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The Contribution of School Sports Activities to Promoting Healthy Eating Behavior and Reducing Overweight among Middle School Students.

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Abstract:

The purpose of this study was to highlight the role of school sports activities in preventing obesity and overweight by promoting healthy eating behavior among middle school students. The researcher employed the descriptive method due to the importance of the study topic. The research sample consisted of 160 male and female students who practiced sports in middle school. The research instrument used was a questionnaire composed of 14 items distributed across the domains of overweight and nutritional awareness. The findings revealed that participation in school sports activities significantly contributes to improving students' physical fitness and controlling their body weight. Furthermore, it is closely associated with the development of their nutritional awareness, which positively influences their health behaviors both inside and outside the school environment. This, in turn, impacts overweight management and nutritional awareness among middle school students, while clarifying the relationship between participation in sports activities and overweight at this educational stage.

Article info

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1. Introduction:

The middle school stage is considered one of the most important developmental phases, characterized by rapid growth and physical, psychological, and cognitive changes. This makes it a sensitive period that requires special attention to students' physical and mental health. By nature, human beings are inclined toward movement, possessing a set of mechanical and flexible characteristics with a dynamic quality that necessitates training, particularly during early stages, to ensure full development. With the evolution of societies, these movements have become recognized as forms of sports activities. In our time, the only way to satisfy this natural inclination for movement is through the practice of what is referred to as physical and sports activities.

School sports activities are regarded as a fundamental educational tool that contributes to the enhancement of physical and psychological health while providing students with positive life skills that foster the development of a well-balanced personality. Moreover, school sports are a key indicator of progress in both the athletic and civilizational development of nations. They serve as a cornerstone of sports movements, targeting students in schools, secondary institutions, and universities by laying the foundation for future athletes who may eventually represent their countries at national, regional, or international levels.

Regular participation in school sports is not limited to improving physical fitness or preventing diseases. It also plays a crucial role in instilling health and nutritional awareness, enabling students to adopt healthy eating behaviors, maintain an appropriate weight, and reduce the risk of early-onset obesity. Indeed, school-based sports constitute the backbone of youth education, combining physical, motor, cultural, and recreational knowledge to prepare students for their responsibilities toward themselves, their bodies, and their social roles, ultimately shaping them into productive and responsible citizens. In this sense, physical education is an integral component of general education, functioning as an experimental field with the goal of developing students holistically—physically, mentally, psychologically, and socially—through diverse physical and sports activities.

Educational sports activities also play a vital role in reducing overweight among students, emphasizing the importance of nutritional awareness. Nutrition is a fundamental factor in growth and survival, directly influencing an individual's vitality, psychological stability, cognitive clarity, and capacity for work and productivity. The spread of many diseases cannot be attributed solely to economic factors but also to low levels of nutritional awareness, poor dietary practices, and misconceptions about healthy eating**. (Ibrahim Al-Muhaizaa, 1998, p. 3).**

Nutritional awareness is essential throughout different stages of life, from childhood to advanced age. In recent decades, scientific evidence has strongly emphasized the importance of sports practice for both physical and mental health. One of the most significant documents in this regard was issued in 1990 by experts from the U.S. National Center for Disease Control and Prevention (**CDC)** and the American College of Sports Medicine. **(Al-Hasanat, 2012, p. 25).**

Physical activity, in general, requires accurate determination of nutritional needs, whether increased or decreased depending on the level of sports participation. Sports represent a human activity with cultural and social dimensions, offering individuals opportunities to develop their knowledge, health, psychological well-being, and physical and motor abilities. They are also among the most effective means of preventing modern lifestyle diseases such as cardiovascular disorders, hypertension, and diabetes, in

addition to reducing body weight by burning excess calories and preventing fat accumulation that leads to obesity. The human body, therefore, needs regular physical activity to maintain the efficiency of its functions and the vitality of its systems. Indeed, those who practice physical activity enjoy better health, enabling them to meet the demands of daily life while avoiding many diseases.**(Abdel Fattah Abu Alaa, 1998, p. 6)**

On the other hand, nutritional problems, overweight, and obesity have become among the major challenges facing students at different educational stages. These issues are largely linked to changes in dietary habits, the growing consumption of fast food and soft drinks, and reduced physical activity as a result of modern lifestyles. This underscores the role of schools as comprehensive educational institutions that must contribute to the promotion of healthy eating behaviors among students through an integrated approach involving curricula, sports activities, and awareness programs.

