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The impact of physical activity and exercise on obesity

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Abstract

Introduction: The health benefits of regular physical activity alone are real, and the World Health Organisation has afforded great importance to the issue of obesity, and considers it to be an epidemic, which is threatening global health. Despite the fact that the subject of obesity emerged in developed countries, Arab countries began experiencing this phenomenon, due to changes in lifestyle among its citizens. Physical activity may favourably affect body fat distribution. Our study aims to study the impact of physical activity and exercise on obesity. **Method:** The research sample was 165 adolescents with an average age of 17.8 years old. A questionnaire was used to estimate physical activity and exercise. The body mass index (BMI) is used to determine obesity. **Result:** The results of the study indicated that there is a relationship between physical activity and exercise and obesity, and also between the amount of exercise and type of physical activity and obesity. **Conclusion:** Physical activity and exercise have an impact on obesity. Through the study results, we recommend the importance of physical activity and exercise for teenagers, because the continuous practice of physical activity reduces obesity.

Keywords: obesity, physical activity and exercise, adolescence.

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1. Introduction

The final report by the United Nation's Educational, Science and Cultural Organisation (UNESCO) on the quality of physical education and sports for 2005, prepared by the Committee for Physical Education and sport, 'insisted on effectiveness of sport and education', aiming towards a range of objectives:

To be an integral part of general education and contribute to the building of a student's personality and spirit of coexistence with other individuals. This report focused on an essential dimension, which is that of physical and mental health, through preventive action and even therapy for pupils, as well as the positive impact on the huge budget that States spend on chronic diseases and their repercussions on the lives of their citizens.

According to studies on the topic of the contribution physical activity and sport has on students with regard to the development of various aspects of their lives, it reflects positively on them by contributing to a healthy heart and respiratory system. Physical activity and sport also contribute to the improvement of their psychological and social well-being, by allowing students to integrate better into society and build relationships with their peers, as well as other beneficial contributions. Definitions of physical activity and sport are multiple. It is a collection of organised movements, orientated towards improving fitness or health, as defined by the World Health Organisation. that Physical activity is defined as any bodily movement produced by skeletal muscles that requires energy expenditure.

World Health Organisation reports show that the problem of obesity is most clearly seen in teenagers. According to the World Health Organisation, obesity is a worldwide problem that has entered into the universal dictionary of health. It is more than a disease, rather a bad phenomenon on a universal scale, as referred to in reports by the International Obesity Task Force (IOTF) [3] Basdovan [1] refers to the serious consequences of obesity affecting human physical comfort, claiming that it is responsible for emotional and social imbalances in the person suffering from obesity.

It should also be noted that these impacts are associated more so with the multiple, sensitive phases of life; childhood, adolescence, pregnancy, the menopause, ageing etc. [1] or are associated with organic diseases (heart disease, hypertension, diabetes, asthma, etc.) or psychological problems (cases of psychosis, neurosis, unfolding hysteria, anxiety, etc.) [4]. This phenomenon, which has a multiplicity of causes, is of great importance to various researchers. It is indeed a phenomenon with multiple factors, and various studies have examined different aspects:

- Heredity (Perusse, 2004)
- Diet [5].
- Psychological and social causes [4].
- Inactivity and lack of activity [1, 2].

What interests researchers most in this area of research is the physical activities and sports practiced by teenagers at school or extra-curricular activities, as a contributing factor towards avoiding this phenomenon. Physical activity and sport have a preventive role, where studies have indicated that this phenomenon is linked to the degree of passivity and lack of activity among teenagers. This is what prompted us to address this phenomenon in a study, by answering the following questions: do physical activity and sport have an influence on the degree of obesity in adolescents? Do social characteristics have an impact on physical activity and obesity in teenagers?

2. Study hypothesis

The influence of physical activity and sport on the degree of obesity in teenagers. Different social dimensions affect the physical activity of adolescents and obesity.

3. Study concepts:

3.1. Obesity

Obesity and being overweight are known to be due to an excessive and unusual amount of fat in the body, which may be harmful to health, and are based on the definition of these terms with regard to a person's BMI: being overweight corresponds to a body mass index greater than 25 kg/m² and obesity corresponds to a body mass index greater than or equal to 30 kg/m².

3.2. Physical activity and sport

Physical activity and sport is a set of movements orientated towards improving fitness or health, as defined by the World Health Organisation as any bodily movement produced by skeletal muscles that requires energy expenditure [6].

3.3. BMI: body mass index IMC

(Indice de masse corporelle): the weight in kilograms divided by the square of the height in metres: BMI: weight/length and measured balkgh/24

4. Methodology of the study

According to the forms of research that we are investigating, the curriculum appropriate for our study is a descriptive interpretation, which does not stop at the borders of the relationship and differences between variables, but links and explains the differences, in addition to measuring the links and differences between variables.

5. Research tools

5.1. Survey

Pupils were asked a series of questions regarding their personal information, as well as their social circumstances and other questions relating to their practice of physical activity and sport.

5.2. The measurement of body mass

For measurements, we adopted the physical mass scale mentioned by Sheldon, which measures weight and stature, and adopted the World Health Organisation's criteria for the classification of students as follows:

- *normal weight: BMI between 18.5-24, 9 kg/m².
- *overweight: BMI of 25-29.9 kg/m².
- *first degree obesity between 30 – 34, 9 kg/m².
- *second degree obesity between 35-39, 9 kg/m².

*excessive or morbid obesity

*third degree is greater than 40 kg/m².

