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The role of physical activity in reducing weight among women aged 20-40 years from the point of view of physical education and sports doctors in Algeria.

-A field study at the level of some Algerian sports institutes-

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Abstract:

The research aims to know the role played by physical activity in reducing weight among women from the point of view of professors of some physical and sports activities institutes, where the researcher used the descriptive method, applied to a randomly selected sample of 20 professors from Steps Institutes, where the researcher reached the great importance played by physical activity in reducing weight among women aged 20-40 years.

Keywords: Physical activity; Weight loss; Women aged 20-40; Doctors of physical activities and sports.

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1. INTRODUCTION

Health is a necessity for the continuation of a happy life so that a person strives with all his abilities to achieve it. Many attempts have been made by scientists and specialized experts to define health and what is meant by it. The World Health Organization believes that health is complete physical, mental and social safety and sufficiency(Elizabeth,2001,p29). Many developed countries have a primary policy in their national strategies for the health of the individual. They have turned to sports for the sake of health as compensation for the lack of movement and to limit the negative effects of the control of the machine, scientific progress, and the emergence of many modern technical devices that have become limited to housework, movement, and transportation, which has affected the health of the individual, and the decline in his level of physical fitness and physiological efficiency. In addition to that, wrong eating habits lead to the accumulation of large amounts of fat in different parts of the body, which in turn leads to many complications such as sagging of the body and its lack of symmetry, which leads to a disruption of the general appearance of the person externally, while internally it contributes, as Abu Al-Ala indicated, to diabetes, uterine cancer, kidney cancer, heart disease, breast cancer, especially the woman's body, which is characterized by a large increase in the percentage of fat in men. Body weight(Kate,2024,p36).

To avoid these negatives, one must get rid of excess weight by following sound and standardized scientific methods, the most important of which are physical activity, such as general sports(Nicolls,2023,p49), aerobics, and yoga, due to their many characteristics, the most important of which is that they do not require a large space and expensive equipment, in addition to the physiological changes that occur in the various body systems such as the circulatory system(Claudia,2024,p67), the heart, and the respiratory system, and because these exercises are among the most appropriate ways to expend excess energy that is not released from the body except when chemical reactions occur(Yolanda,2024,p57).

Research problem:

Medical research and the latest studies conducted in Western and Arab countries have proven that the causes of weight gain and its spread are "an imbalance in the energy balance between the calories consumed on the one hand, and the calories expended by the body on the other hand."(Alycia,2024,p86) The energy expended through physical activity is the most variable among the other

elements of energy expended. Therefore, a low level of exercise can easily lead to an imbalance in the energy balance in the body, and thus a positive balance occurs that ultimately leads to weight gain and obesity(Kate,2023,p89).

Weight gain is a disturbing thing for women, because women by nature like to appear in the most beautiful appearance, and weight gain causes them a psychological and physical burden(Elizabeth,2001,p57). There are many reasons for this problem, the most important of which is depression, as they go through hours of depression during their life stages, and depend on a certain medication to alleviate this condition. Over time, you will notice a sudden weight gain, as it increases by 05-15 kilograms in a short period(Austin,2018,p105). There are some women who do not take medications, but when their psychological state is tired, their appetite for food increases, especially for foods that contain high calories and fats, and thus their weight increases without them feeling it(SOPHY,2024,p126). Some women may take certain medications that cause weight gain, such as stimulants, hormone-related medications, birth control pills, in addition to cancer medications, arthritis, and many others. One of the reasons for weight gain is poor digestion(Kristen,2024,p145). The appropriate solution to this problem is to drink plenty of water and eat foods that contain a high amount of fiber. Eating foods that are deficient in certain substances such as magnesium and vitamin D disrupts the immune system and lowers the energy level in the body, and thus the process becomes Slow metabolism, and do not burn fats in food, and all these factors lead to weight gain, and this problem can be combated by eating leafy vegetables, liver, and eating more almonds, walnuts, as these foods work to enhance magnesium levels in the body(ViVid,2023,p89), and we also find that aging contributes to obesity as the metabolism becomes slow, and thus the process of burning food in the body becomes slow and weight increases, and one of the most important reasons for weight gain in women may be the lack of exercise, as the reasons for the low level of exercise in women are many at the present time, the most prominent of which is not allocating and organizing sufficient time to exercise due to external responsibilities such as work or others(Emily,2020,p265), or internal responsibilities such as family and home, which take up most of the time and do not give space for exercise, and the nature and type of games and sports exercises chosen may not be subject to standards that serve this aspect, so there must be exercises adapted and modified according to this category and with appropriate intensity, and special means that serve the