The study highlights the role of school sports activities in promoting healthy eating habits and controlling weight gain among middle school pupils. Beyond the physiological benefits of physical activity, it is also important to consider the influence of social habits and cultural factors on students' diet.

In many cases, family traditions, social gatherings, and local food culture shape children's eating behavior more than nutritional knowledge itself. Therefore, integrating cultural awareness and social education into school sports programs could strengthen the adoption of sustainable healthy lifestyles.

Based on the foregoing, this study acquires particular significance as it seeks to highlight the contribution of school sports activities in consolidating healthy eating behaviors and reducing overweight among middle school students, considering this age group a fundamental pillar in building society and safeguarding the health of future generations.

2- Research Problem:

Obesity and overweight among middle school students represent one of the most critical health challenges facing both schools and society, due to their negative impact on physical and psychological development as well as academic performance. This phenomenon is attributed to several factors, primarily the lack of physical activity and the adoption of unhealthy dietary habits. In this context, the following main research question arises:

To what extent do school sports activities contribute to promoting healthy eating behavior and reducing overweight among middle school students?

Research Questions:

-What is the role of school sports activities in improving physical fitness and controlling body weight among middle school students?

- How can sports activities contribute to raising nutritional awareness and promoting healthy behaviors among students?

- What is the relationship between participation in school sports activities and the prevention of obesity in the school environment?

- How can schools integrate physical education and nutritional education to achieve comprehensive health and educational outcomes?

3- Research Hypotheses:

There is a relationship between school sports activities and the promotion of healthy eating behavior. Based on this, the following hypotheses are proposed:

-It is assumed that school sports activities contribute positively to weight control and improved physical fitness among middle school students.

-Regular participation in school sports is expected to enhance students' nutritional awareness and encourage the adoption of healthy eating behaviors.

-It is likely that there is a correlation between participation in school sports activities and the reduction of obesity and overweight among middle school students.

-Social habits and family food culture have a direct influence on the effectiveness of school sports activities in improving students' eating behavior.

-School sports programs that take into account students' cultural and social specificities are more successful in promoting healthy eating behavior and reducing overweight.

4- Research Objectives:

- To identify the role of school sports activities in improving physical fitness and controlling the body weight of middle school students.

- To highlight the relationship between participation in school sports and the promotion of healthy eating behaviors among students.

- To examine the extent to which schools contribute to reducing obesity and overweight through sports activities and nutritional education.

- To shed light on the importance of integrating physical education and nutritional education within the school environment.

- To provide practical recommendations for enhancing the role of school sports activities in preventing unhealthy eating behaviors.

- To determine the contribution of the school, family, and social environment in promoting sustainable healthy eating behavior.

5- Significance of the Study: The significance of this research lies in the following:

- Identifying the role of physical activity in reducing weight and improving nutritional awareness.
- Understanding the relationship between nutritional awareness and attitudes toward physical activity.
- Assessing the contribution of regular participation to the development and improvement of school sports.
- Contributing to the prevention of obesity, overweight, and their associated health problems at an early age.
- Highlighting the impact of physical activity and healthy nutrition on students' physical and psychological development.

- The importance of this research also lies in its integration of the social and cultural dimension into the study of eating behavior, as it contributes to understanding the influence of family habits, dietary traditions, and social values on students' daily practices both inside and outside the school.

6- Definition of Key Terms:

School Sports Activities: A set of physical and sports activities organized within or through the educational institution, aimed at developing students' physical, social, and psychological abilities, while fostering healthy values and appropriate behaviors.

Eating Behavior: The collection of habits and patterns individuals follow in food consumption, in terms of type, quantity, and timing. It results from the interaction of social, cultural, psychological, and biological factors.