6. Survey sample and its characteristics

We adopted an intentional sample of pupils in upper secondary schools of chlef , and the research sample consisted of 200 pupils (75 male and 125 female), with an average age of 18, $10 \pm 1, 05$ and i twas distributed according to practiced sports as follows.

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Table 1. Distribution of sample in practice

Practice	Number	
Practiced	male	63
	female	27
	total	90
Non practiced	male	12
	female	98
	total	110

7. Results of the study

To discuss the results of the first hypothesis, we used a scale for calculating the differences between the two groups, and the results were as follows:

Table 2.

act hors etab	N	M	E	T	DDL	sig
IMC practiced	103	22.0786	2.72554	3.21	225	.002
Non practiced	124	23.3355	3.09941	1		

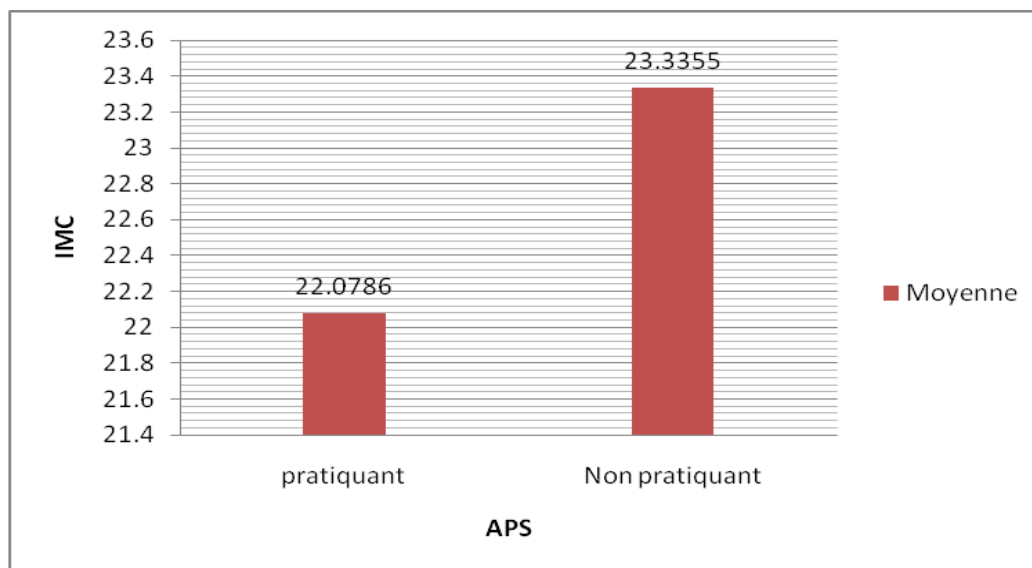


Chart 1. Differences in the BMI by practice.

Table 3. Mass index by income level.

To measure the impact of the social aspect on obesity, we adopted the level of parental income as an indicator and divided people into four groups. The results were as follows:

IMC/ income level						
IMC						
level	N	M	S			
-15000-	62	22.4290	2.75392			
15-30000	101	22.7040	3.07197			
30-45000	45	23.2333	2.94379			
+	19	23.0789	3.50739			
Total	227	22.7652	2.99570			
ANOVA						
	SS	ddl	MS	F	Sig	
Inter-groupes	19.117	3	6.372	.707	.549	
Intra-groupes	2009.058	223	9.009		NS	
Total	2028.175	226				

Table 4. Variance analysis of the effect of social practice
imc

act hors etab		SS	ddl	MS	F	Sig
practiced	Inter-groupes	54.078	3	18.026	2.536	.061
	Intra-groupes	703.635	99	7.107		NS
	Total	757.713	102			
Non practiced	Inter-groupes	2.185	3	.728	.074	.974
	Intra-groupes	1179.398	120	9.828		NS
	Total	1181.584	123			

7. Discussion and results analysis

Based on the results of the study, we found that exercise had an effect on obesity. As shown in Table 2, we found that the differences between those who exercise and those who do not were statistically significant at a level of 0.01, thus demonstrating the positive impact of physical activity and sport. The study demonstrated [7] that laziness and obesity are linked in most cases, as the evolution of obesity is usually equal to the lack of physical activity, and level of physical activity is reflective of the increase in weight. This coincides with the result that we reached in the end, in that physical activity helps to maintain body weight at acceptable levels and raises the ability of muscle to oxidise fat. A healthy approach that focused on physical activity and sport focused on the energy in the human body, so that the practice of physical activities and sports did not divert excess energy rather than increase and become oily. The study also addressed the social aspect, and studied its impact on obesity for students. We adopted parental income as an indicator of a student's social level, and split students into four groups, as shown in table 3. The results showed no differences between the four groups, indicating that social class did not affect the degree of obesity. The results in Table 4 are the same for practitioners and non-practitioners, indicating that there was little difference in social level among the three groups and even that difference was significant socially, the social environment in Algeria does not yet recognize the new forms of nutrition.

Many states have developed the practice of physical activities and sport through a range of programmes that contribute to the increase of activity within the community, and among adolescents in particular. We find the draft sport for all, the Group of States has contributed well in the prevention of many chronic diseases, including obesity, which the World Health Organisation has classified as an epidemic, because of its negative effects on the social and emotional well-being of individuals. However, its influence extends to the economy of a country. Physical activity and sport have a preventive role to play in avoiding the many symptoms that result from obesity.

Acknowledgements

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