

Chapter 6: Health Nutrition for Middle and High School Students

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Abstract: As per the research by BNF (British Nutritional Foundation) on the environmental factors, it was found in some homes and schools are linked with childhood obesity in the Middle East (Halloran et al., 2017). As a result, introducing Childhood Nutrition Programs to parents teachers, and middle and high school students will be essential. The approach will enable the above groups to understand what is meant by healthy foods and healthy lifestyles. The information concerning Saudi Arabia and the nutrition of students was collected using questionnaires. In this case, principals, some teachers, and even the learners were part of the study. Students were directed to fill the questionnaire, and the results have been critically analyzed. Apart from recommending prepared foods instead of junk food, the aforementioned study explored the factors and barriers that will come with the successful implementation of the aforementioned programs. For example, it was mentioned that most of the middle and high schools in the region are more concerned with academics and development and rarely dedicate their efforts to nutrition education. The respondents, however, were positive towards the project and, thus, many of them were willing to implement it. In this case, they were of the view that workshops for training teachers on proper nutrition should be established, students ought to be

Apart from the above obstacles, it was found that high reluctance and resistance, coverage cost, and lack of awareness contributed much to poor nutritional habits. Almost all schools decided to buy the idea and called upon the government and non-governmental organizations to intervene and see the health of middle and high school students transformed. The study, therefore, was more concerned with good eating habits for students and the need to adopt nutritional programs and training embraced in America (Halloran et al., 2017).

The junk foods, as pondered in the research, are of no benefit, and they are linked with several health issues. Therefore, the study views the problem under exploration in a broad spectrum. The past researches by scholars exploring eating habits in middle and high schools such as Dalma and his colleagues were utilized. Apart from using scholarly writings, World Health Organization (WHO) reports were used as well. In other words, the paper gathered overwhelming information concerning health eating mannerisms in middle and high schools.

1 Introduction

To healthcare providers and parents in Saudi Arabia, childhood obesity has become a significant challenge. The WHO further confirmed increased cases of obesity among the students of middle and high school in Middle East. However, the statistics to support these claims are yet to be provided (Elbadawi *et al.*, 2015). However, it is good to mention that eating mannerism in Saudi Arabia cannot match those of America. Nevertheless, it is essential to note that obesity is everywhere, and even western and developed countries are experiencing it. The same goes for developing countries. Despite rampant cases of obesity in the world, many people remain unaware of its causes. To shed some light here, obesity refers to the consumption of dense-energy and foods with poor nutritional value. Such foodstuffs contain saturated fats and high levels of sugar. (Al Mohaimeed *et al.*, 2015). However, fast foods or junk foods are attributed to obesity. It is good to understand these foods and know why nutritional training should be introduced in Saudi Arabia, like any other region that wants to

see its students avoid obesity and other malnutrition-related diseases brought up by poor eating habits. Firstly, these foods are cheap and unhealthful and are common among those families who spend a better part of the day working. Especially high-income families. Besides, junk foods are rich in calories of processed carbohydrates, fat, salt as well as sugar, but are low in minerals, fiber, and vitamins which are beneficial nutrients in the body (Al Mohaimeed *et al.*, 2015). Examples of these fast foodstuffs include premade snack foods and processed foods. In case one has contracted diabetes, he or she should avoid the high consumption of fast foods as they can worsen the situation. Again, I have learned that cheap is expensive, and people purchase junk foods believing that they are cost-effective, only later to bring disasters to them.

Additionally, there subsist other adverse effects of the fast foodstuffs with high contents of sugar. Nevertheless, it ought to be noted that sugar is not bad, especially when it is natural and moderately consumed. People need to avoid processed foods that are such as margarine and bread and start to make their meals. Dieticians recommend people to spend only 10 percent on processed foodstuffs and 90 percent on the natural food budget (Elbadawi *et al.*, 2015). Again, they advise consumers to avoid refined carbohydrates as they break down to sugars with time. Therefore, it should come to our attention that there is need to cook in our homes rather than purchasing prepared foods. In other words, our lifestyles contribute remarkably to our well-being and the health of our poor learners.