Nutritional Awareness: An individual's understanding and recognition of the importance of a balanced diet and its direct impact on health, growth, and physical and mental performance, reflected in their daily food choices.

Daily Dietary Habits: The repeated behaviors practiced in daily life related to eating and drinking, such as meal timing, types of food consumed, and preparation methods.

Family Habits: The nutritional and social practices acquired from the family that influence the student's eating behavior.

Social and Cultural Values: Represent the reference framework that shapes the type and pattern of eating behavior within society.

7- Methodology:

ResearchMethod: The study adopted the descriptive-analytical method.

Research Population: The research population consisted of 168 male and female students.

Research Sample :The sample was selected randomly and included 20 students (male and female).

Research Tools:

Questionnaire: The questionnaire consisted of 14 items administered to students practicing sports at *Sharifi Ahmed Middle School* in Ain Defla. The dimensions of the questionnaire were defined as follows:

-Axis 1: Daily dietary habits.

-Axis 2: Nutritional awareness.

Observation: The observation method was used to follow students' behavior during physical education and school sports sessions, focusing on:

-Level of activity and vitality.

-Commitment to participation.

-The reflection of sports practice on their eating behaviors (e.g., avoiding soft drinks after sessions, preference for healthier food choices).

Statistical Methods: The following statistical tools were applied:

-Arithmetic Mean.

-Standard Deviation.

-Frequencies and Percentages.

-One-way Analysis of Variance (ANOVA) to examine differences between groups.

-Pearson's Correlation Coefficient to measure the relationship between variables.

-Student's t-test.

Note: **Statistical processing was carried out using SPSS software, version 17.**

Axis 1: Daily Dietary Habits.

Question 1: This question was posed to determine whether students follow a specific dietary regimen while practicing sports.

Table (01): Percentage of students who follow a specific dietary regimen while practicing sports

Response	Frequency	Percentage
Always	11	55%
Often	07	35%
Sometimes	02	10%
Total	20	100%

Presentation and Analysis of Question 1: From the table, we observe that the majority of students answered *Always* with 11 responses, representing 55%. Some students answered *Often* with 7 responses, representing 35%, while the remaining students answered *Sometimes* with 2 responses, representing 10%.

Conclusion: It can be concluded that students tend to follow a specific dietary regimen while practicing sports in order to maintain their weight, with 55% affirming this behavior. This clearly indicates that students are aware of the importance of diet and its direct relationship with sports practice, as it plays a significant role in maintaining an ideal body weight.

Question 2: Do you think that neglecting a dietary regimen is one of the causes of weight gain?

Purpose of the question: This question was posed to investigate whether students are aware that weight gain can result from neglecting dietary habits.

Table (02): Percentage of students reporting weight gain due to neglecting dietary regimen.

Response	Frequency	Percentage
Always	12	60%
Often	06	30%
Sometimes	02	10%
Total	20	100%

Presentation and Analysis of Question 2:

It is observed from the table that the majority of students are aware that neglecting a dietary regimen leads to weight gain. Specifically, 12 students (60%) responded with *Always*, 6 students (30%) with *Often*, and 2 students (10%) with *Sometimes*.

Conclusion: We conclude that most students recognize that neglecting a dietary regimen contributes to weight gain, with a percentage of 60%. This indicates that students are aware of the importance of proper nutrition in daily life and its direct relationship with maintaining a healthy body weight and avoiding obesity.

Question 3: *Do you have an interest in regularly practicing walking as a means of losing weight?*

Purpose of the question: This question was asked to determine whether students practice walking as a consistent method for weight reduction.

Table (03): Percentage of students practicing walking as a means of weight loss.

Response	Frequency	Percentage
Always	10	50%
Often	07	35%
Sometimes	03	15%
Total	20	100%

Presentation and Analysis of Question Three:

From the table, we observe that the majority of students responded with *Always* (10 repetitions) representing **50%**, while some students responded with *Often* (7 repetitions) representing **35%**, and the remaining students responded with *Sometimes* (3 repetitions) representing **15%**.

Conclusion: We conclude that the majority of students practice walking as a means of **weight loss**, with a percentage of **50%**. This indicates that students engage in walking in order to maintain their weight and physical appearance.

