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The Role of Physical Education and Sports Class (Quasi-Sports Games) and Proper Nutrition in Preventing Obesity Diseases among Primary School Students from the Perspective of Specialists: A Survey Study Conducted in Tissemsilt Province from the Perspective of Physical Education Teachers

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Abstract:
The current quantitative study aimed to identify the extent to which physical education and sports classes and organized proper nutrition contribute to preventing obesity in children. The study relied on the analytical descriptive method. A questionnaire was designed and distributed to a random sample of physical education teachers from various primary schools in Tissemsilt Province, totaling 50 teachers. To achieve the study objectives, the researchers used a validated and adapted questionnaire according to the children's environment. Data were analyzed using percentages supported by the Chi-square coefficient (χ^2). The results indicated that practicing physical and sports activities in physical education classes and organized nutrition contributes to preventing obesity in children and creates a state of psychological balance and stability. The researchers recommend generalizing sports activity among children and that the state provide halls and equipment for sports activities, especially in remote and isolated areas, to ensure comprehensive development of children.
Keywords: Physical Education and Sports Class (Quasi-Sports Games), Nutrition, Obesity, Primary School Students

Introduction and Research Problem:

Obesity is considered a serious disease; it is a form of malnutrition and a growing pathological phenomenon, especially in developed countries, due to changes in the quality of meals and the spread of high-calorie, low-nutritional-value foods. Researchers also note that obesity is no longer limited to adults but has become an increasing health problem among children. Most medical studies confirm a close relationship between childhood obesity and its persistence in later stages of life, as an obese child is highly likely to remain so during adolescence and adulthood (Fulton, J. E., et al., 2001, pp. 1046–1052).

Obesity occurs due to an imbalance between nutrition and energy consumption, where the accumulation of food in the body exceeds the energy expended, leading to fat accumulation and obesity. The natural fat percentage in women ranges from 20% to 25% of total body weight, and exceeding this percentage constitutes obesity. For men, the natural fat percentage is 20%,

and exceeding this is considered obese. There is a fundamental difference between obesity and overweight; obesity involves fat accumulation in the body, whereas overweight refers to exceeding ideal body weight without necessarily having increased fat mass (Adel Abdel Aal, 2010, p. 40).

Obesity is accompanied by complex and serious health problems, negatively affecting the efficiency of multiple body systems and impacting physiological, psychological, social, and physical levels. Adnan Salem Al-Jaber (2009) indicated that obesity is not limited to aesthetics or excess weight but is closely linked to serious health complications, including heart disease, hypertension, and respiratory difficulties.

Health occupies a significant place in human life; the behavior followed, whether correct or incorrect, affects health either positively or negatively. Society can facilitate or hinder behavioral change. Practicing sports is a human activity that significantly reduces obesity risks and physical illnesses such as hypertension and diabetes. Some societies emphasized sports for military reasons, others for leisure, and others as a form of recreation. In other civilizations, sports were used as an educational method with purposeful programs and goals.

Physical activity in educational institutions or elsewhere contributes to children's social balance and adaptation, especially regarding health. Sports activities are a branch of general education, drawing from various sciences and implemented through guided, organized individual and group activities that prepare children comprehensively and align with community needs. Schools worldwide prioritize physical activities as a crucial and expansive field of general education, reflecting organized behaviors with educational and cultural value, preparing children physically, mentally, emotionally, and socially for life, fostering relationships, virtues, and ethics such as discipline, order, and respect (Ministry of Education, 2005, p. 48).

Primary schools are fertile grounds for teaching diverse motor activities, forming the foundation for basic motor skill development. This stage is vital for child growth, talent identification, and influencing future directions (Farajeddin, 1987, p. 106). Accordingly, this study emphasizes the importance of physical education classes and proper nutrition in preventing obesity among primary school children, with Tissemsilt Province selected as the study site.

General Research Question :

- Does physical education and sports class and proper nutrition play a role in preventing obesity among primary school students?

Specific Questions :

1. Does practicing physical activity alone play a role in preventing obesity among primary school students?
2. Does proper nutrition play a significant role in preventing obesity among primary school students?