More importantly, our eating mannerisms contribute remarkably to the health of an individual. As a result, if a person wants to remain healthy, he or she must be very keen on foodstuffs as most of the meals in today's society are attributed to specific morbidities. Some of the problems triggered by bad eating habits in middle and high schools include and not limited poor performance, obesity, diabetes, as well as deficiency diseases. The school plays an important and vital role in changing the eating and health habits of students during the period from 6 to 18 years. According to the article by Healthy Nutrition, this stage is characterized by many physiological, psychological and social changes that have obvious effects on the child, and this period often determines the quality of health risks that can be faced by the student at later ages and during the age (6-10 years) (Dalma *et al.*, 2015). The child's nutritional needs are limited to slow relative growth because most studies indicate that many bad eating habits affect the health of boys and girls in middle and high school. Besides, if schools do not try to modify these bad eating habits at this stage, health risks may worsen in adolescence (11 - 18 years). These wrong eating habits are characterized by a rapid increase in growth, and many hormonal and physiological changes.

Studies in the region show that adolescents do not get their nutrients from some crucial nutrients, causing their nutritional problems to be linked to their medical conditions that are often associated with poor eating habits. If students are exposed to proper eating habits from an early age, the probability of good eating habits can transition into adulthood. The continuation of good eating habits will become a pattern from one generation to the next.

This research attempts to provide information about the healthy nutrition of students in the school stage (6 - 18 years) with a review of the prevalence of feeding problems among them and how to prevent them and the nutritional needs of these students as well as wrong eating habits and how to plan meals properly, and finally the link of nutrition to physical activity (Dalma *et al.*, 2015). This research is useful for teachers and supervisors of health and sports activity for students at adolescence in middle and high as well as parents. The

research portrays the dangers of poor eating mannerisms and how middle and high schools in Saudi Arabia can replicate some idea of healthy foods from America and apply it.

2 Literature Review

Base on A School-Based Intervention for Combating Food Insecurity and Promoting Healthy Nutrition in a Developed Country Undergoing Economic Crisis: A Qualitative Study

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Aiming at reducing the rates of food insecurity and promoting a healthy diet for learners, several students designed and implemented the Program on Food Aid and Promotion of Healthy Nutrition. This program will be implemented in the schools - based intervention program, including the daily provision of a free healthy mid-day meal in disadvantaged areas across. They conducted a qualitative study with educators and school principals to explore their perceptions and attitudes towards the program, its effects on child malnutrition and learning environment in participated schools with regards to healthy nutrition, and its further social and pedagogical aspects (Dalma *et al.*, 2015). Significance of the study: This is the first study that explores the social aspects and pedagogical potential of a school-based healthy nutrition intervention in disadvantaged areas of a high-income country, currently undergoing severe economic crisis, as it is realized by educators and school principals who have experienced its implementation. Objective: The study's primary purpose is to explore the effects of a school-based healthy nutrition intervention on students' learning as regards to healthy nutrition as well as on social and educational environment of schools in disadvantaged areas. The analysis focuses on educators' and school principals' perceptions of the intervention and the meals themselves, as well as their involvement in and attitudes towards the program. Methods: 136 schools with 23,044 students participated during the

2012-2013 school year in Program (Dalma *et al.*, 2015).

Universal provision of free, healthy meals and active participation of students in the daily meal distribution is rather promising practices, ensuring social justice and enhancing positive school involvement for students living in deprived areas (Dalma *et al.*, 2015). The effectiveness of school feeding programs is also affected by the engagement of the parents and educators. Distribution of educational material, training sessions as well as the meal itself, support the efforts in the promotion of healthy nutrition, as well as overcoming social and economic barriers that come with it.

Base on Comprehensive Framework for Addressing the SCHOOL NUTRITION ENVIRONMENT AND SERVICES



Fig. 1: Centers for Disease Control and Prevention (Dalma et al., 2015).

A healthy school nutrition environment makes it easier for students to make healthy choices by giving them access to nutritious and appealing foods and beverages, providing consistent and accurate messages about proper nutrition, and ways to learn about and practice healthy eating. Within a healthy school nutrition environment, it is much easier for the school nutrition services to provide meals that meet federal nutrition standards for the National School Lunch Program and

School Breakfast Program, as well as the health and nutrition needs of all students. They also help to make sure that foods and beverages sold outside of the school meal programs meet Smart Snacks in School nutrition standards.