desired goal, which is to reduce weight and maintain physical fitness, and all of this may be useless if there is no diet, as exercise without a diet may be random and incorrect and have an effect on weight gain(Erin,2023,p69).

Through the previous presentation, we can identify the research problem, which is a global problem that characterized the era of speed and technological progress, as it affected all individuals, whether in developed or poor countries, women, men, and even children, who have become overweight. It is not strange that all natural recipes are accompanied by exercise, due to its benefits in strengthening the individual's immunity, improving his physical fitness, and reducing the percentage of fat and weight. The woman finds herself suffering from obesity and facing this male society, which, by virtue of customs and traditions, prevents her from exercising her right to exercise, under the pretext of Algerian society, especially since we live in a conservative region -Algiers-. These reasons, and others, force women to go to fitness halls that are absent in some areas. From here, the problem crystallized in the following general question:

Does physical activity contribute to weight loss in women aged 20-40 years, from the point of view of doctors at the Institutes of Physical Activities and Sports?

And also three secondary questions:

- Are there certain physical activities that contribute to weight loss in women in the 20-40 age group?
- Do aerobic exercises contribute to weight loss in women in the 20-40 age group?
- Do yoga exercises contribute to weight loss in women in the 20-40 age group?

Study hypotheses:

- **General hypothesis:**

Physical activity contributes to weight loss in women aged 20-40 years, according to doctors at physical activity and sports institutes.

- **Partial hypotheses:**
  - There are certain physical activities that help women in the 20-40 age group lose weight.
  - Aerobic exercises help women in the 20-40 age group lose weight.
  - Yoga exercises help women in the 20-40 age group lose weight.

2. Importance of the study:

By addressing this topic, we have touched on the most important elements

of physical and sports activities, aerobic exercises, and yoga exercises that contribute to weight loss in women. In this field, which is forgotten despite the succession of many ministerial decisions, and the presence of elements interested in women's sports that seek to achieve their goal, which is weight loss, and knowing the extent of the negative impact that excess weight has on women, and knowing the effect of physical and sports activities on weight loss in women, in addition to seeking to advance the female element and achieve their goal, which is weight loss.

The importance of the research is represented in:

- *Raising awareness among women in general and those with excess weight in particular about the role of exercise and its effect in preventing weight gain and maintaining a healthy body.*
- *Additionally, it contributes to spreading the importance of physical activity in all aspects related to women.*

3. Study Objectives:

- Learn about the most important physical and sports activities in reducing weight for women.
- Learn about the role of aerobic exercises in reducing weight for women.
- Learn about the role of yoga exercises in reducing weight for women.

4. Reasons for choosing the topic:

4.1. Objective reasons:

The lack of studies on women in terms of the importance of exercise, in addition to the terrible spread of obesity in society recently.

4.2. Subjective reasons:

Participating in an aspect that represents shedding light on the contribution of sports activities within sports centers and halls and their role and impact in reducing weight among women, and informing the reader of the extent of their importance in addition to giving these centers a moral boost through our humble research.

5. Concepts and Terminology Definition:

5.1. Physical activity:

It is moving the body in any way that leads to energy consumption (i.e. burning calories) such as walking, running, and swimming... Physical activity is defined as the movement of the human body by means of muscles, which leads to

the expenditure of energy that exceeds the energy expended during rest(Venessa,2024,p259).

5.2. Weight loss:

It is an attempt by a person or athlete to lose weight in order to improve their health level or to gain body agility and lightness, or to benefit from both benefits together(Helen,2024,p302).

