to evaluate mothers' nutrition knowledge and, therefore, to enhance it depending on their learning requirements by use of an educational module. Mothers are society's keeper of the future, which is why they must do their best for their children (WHO2005). This was descriptive research total 100 respondents were recruited by non-probability purposive selection approach. Exploratory design was employed. Data was acquired through structured questionnaire. Data acquired under the 2 categories (socio-demographic data and knowledge on nutrition for under five) (socio-demographic data and knowledge regarding nutrition for under five). The Split-Half Method Formula was used to determine the tool's dependability.  $R=0.7015$  indicates that knowledge is reliable. Prepared self-instructional module on nutrition was prepared after content validity of the instrument was validated by six experts. Frequency, percentage, mean, standard deviation, and Chi-square values were among the descriptive and inferential statistics used to examine the data. The data were examined via descriptive and inferential statistics. Out of 100 samples the data were showed that 42% of the respondents were between 26-30 years, and 08% was in between 31- 35 years, Majority (72%) of the sample was housewife and the remaining 28% employed. Findings demonstrate that whereas 36% of moms reported having insufficient information, 41% of mothers reported having a decent degree of understanding. Many fields, not just nursing, might benefit from the findings of this research. Education programs should provide significance to educate the moms with enough information about nutrition so avoiding from hazard of nutritional deficiencies.

### 3. METHODOLOGY

This research on school health, nutrition and school health was confined to the primary education sub-system in both the French and the English sectors even though the whole education system in Cameroon is impacted by this phenomenon.

#### Sample characteristics

Southwest was selected because of its linguistic contrast with Littoral, which has a substantial influence on health, nutrition, the quality of teaching and learning, and ultimately school success.

#### Sampling Unit

Only primary schools were kept as a unit of inquiry in order to better grasp this topic on school health, nutrition, and school performance.

Data on children's dietary recommendations, school lunch programs, the prevalence of unhealthy food attitudes, and school lunch program financing were culled from articles indexed in MEDLINE. All of the addresses of

Islamic schools in the United States could be obtained on the Internet, therefore a questionnaire was addressed to each one. IMANA collaborated with the American Dietetic Association's Muslim Interest Group, Muslims in Dietetics and Nutrition (MIDAN), to create dietary guidelines based on U.S. Department of Agriculture and Department of Health and Human Services standards (HHS).

#### 4. DATA ANALYSIS

##### Nutrition and health condition

Concerning the issue of how students' diets affect their health, we found that, on the whole, students do not see their food choices as potentially harmful to their wellbeing. Adjustments or upgrades to the school's environment and health services are necessary for student health on a worldwide scale. Only when all of these healthful factors are taken into account can teachers be certain that their students will be healthy and ready to study.

**Table 1. Nutrition and health condition**

Parameter	Food in school and the health of pupils (%)	
Geographical zone	Sudano-Sahelian	10.5
	Equatorial forest	13.6
	Savanna zone	10.2
	Coastal zone	20.9
Type of school	Government	13.6
	Lay private	11.5
	Catholic	12.7
	Protestant	9.0
	Private Islamic	10.7

However, as shown in Table 1, the percentage of students whose health is impacted by diet differs by both domicile and geographical zone. More often than not, students from the Coastal and Equatorial Forest zones are the ones that bring food to class.

The poll was sent to 100 schools, and 48 of them answered. Fifty-eight percent of schools provide lunch programs, according to the report. Only about half of schools that provide lunch have a rotating menu.

Forty-six percent of schools that don't provide lunch to students give parents some kind of policy to follow. A quarter of schools that provide lunch have consulted dietitians for help in developing their food plans. There were just two schools that didn't provide a variety of ethnic foods in their lunches. The school lunch meal was given by just four schools. Eighty-seven percent expressed enthusiasm for learning how to develop a healthy lunch menu with the help of a dietician. In response, IMANA and MIDAN established Appendix 2's rules, which detail the NSLP-derived requirements for school meals. 9-13 Some Islamic schools in the US may choose to provide kids with ethnic meal options, even though many children may be quite fine eating normal American dishes. Sample menus for both American and ethnic meals were prepared by MIDAN based on the most recent national criteria (Appendix 3). These options, together with dairy products, may help you fulfill the USDA's Minimum Nutritional Requirements for School Lunches.