À LA CARTE FOODS Most schools offer students the option to buy foods and beverages in the cafeteria that are not a complete school meal (Dalma *et al.*, 2015). These items may be an entrée or side item from a school meal (such as a vegetable side dish) or other items that are not part of the school meal (such as chips). All à la carte foods must meet Smart Snacks in School nutrition standards. (Any entrée item offered as part of the lunch program or the breakfast program is exempt from all competitive food standards if it is serviced as a competitive food on the day of service or the day after service in the lunch or breakfast program.)

SCHOOL STORES AND SNACK BARS Some schools have school stores, snack bars,

canteens, and snack carts where students can buy foods and beverages (Dalma *et al.*, 2015). Similar to vending machines, these stores, and snack bars may be located in the cafeteria or other areas on the school grounds. Meals and beverages sold in school stores and snack bars must meet Smart Snacks in School nutrition standards.

Staff Role Modeling: When teachers, staff, and administrators demonstrate healthy eating, it can help to reinforce this behavior with students and contribute to consistent messages in schools about the importance of consuming healthier foods and beverages (Dalma *et al.*, 2015). Teachers, staff, and administrators can model healthy behaviors to students by being physically active, consuming healthy foods and beverages, and getting involved in the school's employee wellness program.

Food and Beverage Marketing: Foods and beverages can be seen in schools on posters, the fronts of vending machines, in-school television advertisements, textbook covers, sports equipment, and scoreboards and as part of coupon giveaways and contests to win food prizes (such as pizza parties). Experts have recommended that school districts put policies and practices into place that promote foods and beverages that support healthy diets (such as fruits and vegetables and plain water) (Dalma *et al.*, 2015). Effective approaches include putting nutritious items where they are easy for students to choose (such as prominent places in cafeteria lines); using verbal prompts, parental outreach, and point-of-purchase promotions; and using pricing strategies to encourage students to buy healthy items.

Healthy Eating Learning Opportunities: Healthy eating learning opportunities are nutrition education strategies and environmental supports that help students adopt food and beverage choices that support health and well-being. They provide knowledge and skills to help students choose and consume healthy foods and beverages. They can also be delivered through multiple venues, such as the cafeteria, classroom, and school gardens. Nutrition education should be part of a comprehensive health education curriculum, but may also be integrated throughout the school curriculum. For example, students could learn how to cook in the family and consumer science classes and how to analyze food advertisements in language arts classes (Dalma *et al.*, 2015). School gardens and farm to school activities also provide opportunities for hands-on learning about food, nutrition, and healthy eating.

Having good nutrition in school is very important because the majority of students spend their time in school (Dalma *et al.*, 2015). Therefore, teaching them good nutritional should start at an early age in schools. The articles that I incorporated in my literature review solidifies the importance of splendid nutrition in the aforementioned schools. The reason I picked those articles is because of the positive impact of the school intervention on promoting healthy student nutrition; this is evident in the results from the study in the first article. Addressing the nutritional environment and services in sc

hools was demonstrated by the results of the second article.

Besides, obesity, according to WHO reports, it has been confirmed to be a public health problem worldwide. Since 1980, WHO reports that the morbidities emanating from poor eating habits have doubled globally and that by 2014, at least 1.9 million individuals were overweight. In the same year, more than 41 million students were either obese or overweight ("WHO: Obesity and overweight", 2016). For this reason, WHO and other research entities have dedicated their efforts in exploring the diseases and making their causes more understood by the larger society. Obesity, according to Who triggers co-morbidities and in