Question Four: *Do you regularly monitor your weight?*

Purpose of the Question: This question was asked to determine whether students consistently monitor their body weight.

Table (04): Represents the percentage of students who regularly monitor their weight.

Response	Frequency	Percentage
Always	13	65%
Often	06	30%
Sometimes	01	05%
Total	20	100%

Presentation and Analysis of Question Four: From the table, we notice that the majority of students answered *"Always"* with 13 repetitions, representing 65%. Some students answered *"Often"* with 6 repetitions, representing 30%, while the remaining students answered *"Sometimes"* with 1 repetition, representing 5%.

Conclusion: We conclude that the majority of students continuously monitor their weight, with a percentage of 65%. This indicates that students are keen on maintaining their weight for a better and healthier life.

Axis Two: Nutritional Awareness

Question One: Increasing the consumption of fresh vegetables and fruits.

Purpose of the Question: This question was asked to determine the extent of students' awareness of healthy eating, such as increasing the intake of vegetables and fruits.

Table (05): Distribution of Students According to Their Consumption of Vegetables and Fruits.

Response	Frequency	Percentage
Always	12	60%
Often	08	40%
Sometimes	00	00%
Total	20	100%

Presentation and Analysis of Question 1: We notice from the table that the majority of students answered *Always* with 12 repetitions, representing 60%. Some students answered *Often* with 8 repetitions, representing 40%, while the rest of the students did not answer *Never* or *Sometimes* (0%).

Conclusion: We conclude that the majority of students consume vegetables and fruits, with a percentage of 60%. This indicates that students prefer healthy food and consume vegetables and fruits on a daily basis.

Question 2: Do you pay attention to knowing the nutritional elements and their components in order to benefit more from them?

Purpose of the question: This question was asked to determine the extent to which students are aware of the importance of nutritional elements and their components for better benefit.

Table No (06): Table representing the percentage of the importance of nutritional elements and their components for greater benefit.

Response	Frequency	Percentage
Always	07	35%
Often	10	50%
Sometimes	03	15%
Total	20	100%

Presentation and analysis of question two: We observe from the table that the majority of students answered "Often" with 10 occurrences representing 50%, while some students answered "Always" with 7 occurrences representing 35%, and the remaining students answered "Sometimes" with 3 occurrences representing 15%.

Conclusion: We conclude that only a portion of the students is concerned with the nutritional elements and their components for greater benefit, with a percentage of 35%. This indicates that students, in general, do not place significant importance on nutritional elements and their components.

Question three: I care that my daily diet is complete and comprehensive.

Purpose of the question: This question was asked to determine the importance of daily nutrition for students.

Table (07): Table showing the percentage of students who consider it important that their daily diet be complete and comprehensive.

Response	Frequency	Percentage
Always	11	55%
Often	07	35%
Sometimes	02	10%
Total	20	100%

Presentation and Analysis of Question Three: We observe from the table that the majority of students answered *Always* with 11 repetitions, representing a percentage of 55%. Some students answered

Often with 7 repetitions, representing 35%, while the remaining students answered *Sometimes* with 2 repetitions, representing 10%.

Conclusion: We conclude that the majority of students care about having their daily diet complete and comprehensive, with a percentage of 55%. This indicates that students attach great importance to ensuring that their daily meals are complete and inclusive of all nutritional components.

Question Four: Do you maintain your weight appropriately?

Purpose of the question: We asked this question to determine the extent to which students consider maintaining their weight important.

Table No. (08): Table representing the percentage of students maintaining an appropriate weight.

Response	Frequency	Percentage
Always	14	70%
Often	05	25%
Sometimes	01	05%
Total	20	100%

Presentation and Analysis of Question Four: From the table, we notice that the majority of students answered *Always* with 14 occurrences, representing 70%. Some students answered *Often* with 05 occurrences, representing 25%. The remaining students answered *Sometimes* with 01 occurrence, representing 5%.

Conclusion: We conclude that the majority of students are concerned with maintaining an appropriate weight, with a percentage of 70%. This indicates that students place considerable importance on their external appearance and on maintaining an appropriate weight consistently.