5.3. Women aged 20-40:

The age group between 20 and 40 years is considered one of the most important stages in a woman's life, as it is the transitional stage from youth to maturity, and witnesses major physical, psychological and social changes. This group is characterized by vitality, activity and multiple interests(Scarlett,2023,p257).

5.4. Doctors of physical activities and sports:

University professors of physical activity and sports sciences are experts in the field of sports and physical education, combining scientific knowledge with practical experience. They teach students at universities and colleges, and are concerned with preparing new generations of coaches, teachers and researchers in this field(Dehamnia,2024).

6. Previous studies:

Malek Reda study 2011:

The study aims to evaluate the effectiveness of a training program combining aerobic exercise and Zumba in reducing weight and obesity in women between the ages of 35 and 45. The results of the study, which was conducted on a sample of 11 women, showed a significant improvement in body circumferences, weight and body mass index after implementing the program, which confirms the importance of this type of training in combating obesity. The study recommends the necessity of integrating a healthy diet with the training program to achieve better results(Malek,2011).

Study of Merakchi Rania 2022:

The study aimed to evaluate the effectiveness of a circuit training program in increasing muscle strength and losing weight in women aged 20 to 45 years. The results showed that the program significantly reduced waist circumference and weight, and improved body mass index and body fat percentage, indicating the importance of integrating proper nutrition with circuit training to achieve fitness goals(Merakchi,2022).

Study of Cherit Houcem eddine 2023:

The present study aimed to evaluate the effectiveness of a cardio training program in reducing body fat and improving body image in a group of obese women aged 20-30 years. The program was applied to a random sample of 30 women, and we compared the results of the group that underwent the program with another group that did not. The results showed that the training program was effective in achieving the desired goals(Cherit,2023).

7. Benefit from previous studies:

- Researchers were able to discuss and interpret the results of the current study with the aid of the findings from these previous studies.
- This assisted researchers in understanding the nature and significance of the research problem.
- This facilitated the researchers' selection of the most suitable scientific statistical methods for data analysis(Dehamnia,2024).

8. Methods and Materials:

1. Research Methodology :

Due to the nature of the topic, the descriptive approach was chosen as the research method.

2. Study community:

The research community are professors of Algerian institutes of physical activities and sports.

3. Research Sample and Selection Method:

The sample is the same as the community, which is the professors of the Physical and Sports Activities Institutes. They were chosen randomly, as we used the survey method, and thus its size is 22. Given that we were unable to retrieve two questionnaires from two professors, the sample size remained at only 20, which is what the following table represents:

Table 1 : Sample distribution table.

University	Country	Number of Doctors
University Of Alger	Algeria	02
University Of Constantine	Algeria	02
University of Batna	Algeria	02
University of Blida	Algeria	02

Unversity Of Annaba	Algeria	02
University Of Ain Tmouchente	Algeria	02
University Of Boumerdes	Algeria	02
University Of Tizi Ouzou	Algeria	02
University Of Soukahras	Algeria	04
The result	20	

4. Study variables:

✓ **Independent variable:**

Physical activity.

✓ **Dependent variable:**

Weight loss in women.

5.Study limitations:

✓ **Spatial scope:**

The study was conducted in the Algerian environment at the level of some Algerian physical and sports activities institutes.

✓ Temporal scope:

The study, both theoretical and applied, was conducted in the period from 10/15/2024 to 01/15/2025.

5. Research Tools:

We prepared a questionnaire that included 25 closed and open questions, divided into three hypotheses as follows:

- ✓ Hypothesis 1: There are certain physical activities that contribute to weight loss in women (questions 01-09).
- ✓ Hypothesis 2: Aerobic exercises contribute to weight loss in women (questions 10-17).
- ✓ Hypothesis 3: Yoga exercises contribute to weight loss in women (questions 18-25).

The questionnaire in this study consisted of 03 axes divided according to the following table:

Table 2 : Represents the questionnaire axes.