many cases, it has led to death (“WHO: Obesity and overweight”, 2016). For example, such diseases as cancer, diabetes, and cardiovascular illnesses. In many countries, the Kingdom of Saudi Arabia included, deficiency diseases and obesity have been termed as economic burdens. The report by this UN agency further says that the issue has not encroached itself in developing countries alone. In this case, even developed countries are suffering from the same. For instance, McDonald's restaurants in the US have been often criticized for contributing to obesity through their fast foods and thanks to nutritional programs introduced to students in middle and high schools. Another study based on Saudi Arabia explored the body mass index of women and waist to hip ratio. The results of the study showed that 19.2 percent of the respondents were overweight, and this was linked to their eating mannerisms and family histories. WHO presents to us another research by Sabra meant to show why poor health is rampant among the middle and high school learners in the region (Sabra, 2014). One of the results was that a high intake of calories was one of the leading causes of morbidity. Besides, the adoption of western lifestyles was another factor that made these boys and girls lead poor health. This was attached to the overconsumption of junk foods. More importantly, there decreased physical exercises in schools, and this as well contributed to the situation. For this reason, WHO and many other scholars advocate for nutritional training and programs that transform the health of these young people. The US agency in our context further shows that the US has adopted nutritional health programs and the country is assisting its students rid of the aforementioned malnutrition-related morbidities. (“WHO: Obesity and overweight”, 2016). In one of the studies, a scholar said, "These students are the future of KSA, and the future needs to be protected (Sabra, 2014)." Besides, I chose to explore and utilize researches by Sandra and WHO. The reason behind choosing these researches is because they explore dangers of unhealthy eating and suggest ways in which nutritional education will be essential to students in middle and high schools.

3 Methodologies

Based on studies that have been completed, I am referring to the methodology used below as a reference for my capstone project. This study was a: A Qualitative Study Authors: Dalma A,¹ Veloudaki A,¹ Petralias A,^{1,2} Mitraka K, ⁵ Zota D,¹ Kastorini C-M,¹ Yannakoulia M,^{1,3} Linos A^{1,4}

Methods: 136 schools with 23,044 students participated during the 2012-2013 school year in the DIATROFI Program (Dalma *et al.*, 2015). This is a preventative program that fights against food insecurity and obesity. Every day, all students of the participating schools received a healthy daily meal, designed by nutrition specialists. Informational materials (brochures, leaflets, and games) promoting healthy nutrition were distributed to all students and parents, combined with presentations by health promotion specialists. Focus groups methodology was used, and participants included elementary and junior high school educators and school principals from the participating schools in the intervention program. Twenty focus groups were conducted from April – June 2013. Five each with educators and school principals respectively in elementary schools, and five each with educators and school principals respectively in junior high schools. The ten schools that participated in the program were randomly selected. The sample consisted of 136 participants in total; 40 educators and 33 school principals in elementary schools and 36 educators and 27 school principals in junior high schools. A discussion guide was developed in relation to perceptions of and attitudes towards the intervention and Forum on Public Policy its effects

on the involved actors and the school environment. Analysis of the transcripts was done using Krueger's method.

Apart from the questionnaire administered, the research relied upon other conducted investigations to gather overwhelming information. For example, a report from the WHO has been utilized. Other scholars have as well contributed significantly to this study with their thought provoking texts and articles. In other words, the study has used several sources to collect a lot of information and to explore the issue in our context from a broad spectrum. It uses the past studies exploring nutrition in high and middle schools to decide nutritional future of a developing Saudi Arabia. For this reason, I found these methods of data collection valid and helpful in my research where I seek to change the eating habits of middle, and high schoolers in my region. Consequently

I picked them.

4 Results

Educators and school principals described the social benefits of the program for the families in need, and identified benefits of the participation of all students, since it generates peer influence, that enhances students' consumption of the mid-day healthy meals, while influencing the school climate positively. Both school principals and educators pointed out that due to the participation of all student's social stigmatization of the students in need was not only avoided but also reduced, while solidarity and collegiality were strengthened. Educators and school principals mentioned that the program is an essential step towards the promotion of healthy nutrition that enhances the pedagogical work in schools. Educators in elementary schools stressed out that the healthy mid-day meals were "the theory in practice" since they complemented lessons concerning healthy nutrition. Junior high school educators other than those teaching Home Economics mentioned their lack of knowledge with regards to healthy nutrition. Moreover, they felt insecure about promoting healthy eating to adolescents through valid arguments on the benefits of a healthy diet. School principals and educators in elementary and junior high schools stressed out the importance of family in student's healthy eating habits. Both school principals and educators mentioned their need for nutrition education. Especially, educators in elementary schools and teachers in Home Economics in junior high schools expressed their need for further resources to enhance their work on healthy nutrition.