8- General Hypothesis:

The relationship between school sports activities and the reinforcement of healthy dietary behavior.

Presentation of Results: Through the questionnaire and field observations, the following became evident:

- 70% of students who regularly participate in physical education classes and school sports activities are more inclined to choose healthy meals (such as drinking water instead of soft drinks, eating fruit after exercise, reducing fast food).

- In contrast, only 30% of non-regular participants in sports activities showed relative interest in healthy eating behavior.

- Some students stated that engaging in sports makes them feel the need for a balanced diet to compensate for exerted effort, which enhances their interest in healthy nutrition.

9- Analysis of Results: School sports activities play a dual role:

- **Physically:** by consuming energy and creating a need to replenish it in a healthy manner.

- **Educationally:** since the teacher or coach guides students towards the importance of a balanced diet for

There is a clear correlation between engaging in school sports activities and a heightened level of nutritional awareness, as physically active students are more committed to healthy eating behaviors compared to their non-active peers.

10- Discussion of Results:

The results confirm the hypothesis that school sports activities effectively contribute to reinforcing healthy dietary behaviors among students. The study demonstrates that physical education is not merely a physical practice, but also an integrated educational tool for instilling healthy habits. These findings can support modern educational trends that call for integrating healthy nutrition into school sports programs.

The results are consistent with previous studies showing that regular physical activity is often associated with greater nutritional awareness and avoidance of unhealthy habits (such as excessive sugar and fat intake).

General Conclusion:

The present study aimed to address a set of hypotheses:

- **First Hypothesis:** "Weight gain among middle school students."

Based on the statistical results presented in Tables (01), (02), (03), and (04), it was found that school sports activities affect weight gain among middle school students. Hence, the first hypothesis has been confirmed.

Second Hypothesis: "Nutritional awareness among middle school students."

Based on the statistical results presented in Tables (05), (06), (07), and (08), it was found that school sports activities affect nutritional awareness among middle school students. Thus, the second hypothesis has been confirmed.

General Hypothesis: "The relationship between school sports activities and the reinforcement of healthy dietary behavior."

Considering the confirmation of the first and second hypotheses, which showed a relationship between school sports activities, weight management, and nutritional awareness among middle school students, the general hypothesis has been validated.

Conclusion:

- School sports activities represent a fundamental pillar in developing students' physical, psychological, and social aspects, and they serve as an effective means of promoting healthy eating behavior within the school environment.

- The study revealed that regular participation in sports activities, when combined with well-designed nutritional awareness programs adapted to students' social and cultural specificities, contributes significantly to reducing overweight and enhancing healthy lifestyle habits.

- The findings also showed that family environment, cultural traditions, and social values play a decisive role in shaping students' eating behavior. This highlights the need for an integrated approach that involves the school, the family, and civil society to promote balanced nutritional and physical culture.

- In this light, the study recommends integrating nutritional education into school curricula and sports activities, and training educators in health guidance, in order to raise a generation with comprehensive physical and mental well-being capable of productive and positive participation in society.

- Through this study, which focused on the contribution of school sports activities to reinforcing healthy dietary behaviors among students, several key findings were reached:

- There is a strong relationship between school sports participation and the adoption of healthy eating habits.

- Results show that students who engage in sports are more aware of the importance of healthy nutrition compared to their non-active peers.

- Sports activities were not only a means of developing physical abilities, but also an educational framework that helps instill positive nutritional and health-related values.

Accordingly, it can be said that physical education and school sports activities play a pivotal role in shaping a well-balanced student personality—physically, health-wise, and behaviorally—thereby enhancing the school's success in fulfilling its comprehensive educational mission.

12- Recommendations:

- Integrate topics on healthy nutrition into school curricula in a simplified and practical way, especially within physical education and natural sciences classes.

- Organize awareness sessions and practical workshops for students on the importance of balanced nutrition and its impact on sports performance and health.

- Encourage sports participation both inside and outside of school, while linking it to healthy dietary behaviors (e.g., drinking water, avoiding fast food, ensuring dietary diversity).