General Hypothesis:

- Physical education and sports class and proper nutrition play a significant role in preventing obesity among primary school students.

Specific Hypotheses:

1. Practicing physical activity alone contributes to preventing obesity among primary school students.

2. Proper nutrition significantly contributes to preventing obesity among primary school students.

Research Objectives:

The study aims to achieve the following objectives:

- Highlight the importance of physical education and practicing classroom physical activity in combating obesity among children.
- Emphasize the significant role of physical activity in reducing excess weight.
- Demonstrate the contribution of proper nutrition in preventing obesity and overweight.

Definitions and Concepts :

- **Obesity:**
  Obesity is defined as excessive or abnormal fat accumulation in the body, posing a health risk, commonly measured using the Body Mass Index (BMI), where obesity is classified at BMI ≥ 30 (World Health Organization, 2020).
- **WHO Definition:**

Obesity is a pathological condition characterized by excess fat accumulation in the body, adversely affecting human health, reducing life expectancy, and increasing the likelihood of complex health problems (World Health Organization, 2007).

- **Scientific Definition:**

Jasem Muhammad Jandal defines it as a nutritional disorder involving excess fat accumulation in the body, including superficial and internal fat in organs, blood, and kidneys (Jasem Muhammad Jandal, 2016, pp. 15–16).

- **Operational Definition:**

Obesity is excessive fat accumulation in the body due to irregular and unhealthy nutrition, lack of activity, and high inactivity.

- **Physical Education and Sports Class – Physical Activity:**
  - **Activity:** Any expected mental, behavioral, or biological process using energy, characterized by spontaneity rather than mere response (Ahmed Zaki, 1977).
  - **Physical Activity and Sports:** Educational or training activities, including competitive and supplementary internal and external sports activities conducted within the school, particularly secondary education. In this study, it refers to all physical and sports activities practiced inside primary schools (Qasim Hassan Hussein, 1990).
  - Sports games are an integral part of education, enriching physical, mental, social, and emotional aspects through direct physical activity (Arar Khalid Yassin, 2003).
- **Physical Education Teacher:**

In primary education, the physical education teacher is a key pillar in teaching, responsible for selecting appropriate and constructive activities to achieve educational objectives and contribute positively to the student, school, and community. Their role depends on academic knowledge and professional experience and reflects personal values aligned with educational objectives (Amin Al-Khouli, 1996, p. 147).

- **Operational Definition:**

Physical and sports activity includes all sports games practiced by children inside primary schools.

- **Primary School:**

A public educational institution covering the first and second stages of basic education, largely independent except for coordination and administrative matters (Bin Selm, 2000, p. 54).

Previous Studies:

- **Study 1:** Ahmed El-Sayed Mohamed Gad (2013), "Effect of a Proposed Recreational Sports Program on Self-Concept and Obesity Reduction in Children Aged 12–15"
- **Study 2:** Abdelqawi Rashid (2012), "Effectiveness of a Proposed Sports Program in Reducing Body Fat and Its Relationship to Functional Variables in Obese Students Aged 12–15"
- **Study 3:** Hashem Adnan Al-Kilani (2009), "Effect of Physical Activity on Obesity and Physical Fitness in Fourth and Fifth Grade Children"
- **Study 4:** Jaafar Faris (2007), "Health-Related Physical Fitness and Blood Fat Levels in Children Aged 12–15"

Practical Aspect – Methodology:

The scientific method is the main tool and ideal approach used by researchers to study a problem, uncover phenomena and facts, and reach clear and accurate results. It consists of foundations and rules for discovering accurate, organized, and realistic scientific knowledge (Bouhoush & Mahmoud, 1995, p. 29).

The researchers used the analytical descriptive method, considered the most suitable for human and social research, as it describes phenomena accurately and focuses on analyzing, evaluating, and interpreting relationships among variables (Sami Mohamed, 2000, p. 370).

The descriptive-analytical method is considered the most common, as it describes phenomena in a precise manner and focuses on analyzing, evaluating, and interpreting the relationships that exist in reality.

Sample: Talat Hammam (1987, p. 73) states that a sample is a small part of individuals taken from the general population of a study, selected in a specific manner depending on the type of research, and then the results are generalized to the entire population under study. The research sample was selected randomly, consisting of a group of physical education teachers from primary schools in the Tissemsilt province, totaling 50 teachers.