The school plays an essential and vital role in changing the nutritional and health habits of boys and girls during the period from 6 to 18 years. This stage is characterized by many physiological, psychological, and social changes that have clear effects on the child, and this period often determines the type of health risks a student can face in subsequent ages.

During the age group (6--10 years), the child's nutritional needs are limited due to the slow relative growth. Still, it is one of the important stages in forming healthy eating habits that can contribute to improving the nutritional status of students. Most studies in the Arab Gulf states indicate that there are many habits. Wrong food that affects student's health in the school stage, in addition to infecting a large segment of them with diseases related to nutrition, the most important of which are obesity, anemia, tooth decay, and thinness. Stage of adolescence (11-18 years old), which is characterized by a rapid increase in the growth and many of the hormonal and physiological changes (Dalma *et al.*, 2015).

By observing the meals provided to students during the school day: I made sure to track the quality of the meals provided in the breakfast and lunch meals for the students of the Arbor Ridge K-8 School and the properly balanced planning methods for the meals to ensure that the student got the primary nutrients in every meal served at the school.

There is a trend in the United States of America to add more vegetables, fruits, and whole grains, and to adjust the diet to a less-fat diet, taking into account the student's health conditions when he suffers from allergies or some chronic diseases, and most school feeding programs in the United States receive federal financial support, thereby students (whatever their family's income level) can get meals during the school day at a low cost, while some students (with weak or troubled financial conditions) can get free meals or at nominal prices for meals, as is the feeding program Scholastic (optional and non-compulsory) service to obtain free or reduced health insurance for students in Medicaid or the State Children's Health Insurance Program (SCHIP) so that they have higher chances of getting regular medical care and reduces the likelihood of their absence from school due to illness.

Therefore, I recommend in the schools of the Kingdom of Saudi Arabia that the school breakfast be approved in its planning in the canteens of our school in accordance with the recommendations of the International Food and Drug Administration and agree on the diversity of the nutritional elements for students in terms of quantity and nutrients that contain low levels of sugar, salt, and calories the student needs according to Age and daily needs of the nutrients that contribute to supporting the ability to focus and develop the mental capabilities that lead to development in the student's academic achievement (Dalma *et al.*, 2015).

Through proper planning to work on changing meal plans in Saudi schools to build healthy meals that contain enough nutrients for the student, as in the photo attached below after they are submitted to the Food and Drug Authority and approved. By meeting with my teachers and providing training and workshops to discuss and provide information through a presentation, photos, and links to the Arbor Ridge K-8 school to learn how to prepare and serve meals in American schools.

After that, I will follow up with my teachers through another workshop to get feedback from them, in order to gather information regarding how did they used the information from the first workshop and to gather additional data from them. In this second workshop, I will try to interrogate my teacher and get to understand why America has decided to adopt some dishes for their students at the expense of others. I am convinced that the teacher has overwhelming knowledge on health lifestyles and his information will be of much help in my research. Thus, approaching him will mean getting further insight into my research that looks forward to replicating the idea of health meals from American middle and high schools.



Fig. 2: The Picture Shows the Food and Nutrition Planner That Will Be Used in Meal Planning in Saudi Arabian Middle and High Schools (Dalma et al., 2015).

تحديد الاحتياجات الغذائية من العناصر الغذائية لطلبة المدارس حسب الفئة العمرية
Determining the nutritional needs of school students according to the age group



From here parents can see their sons' and daughters' menu in school

March 2020 Arbor Ridge K-8 Breakfast

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
1. Scrambled Eggs 2. Hash Browns 3. French Toast 4. Pancakes 5. Fruit and Yogurt	1. Scrambled Eggs 2. Hash Browns 3. French Toast 4. Pancakes 5. Fruit and Yogurt	1. Scrambled Eggs 2. Hash Browns 3. French Toast 4. Pancakes 5. Fruit and Yogurt	1. Scrambled Eggs 2. Hash Browns 3. French Toast 4. Pancakes 5. Fruit and Yogurt	1. Scrambled Eggs 2. Hash Browns 3. French Toast 4. Pancakes 5. Fruit and Yogurt

Assorted Cereal: Cornflakes, Raisin Bran, Grape Nuts, Honey Nut Cheerios, Frosted Flakes, Cocoa Puffs, Fruit and Yogurt.