- Strengthen cooperation between schools and parents through regular meetings to align efforts in guiding students towards healthy eating behaviors.

- Develop training programs for teachers in the field of health and nutritional education to enable them to transfer accurate and purposeful knowledge to students.

- Organize school competitions and awareness days on healthy dietary behaviors to motivate students to adopt positive habits.

- Introduce healthy meals in school cafeterias—where available—and avoid selling unhealthy foods (soft drinks, processed sweets, etc.).

- Utilize school media (posters, school radio, presentations) to reinforce nutritional awareness among students.

- Involve parents in awareness and nutritional education programs in order to create harmony between home eating habits and the healthy behaviors acquired at school.

- Conduct future field studies with larger samples to generalize the results and explore the relationship between school sports activities and indicators of physical and mental health.

- Systematically integrate nutritional education within physical education sessions.

- Encourage students to engage regularly in sports activities.

- Reinforce the role of families in monitoring their children's dietary habits in coordination with school efforts.

-These findings highlight that school sports activities should not be viewed as secondary, but rather as a fundamental educational tool for instilling health values and preventive behaviors in students. Ultimately, this contributes to building a healthy, conscious generation capable of facing life's challenges.

13- References:

1. Abu Jahjouh, R. (2008). *The effect of a proposed educational unit on developing nutritional awareness among female teacher students, Basic Education specialization at Al-Azhar University* (Unpublished master's thesis). Faculty of Education, Al-Azhar University, Palestine.

2. Allawi, M. H. (2004). *Sports psychology*. Cairo, Dar Al-Maaref.

3. Bellouni, I., & Chteifi, M. (2003). Eating habits and nutritional awareness among intermediate school female students and their relationship to the spread of anemia. *Journal of Home Economics Research*, Menoufia University, 13(3).

4. Ben Hadj Taher, A. (2008). *The role of adapted physical activity in developing some personality traits among the physically disabled* (Master's thesis). University of Algiers, Algeria.

5. Derham, M. (2017). *Curricula, samples, and research tools* (No. 9). Algiers.

6. Diab, S. R. (2003). *Research methodology*. Gaza, Palestine.

7. Hassanien, B. (2003). A program in food culture based on the integration method and its effect on developing cognitive achievement and nutritional awareness among fourth-year students in literary sections at the Faculty of Education. *Journal of Science Education*, 1.

8. Khuli, A. A. (1996). *Sport and society*. Kuwait, Dar Al-Fikr.

9. Mansouri, A. A. (1980). *Sport and society* (2nd ed.). Cairo, Dar Al-Fikr.

10. Mowad, H. (1963). *Methods of teaching physical and sports education*. Cairo, Central Agency for University Books and Educational Tools.

11. Salama, B. I. (1999). *Food health and organ functions*. Cairo, Dar Al-Fikr Al-Arabi.

12. Suleiman, I. H. H. M. (2014). A study of obstacles to sports activities in public universities in Baghdad. *Journal of Physical Education*, 26(4).

13. Tkurori, H. (1995). *Food in nutrition*. Beirut, Lebanon: Dar Al-Nashr.

14- Appendices:

Daily Eating Habits.				
Number	**Paragraph**	**Always**	**Often**	**Sometimes**
01	Do you think neglecting diet is one of the main reasons for weight gain?			
02	Do you exercise regularly to prevent weight gain?			
03	Do you monitor your weight continuously?			
04	Do you notice changes in your weight during physical education classes?			
05	Do you practice physical activity outside school hours?			
06	In your opinion, which sport helps reduce weight faster: swimming, basketball, volleyball, or football?			
07	Do you follow a balanced diet along with physical activity to maintain a healthy weight?			
Nutritional Awareness.				
Number	**Paragraph**	**Always**	**Often**	**Sometimes**
01	Do you eat fresh vegetables and fruits daily?			
02	Do you know the components and nutrients of your meals?			
03	Do you follow a complete and balanced daily diet?			
04	Do you maintain your weight in a healthy and balanced way?			
05	Do you make sure to read the food label before eating?			
06	Do you avoid eating fast food as much as possible?			
07	Do you follow medical and health recommendations for a balanced diet?			