Axes	Number of questions
01. There are certain physical activities that help women in the 20-40 age group lose weight.	09
02. Aerobic exercises help women in the 20-40 age group lose weight.	07
03. Yoga exercises help women in the 20-40 age group lose	

weight.	07
The rusult	25

- **Psychometric properties of the study tool:**

❖ **Tool validity:**

❖ **Apparent validity of the instrument:**

The tool was presented to a jury that included a group of professors from various Algerian universities. To enhance the credibility of the tool, researchers from these academic institutions participated in the presentation, as shown in the following table:

Table 3 : It represents the sample of professors selected to prove the validity of the questionnaire.

University	Country	Number of Doctors
University Of Tiaret	Algeria	18
University Of Ain Defla	Algeria	20
University of Batna	Algeria	10
University of Jijel	Algeria	13
Unversity Of Setif	Algeria	16
University Of Telmcen	Algeria	13
University Of Ouergla	Algeria	19
University Of Bejaia	Algeria	10
University Of Oran	Algeria	11
The result	130	

The research tool was approved by 92.76% of them, rejected by 7.24%, and they agreed to modify the questionnaire.

❖ **Tool stability:**

The tool was calculated using Cronbach's alpha equation as shown in the following table:

Table4: It represents the result of the instrument's stability coefficient by applying the Cronbach's alpha equation.

Axes	Cronbach's alpha coefficient	Correlation coefficient between correction by Spearman and Brown equation
The first axis	0.62	0.60
The second axis	0.68	0.69
The third axis	0.67	0.69

From the results of Table 4, it is clear that the study tool is characterized by a high and acceptable degree of stability, by calculating the stability coefficient in two different ways (Cronbach's alpha, the correlation coefficient between the correction using the Spearman and Brown equation).

- **Logical truth:**

Table 5 : The correlation coefficient represents the stability of the study tool as a whole with its axes and the logical validity of each of them.

Axes	Correlation coefficient	Logical truth
The first axis	0.620	0.780
The second axis	0.787	0.854
The third axis	0.868	0.877
Measuring tool as a whole	0.750	0.869

Table Num 4 shows that the logical truth of the study tool's axes ranged between (0.780 and 0.869), while the correlation coefficient ranged between (0.620 and 0.750), while the logical validity of the tool as a whole reached 0.866, which indicates that the measurement tool with its axes enjoys a high degree of self-validity.

6. Statistical Analysis :

After reviewing the forms, we performed the process of emptying the questions and calculating the percentages of the results of the sample members' answers, then using the statistical function Chi-square. The Chi-square test is considered one of the best statistical tests used to calculate the significance of the differences between the frequencies of the ratio and the frequencies.

7. Results:

Question	Calculated K^2	f	α =0.05	Significance
Q1	12.800		0.05	significant
Q2	9.800		0.05	significant
	9.800		0.05	significant
Q4	7.200		0.05	significant
Q5	9.800		0.05	significant
Q6	9.800		0.05	significant
Q7	5.000		0.05	significant
Q8	0.800		0.05	Not significant
Q9	12.800		0.05	significant
Q10	12.800		0.05	significant
Q11	5.000		0.05	significant
Q12	3.200		0.05	Not significant
Q13	16.200		0.05	significant
Q14	16.200		0.05	significant

7.1.Presentation of the Hypotheses Results:

Table 6 : Table representing the analysis of the results of the sample answers.

Q15	1.800		0.05	Not significant
Q16	0.800		0.05	Not significant
Q17	3.200		0.05	Not significant
Q18	9.800		0.05	significant
Q19	7.200		0.05	significant
Q20	12.800		0.05	significant
Q21	0.800		0.05	Not significant
Q22	1.800		0.05	Not significant
Q23	16.200		0.05	significant
Q24	7.200		0.05	significant
Q25	3.200		0.05	Not significant

7.2. Discussion:

Discussion and explanation of the first hypothesis:

In order to achieve the first hypothesis that sports practice contributes to weight loss in women, the answers to questions (01 to 09) clarified the various results as follows: From the answers to questions (01, 02 and 03), we note that the majority of professors supported women practicing sports, and they also distinguished the sports that help women lose weight, and they gave importance to aerobic exercises in weight loss.