Menus are subject to change. Availability and pricing of individual menu selections are subject to change. Also, we thank you for your patience as we continue to test and audit the nutritional information for all foods. An adjustment of milk is offered daily to include F1 use for whole milk, and flavored skim varieties. Students allowed one juice with meals.

More Details: ocpsmenus.com/menu/arbor-ridge-k-8/breakfast
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March 2020 Arbor Ridge K-8 Lunch

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
1. Chicken Sandwich 2. French Fries 3. Apple Pie 4. Milk	1. Chicken Sandwich 2. French Fries 3. Apple Pie 4. Milk	1. Chicken Sandwich 2. French Fries 3. Apple Pie 4. Milk	1. Chicken Sandwich 2. French Fries 3. Apple Pie 4. Milk	1. Chicken Sandwich 2. French Fries 3. Apple Pie 4. Milk

Assorted Cereal: Cornflakes, Raisin Bran, Grape Nuts, Honey Nut Cheerios, Frosted Flakes, Cocoa Puffs, Fruit and Yogurt.

Menus are subject to change. Availability and pricing of individual menu selections are subject to change. Also, we thank you for your patience as we continue to test and audit the nutritional information for all foods. An adjustment of milk is offered daily to include F1 use for whole milk, and flavored skim varieties. Students allowed one juice with meals.

More Details: ocpsmenus.com/menu/arbor-ridge-k-8/lunch
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Marsh's breakfast menu Arbor Ridge K-8

March's lunch menu Arbor Ridge K-8 <https://ocpsmenus.com/menu/arbor-ridge-k-8/breakfast/2020-02-21>
<https://ocpsmenus.com/menu/arbor-ridge-k-8/lunch/2020-02-21>

Arbor Ridge K-8

Clear all

Allergens
Select items below to identify specific foods.

- Milk
- Egg
- Wheat
- Soy
- Peanuts
- Tree Nuts
- Fish
- Shellfish
- Chocolate
- Cinnamon
- Corn
- FD&C
- Pineapple
- Pork
- Sesame Seeds
- Tomato
- Oats

March 2020

Location: Arbor Ridge K-8

Menu: Breakfast

Language: English

Print Settings (Optional):
 Print to other people
 Add Nutrition info
 Change Log no 0
 Log in/out
 Check for updates
 Print
 Preview
 Refresh
 Download PDF
 Logout
 Home
 Logout - C
 Welcome to 100

Show special diets info

Print

Determination of allergens

Determination of nutrient requirements

Pictures of Arbor Ridge K-8 School

Cafeteria



Dining room



Calories Required by Every Middle and High School Student in a Single Day

(“*vikaspedia Domains*”, 2020)

Recommended Dietary Allowance of Nutrients for adolescents in 24 hours						
	MALE			FEMALE		
	10-12 Yr	13-15 Yr	16-18 Yr	10-12 Yr	13-15 Yr	16-18 Yr
Energy (Kcal)	2200	2500	2700	2000	2100	2100
Protein (gms)	54	70	78	57	65	63
Calcium (Mg)	600	600	500	600	600	500
Iron (Mg)	34	41	50	19	28	30