Research Fields:

- **Spatial Field of the Study:** The study was conducted in various primary schools in Tissemsilt province.
- **Temporal Field of the Study:** The field study started in February 2024 and extended until mid-May 2025.

Exploratory Study: The exploratory study is of great importance, as it is considered fertile ground that contributes to achieving the desired research objectives. It is a fundamental and essential stage, as it influences the scientific research. The exploratory study helps the researcher use all necessary tools in the research to ensure their effectiveness, validity, and accuracy (Mokhtar, 1995, p. 47). In our study, we conducted an exploratory study, which is of great importance and serves as a base for the researchers' initial perceptions of their study and

its application field. We contacted primary school physical education teachers and distributed a questionnaire to a sample of 50 teachers, selected randomly.

Scientific Foundations of the Tool: The psychometric characteristics of the study tool were as follows:

- **Validity:** Content validity of the questionnaire was used by distributing its initial form to 5 teachers from the Institute of Physical and Sports Activity Sciences, specializing in educational physical activity at Ahmed Ben Yahia El Wansharsi University, Tissemsilt, to provide their opinions on the content of the questionnaire and its suitability for the study. Most teachers suggested changes to some items, resulting in a final adapted questionnaire suitable for application.

Table 01 shows the scale reliability

- **Cronbach's Alpha Coefficient Calculation using SPSS**

Study Sample	Sample Size	Number of Items	Cronbach's Alpha
10	09	0.88	

Source: SPSS statistical software outputs, version 26

Statistical Tools:

The statistical methods used in this research were as follows:

- **Percentage:**

Percentage=Number of ResponsesTotal Number×100\text{Percentage} = \frac{\text{Number of Responses}}{\text{Total Number}} \times 100Percentage=Total NumberNumber of Responses×100

- **Chi-Square Test:**

χ2=∑(O−E)2E\chi^2 = \sum \frac{(O-E)^2}{E}χ2=∑E(O−E)2

Where:

O = Observed frequencies

E = Expected frequencies

Presentation, Analysis, and Discussion of Hypothesis 1:

Does practicing physical and sports activity alone play a role in preventing obesity among primary school students?

Question 01: Does practicing sports activities contribute to burning body fat and preventing obesity?

Statements	00	01	02	03	Total
No	00	00	02	48	50
%	00%	00%	04%	96%	100%

- Calculated χ^2: 134.64
- Table χ^2: 7.815
- Degrees of freedom: 03
- Significance level: 0.05
- Statistical significance: Significant

Analysis and Interpretation: Table 01 shows that practicing sports activities contributes to burning body fat and preventing obesity. From the questionnaire responses of physical

education teachers, 96% believe that practicing sports activities has a significant role in burning body fat and eliminating excess weight. The calculated χ^2 (134.64) is greater than the table value (7.815) at a 0.05 significance level and 3 degrees of freedom, indicating statistically significant differences. Thus, most physical education teachers confirm that practicing sports activities greatly contributes to fat burning and obesity prevention.

Question 02: In your opinion, which activities contribute to burning body fat more effectively: organized and regular sports activities or unorganized and random activities?

Statements	**00**	**01**	**02**	**Total**
Unorganized	01	07	42	50
%	02%	14%	48%	100%

- Calculated χ^2: 59.06
- Table χ^2: 5.991
- Degrees of freedom: 02
- Significance level: 0.05
- Statistical significance: Significant

Analysis and Interpretation: Table 02 shows that 42% of teachers believe that organized and regular sports activities positively affect fat burning. The calculated χ^2 (59.06) is greater than the table value (5.991), confirming a statistically significant difference. Organized and regular sports activities are therefore more effective in burning fat and preventing obesity.

Question 03: Does burning body fat require only sports activities, or should a specific nutrition program be added?