As for the answers to questions (04, 05, 06, 07, 08, and 09) regarding the preferred time to practice sports, we notice from the answers that the best time to practice sports is the evening, or an hour before practicing sports, and this is due to the home and professional commitments of most women, which also helps in giving additional effort through practicing inside the hall in addition to the home and professional effort, and this is what nullifies one of the factors and reasons that led to weight gain, which is lack of activity and movement.

Discussion and interpretation of the second hypothesis:

In order to achieve the second hypothesis, which is that aerobic exercises contribute to weight loss in women, the answers to questions (10-18) showed different results as follows:

We find that the answer to question (10) is that the majority of professors answered and acknowledged that signs of weight gain appear on women before marriage more than after marriage, and this is because women before marriage are characterized by lack of movement, in addition to the nature of the work they do being light and not strenuous, unlike married women.

We find in the table the answer to question No. (11) that the majority of professors answered that women go to gyms with the aim of losing weight and getting rid of the percentage of fat from the body, as the ideal weight is considered a criterion for judging the beauty and elegance of women.

As for the answers to questions (12, 13, 14, 15 and 16), they show what is aerobics, and the circumstances that push women to practice this sport inside the halls. The answers also show that aerobic exercises contribute to burning a lot of calories while performing the exercises, in addition to practicing cardio exercises, which the answers proved contribute to losing weight. As for the answers to questions (17 and 18), they revolve around practicing exercises to lose weight. The women's answers proved that practicing rope jumping exercises for 10 minutes daily, in addition to Zumba dance exercises, which contribute to losing weight in women

Discussion and interpretation of the third hypothesis:

In order to achieve the third hypothesis that yoga exercises contribute to weight loss in women, which was explained by the answers to questions (19-25) as follows:

The answers to questions (18 and 19) explained: What is yoga, and the real motive for practicing yoga exercises is to lose weight.

As for the answers to questions (20 and 21), a small percentage of women practice yoga in halls, and this is due to their many preoccupations. The answers also explained that the real reason that motivates women to practice yoga exercises is to lose weight.

As for the answers to questions (22, 23 and 24), they talk about the health aspect of women, as the answers confirmed that yoga has an effect on women's health, by affecting the activity of the body's systems, and improving the internal

condition of the body.

As for the answers to questions (25), the answers proved that yoga is not the ideal solution for losing weight for women.

8. Conclusion:

In light of the study we conducted and through our analysis of the results related to the questionnaire tables, which included a set of questions that we distributed to 20 professors of the Institute of Physical and Sports Sciences and Technologies, and through our discussion, we reached the conclusion that all the proposed hypotheses, which were represented in the extent to which physical activity contributes to weight loss in women, whether in terms of supporting women's practice of sports, and identifying spt help in weight loss, in addition or in terms of time and duration, in addition to determining when signs of weight gain appear in women?, with determining the purpose of women going to sports halls, defining aerobics, and the purpose of practicing it, and showing that it burns a lot of fat, and contributes to weight loss, after that, showing that cardio exercises and practicing them for 10 minutes a day contribute to weight loss in women, showing the role of practicing Zumba dance in weight loss, what is yoga, the extent to which yoga exercises contribute to weight loss, the extent to which women practice yoga in sports halls, the purpose of practicing it, its effect on women's health, showing that yoga activates the body's systems, blood circulation, and increases flexibility Body, showing that yoga is an ideal solution for weight loss compared to other sports.

They say that if the cause is known, the wonder is gone, and they say that prevention is better than cure. Perhaps the problem of weight gain that worries many people out of fear of it or suffering from its effects or avoiding it with some precautions, including overcoming its causes, and among these causes are the circumstances of modern life that have forced women to monitor their food and count their calories. If she finds that her normal physical activity is not enough to burn what she eats in her day, and is not enough to gain the physical fitness that qualifies her for her enjoyable daily life without fatigue, she must deliberately practice additional physical activity, by practicing some type of sport. It is natural for a woman to enjoy practicing exercises that suit her femininity and her life, so she finds herself in a sports club or an aerobics hall with the aim of enjoying sports and continuing to train permanently and continuously, which contributes to reducing weight. Therefore, preparing this scientific research was useful to

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