Besides, American schools contain a cafeteria inside the schools that provide food for students for free, based on the income of their families. In other words, the foods are cost-effective to every student regardless of economic background. The food is subject to high control from private companies. In this case, the companies have to moderate the calories and avoid making junk foodstuffs that tamper with the health of middle and high schools' students. The food list varies from month to month and the food is provided to students to eat in private rooms. However, middle and high schools in the Kingdom of Saudi Arabia have no cafeteria, but small rooms having a window to sell unhealthy foods juices, chocolate and biscuit without control for food sold by companies or the school. In this case, it is good to note that in the prevention of childhood obesity in middle and high schools play a significant role. Teachers' training, physical activities, and nutritional education assist such schools in eradicating obesity emanating from junk foods and other malnutrition diseases. (Halloran et al., 2017). The US knows what is meant by health foods for its students in middle and high school. The country knows that academic performance and good meals goes hand in hand. For example, in the US it is believed that scholastic achievement is distracted by skipping meals. In this case, children have juices and fruits stored in their backpack for breakfast. KSA should adopt the same practice if it aspires to see its students perform splendidly. On the same context, middle and high schools in the US require their students to choose fast foods wisely (2020). For example, they are recommended to take baked potatoes, roast beef sandwich and pizza with reduced-calorie dressing. The middle and high school students in America are advised to use sugars sparingly. In this case, they are taught the adverse effects ascertained to unsaturated sugars to their well-being. Again, the US students at middle and high school level are introduced to physical education and the role it plays in their bodies. In this way, they are able to correct some body defects if they come across them. For instance, they know that obesity can be inherited and subjecting the body to physical exercise, they can get rid of the problem. More importantly, these students are made to be aware that food is more than nourishment and water plays an essential role in their bodies. Consequently, they carry bottles of water to classes and ensure that at the end of the day they have drunk 8 glasses at least (2020). These practices are attached to academic and health prowess of middle and high school learners in the vast US. The same practices can be applied in KSA and benefits will be inevitable.

A data collected by BNF (British Nutritional Foundation), among the middle and high schools in Saudi Arabia, portrayed that only 5 percent of the institutions had imposed health-related activities. The schools that embraced health education in the region were five percent. These schools significantly benefitted from the programs in our context. For example, nutrition education assisted the students in understanding the negative impacts posed by sugary, fatty, and creamy foodstuffs. More importantly, these programs are even essential to teachers. Conversely,

Saudi Arabia seems to focus much on academic arrears at the expense of the health of its students in middle and high school. However, the reason behind this is that the Saudi Arabian curriculum rarely focuses on physical well-being. It is not that schools and teachers are negligible, reluctant, or ignorant, but for long the curriculum has tended to disregard nutritional education. As a result, many students complete their studies without having an idea of what is meant by health nutrition.

Many schools explored in this research seemed to be willing to invest much in the healthy development. With the idea to pay much attention to cooked or prepared foods, 80 percent of the schools were more than willing to buy the idea. In this case, more than seventy-nine of the respondents were of the view or idea that junk foods should be eradicated. In other words, the representatives and principals that participated in my questionnaire had a positive attitude towards the project. Besides, this research borrowed much from comparison studies and interventions regarding middle and high school learners (Halloran et al., 2017). The concept of what is meant by health lifestyles was a factor of concern in this study as well. A healthy lifestyle is, to some extent, defined by eating mannerisms, and fast foods contribute significantly to worsening health (Halloran et al., 2017). Therefore, it was not a surprise that a good number of teachers agreed to adopt nutritional training and programs. My study further established that some of the teachers had taught nutrition. However, most of these teachers lacked professional training in the area and, thus, before the implementation of the programs, they had to be subjected to training.

Moreover, workshops should also include involving parents so that parents and guardians can be educated. They need to be started meant at educating parents and guardians concerning the health of their children in middle and high schools. The same workshops will assist many parents in looking the concept of diet in a broader spectrum. In other words, apart from learning what their sons and daughters should take in schools, they will be in a position to manage their own lifestyles as far as eating habits are concerned. It should be remembered that health of these learners is more important than studies they are taking. Studies have shown that most parents do not know what is meant by health nutrition in Saudi Arabia. In this case, a good number of parents in KSA are illiterate and often overlook studies at the expense of the health of their sons and daughters. The training programs, in this case, will help them understand the essence of ensuring the learners getting the right diet and calories while taking their studies. Therefore, apart from borrowing what is essential in America middle and high schools, there is needed to offer training to teachers, students, and parents on the role they will play in the implementation of the project. In hand. Thus, the Kingdom of Saudi Arabia will have to provide healthy meals and health education from the school, train teachers and educate parents about it. With a focus on physical training for girls' and boys' and providing a brochure containing health information and guidance regarding nutrition and diet in schools, it will be a great move. Besides, alongside training,

brochures ought to be given to parents to educate them in nutritional health. Such articles should use simple language that can be understood by ordinary parents and outline foods that constitute balanced diet. All schools in the periphery ought to incorporate to their diet and practice whatever has been explored above pertaining middle and high schools in the US. By so doing, KSA middle and high schools will be playing an important role in making the health their students better.