Statements	**00**	**01**	**Total**
Only sports activity	16	34	50
%	32%	68%	100%

- Calculated χ^2: 06.48
- Table χ^2: 3.841
- Degrees of freedom: 01
- Significance level: 0.05
- Statistical significance: Significant

Analysis and Interpretation: Table 03 shows that 68% of teachers believe that practicing sports activities alone is insufficient, and it must be accompanied by a nutrition program. The calculated χ^2 (6.48) is greater than the table value (3.841), confirming a statistically significant difference.

Presentation, Analysis, and Discussion of Hypothesis 2:

Does proper nutrition play a major role in preventing obesity among primary school students?

Question 04: Does avoiding fast food and foods rich in complex sugars outside home and school contribute to preventing fat accumulation and obesity?

Statements	**00**	**01**	**02**	**Total**
No	00	09	41	50
%	00%	08%	82%	100%

- Calculated χ^2: 55.23
- Table χ^2: 5.991
- Degrees of freedom: 02
- Significance level: 0.05
- Statistical significance: Significant

Analysis and Interpretation: Table 04 shows that 82% of teachers believe that avoiding fast food and foods high in complex sugars outside home and school significantly helps prevent fat accumulation and obesity. The calculated χ^2 (55.23) is greater than the table value (5.991), confirming statistical significance.

Question 05: Does building a proper nutrition program contribute to preventing fat accumulation, obesity, and overweight?

Statements	**00**	**01**	**02**	**Total**
No	01	10	39	50
%	02%	20%	78%	100%

- Calculated χ^2: 47.37
- Table χ^2: 5.991
- Degrees of freedom: 02
- Significance level: 0.05
- Statistical significance: Significant

Analysis and Interpretation: Table 05 shows that 78% of teachers believe that a proper nutrition program plays a significant role in preventing fat accumulation, obesity, and overweight. The calculated χ^2 (47.37) is greater than the table value (5.991), confirming statistical significance.

Discussion and Interpretation of Results:

- **Discussion of Hypothesis 1:** The first hypothesis states that practicing physical and sports activity alone plays a role in preventing obesity among primary school students. From questions 01, 02, and 03 and the results analysis, it is clear that the majority of teachers recognize the importance of physical activity in preventing fat accumulation and obesity. Thus, the hypothesis is confirmed. This is consistent with Hashem Adnan Al-Kilani's (2009) study, which showed improved fitness, reduced skinfold thickness, and decreased weight in children after consistent physical activity.
- **Discussion of Hypothesis 2:** The second hypothesis states that proper nutrition plays a major role in preventing obesity. From questions 04 and 05, it is clear that the majority of teachers affirm the importance of proper nutrition in preventing fat accumulation and obesity among primary school students. This is consistent with Jaafar Faris's (2007) study, which showed decreased blood lipid levels and improved health-related fitness in children.
- **Discussion of General Hypothesis:** The general hypothesis states that physical education lessons and proper nutrition play a major role in preventing obesity among primary school students. From the questionnaire and analysis, most teachers acknowledge the importance of physical education lessons combined with proper

nutrition in preventing fat accumulation and obesity, confirming the general hypothesis. This aligns with the studies of Ahmed Sayed Mohamed Gad (2013) and Jaafar Faris (2007).

General Conclusion:

- Practicing physical and sports activities combined with proper nutrition greatly contributes to preventing fat accumulation.
- Physical activity and proper nutrition significantly prevent obesity and overweight.
- Proper nutrition and physical activity improve the efficiency of body functional systems, such as the respiratory and cardiovascular systems.
- Physical activity and proper nutrition help prevent high blood pressure and diabetes.
- Physical activity and proper nutrition provide a healthy body shape and enhance self-confidence, especially in females.
- They increase functional efficiency of the body and overall physical fitness.
- Physical activity and proper nutrition reduce psychological and neurological stress and break daily routines for adolescents.

Suggestions and Recommendations:

- Promote the culture of physical activity in society and raise awareness of its importance.
- Provide sports fields and spaces, especially in remote areas.
- Organize awareness meetings on the importance of physical activity for the functional systems of the body.
- Promote daily walking and avoid inactivity to improve body system efficiency.
- Promote healthy diet culture and awareness.
- Consult a doctor in case of body imbalance or signs of obesity.
- Follow a specific nutrition program and organize meals with expert advice.
- Avoid unknown-source fast food, especially outside the home.

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