##### Culture of Healthful Eating

To encourage students to eat well and reject items with little nutritional value (commonly known as "junk food"), the school setting is ideal (FMNV). 19 The United States Department of Agriculture (USDA) defines FMNV as foods that supply less than 5 percent of the USRDA for each of the eight specified nutrients per 100 calories and less than 5 percent of the USRDA for each of the eight specified nutrients per serving. Protein, vitamin A, vitamin C (ascorbic acid), niacin, riboflavin, thiamine, calcium, and iron are the eight nutrients that must be measured.

##### Funding for Islamic School Lunch Programs

There may be obstacles to enforcing existing requirements in Islamic schools due to the high cost of quality products and the equipment needed to cook meals. Schools may get money from a variety of sources; however, some of them may have qualifying conditions that prevent them from being used.

The National School Lunch Program is a food program supported by the federal government and offered at most public and nonprofit private schools as well as residential child-care facilities in the United States. Every day, kids who qualify for the National School Lunch Program's free or reduced-price lunches will be provided with healthy, well-balanced meals at their schools. Families whose income is at or below 130 percent of the federal poverty requirements qualify for free school lunches for their children. People whose income is between 130 percent and 185 percent of the federal poverty limits are eligible for a discount. Schools may claim money back for every meal they provide. Meal cost reimbursement aids schools monetarily by subsidizing their lunch programs. Additional financing for the school lunch program may be sought via federal grants.

Funding for Islamic school lunch programs may or may not be available depending on factors such as the number of meals served each day, the percentage of students from low-income families, and the school's willingness and ability to adhere to state and federal regulations regarding the preparation and serving of food.

Data before and after the intervention are shown in Table 2; before the intervention, children showed little understanding of nutrition, but after receiving education, they were able to answer all of the questions correctly. After the intervention period was through, only 1 in 5 kids identified fat, protein, and carbs as nutrients, whereas 1 in 5 identified vitamins, minerals, and water as nutrients, and 7 in 10 identified all five. After being educated, a large percentage of kids correctly identified cereal and other grain-based goods as sources of sustained energy. 22% of kids believed a two-meal schedule was appropriate, 20% said a three-meal pattern, and 6% indicated four-meal pattern before the program, while 52% claimed they didn't know.

**Table 2: Impact of Nutrition and Health Education on School Going Children**

Particular Awareness	Number and Percentage of School Going children		
	Pre Test n=50	Post Test n= 50	Z (p) value
Knowledge about nutrients			
Yes	-	50(100)	10(0)
No	50(100)	-	
Knowledge about balanced diet			
Yes	-	50(100)	9.80(0)
No	50(100)	-	
Knowledge about food groups			
Yes	-	50(100)	10(0)
No	50(100)	-	
Sources of Iron (with the help of photograph)			
Bajra			
Apple	1(2)	12(24)	
Dates	-	-	7.17(0)
All of the above	-	4(8)	

Don't know	- 49(98)	34(68) -	
Sources of vitamin-A (with the help of photograph)			
Fast food	-	-	
Milk	-	6(12)	8.86(0)
Yellow, green vegetables	-	44(88)	
Don't know	50(100)	-	
Sources of calcium (with the help of photograph)			
Milk & milk products			
Cereals	6(12)	43(86)	
Pulses	1(2)	1(2)	
Don't know	-	2(4)	7.40(0)
	43(86)	4(8)	
Meal pattern to be followed			
2	11(22)	-	
3	10(20)	2(4)	
4	3(6)	48(96)	9.00(0)
Don't know	26(52)	-	

## 5. CONCLUSION

Another way to improve students' health and performance in the classroom is to teach them the importance of washing their hands after using the restroom, even though this is difficult to do in most schools owing to water supply issues. Islamic school kids come from a wide variety of cultural backgrounds, so it's important to cater to their individual tastes while still offering them with a healthy, balanced meal high in fruits, vegetables, whole grains, lean protein, and low in fat. The National School Lunch Program and other grant opportunities provide funding for school lunch programs. Schools, both public and private, have been demonstrated to have an important influence in shaping the eating habits of its pupils. Eliminating low-nutrient items from school meals and teaching parents how to prepare healthy lunches are crucial aspects. Islamic schools may help ensure the future well-being of Muslims in a country by providing a foundational education to both children and their parents. Based on these findings, it is clear that nutrition instruction should be a mandatory part of every school's curriculum in order to provide students with the skills they need to lead healthy lives.

## 6. REFERENCE

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