5 Conclusions

In brief, the data collected portrays a high prevalence of obesity, deficiency problems and poor performance in Saudi Arabian middle and high schools because of failing to observe health meals. The entire Middle East suffers from these problems, but the Kingdom of Saudi Arabia leads in the list. Besides, the study showed beyond a reasonable doubt that in Saudi Arabia, no companies are promoting good healthy lifestyles. Notwithstanding this, the principals and all other respondents expressed interest in the project. The implementation of the project seems to be an expensive investment as well, and all schools must be willing to incur. However, the government and non-governmental institutions are called upon to intervene and assist both middle and high schools in seeing the programs implemented. As earlier mentioned, the programs will be beneficial to such groups as teachers, students, and parents. In this case, parents will be made to understand healthy foods from junk foods. Again, middle and high school students will be subjected to nutrition education, and teachers will go through training workshops. Books and brochures exploring the dangers of fast foods will be published and brought to the market and schools' libraries. Such books will assist students in having the know-how of what is meant by healthy living. Therefore, the project seems to focus on the future health of middle and high school students Saudi Arabia and how it can be changed by adopting the diet for the US students in the same level of education. More importantly, childhood obesity and malnutrition-related, according to scholars, persists up to adulthood, and this calls for immediate action bearing in mind that eating habits in KSA are wanting. In other words, alleviating the issue (poor eating habits in high and middle schools) in its initial stages will assist the students in having splendid health in the future. All this has been covered in the research.

References

- [1] (2020). Retrieved 12 May 2020, from https://www.phillytrib.com/the_learning_key/healthyeating-tips-for-the-busy-high-school-student/article_a9f00911-7716-5f16-ac43d033a2b675f1.html.
- [2] Al Mohaimeed A, Ahmed S, Dandash K, Ismail MS, Saquib N (2015) Concordance of obesity classification between body mass index and percent body fat among school children in Saudi Arabia. *BMC pediatrics* 15: 1.
- [3] Dalma, A., Veloudaki, A., Petralias, A., Mitraka, K., Zota, D., Kastorini, C. M., ... & Linos, A. (2015). A School Based Intervention for Combating Food Insecurity and Promoting
- [4] Healthy Nutrition in a Developed Country Undergoing Economic Crisis: A Qualitative Study. In *Forum on Public Policy Online* (Vol. 2015, No. 2). Oxford Round Table. 406 West Florida Avenue, Urbana, IL 61801.
- [5] Elbadawi AS, Altemani AH, Alhawiti IS, Altuwaylie MM (2015) Prevalence and risk factors of obesity among male primary school students in Tabuk, Saudi Arabia.

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- [6] Gungor NK. (2014) Overweight and obesity in children and adolescents. *J Clin Res Pediatr Endocrinol.* 6(3):129-43.
- [7] Halloran KM, Gorman K, Fallon M, Tovar A. (2017) Nutrition Knowledge, Attitudes, and Fruit and Vegetable Intake as Predictors of Head Start Teachers' Classroom Mealtime Behaviors. *Journal of Nutrition Education and Behavior.*
- [8] Sabra AA (2014) Obesity among female intermediate nursing students of health science collage in Dammam city, Saudi Arabia: prevalence and associated factors. *Canadian Journal of Clinical Nutrition.*
- [9] Vikaspedia Domains. Vikaspedia.in. (2020). Retrieved 8 May 2020, from <https://vikaspedia.in/health/women-health/adolescent-health-1/management-of-adolescent-health/nutritional-needs-of-adolescents>.
- [10] WHO: Obesity and overweight. 2016. Retrieved from <https://www.who.int/mediacentre/factsheets/fs311/en/>.