

Basic Principles of Fitness Programs for Weight Loss

القواعد الأساسية في برامج اللياقة البدنية الخاصة بتخفيف الوزن

Haceini Ayoub¹

¹ Algiers 3 university, SPAPSA laboratory, haceini.ayoub@univ_alger3.dz

Received: 15/06/2025

Accepted: 26/08/2025

Published: 30/09/2025

Abstract: This study investigates the effectiveness of fitness programs designed by certified coaches in reducing excess body weight among overweight individuals. Using a descriptive approach, data were collected from a sample of fitness professionals through a structured questionnaire. Results indicate that well-structured training programs—combining aerobic and resistance exercises—positively impact weight loss, particularly when adapted to age and individual needs. The findings also highlight the importance of integrating nutritional plans with physical activity to maximize results. Recovery strategies and program flexibility emerged as key success factors. The study underscores the critical role of fitness coaches in delivering holistic, personalized interventions for sustainable weight management.

Key words: Fitness; Programs; Weight loss.

الملخص:

تهدف هذه الدراسة إلى تقييم فعالية البرامج التدريبية التي يصممها مدربو اللياقة البدنية المعتمدون في خفض الوزن الزائد لدى الأفراد الذين يعانون من السمنة. تم اعتماد المنهج الوصفي، وجمعت البيانات من خلال استبيان موجه لعينة من مدربي اللياقة. أظهرت النتائج أن البرامج التدريبية المهيكلية، التي تجمع بين التمارين الهوائية وتمارين المقاومة، تساهم بشكل إيجابي في إنقاص الوزن، خاصةً عند تكييفها مع الفروق العمرية والفردية. كما أبرزت الدراسة أهمية التكامل بين النشاط البدني والنظام الغذائي لتحقيق نتائج فعالة. وظهرت بروتوكولات الاسترجاع ومرونة البرنامج كعوامل حاسمة في نجاح العملية. تؤكد الدراسة على الدور المحوري لمدرب اللياقة في تقديم تدخلات شاملة وشخصية للتحكم في الوزن بشكل مستدام.

- الكلمات المفتاحية : اللياقة، البرامج، تخفيف الوزن.

- **The methodological steps followed in a scientific paper:**
- **Theoretical chapter:**

*** Introduction and problematic of the study:**

In recent years, growing attention has been given by researchers and specialists in the field of sports sciences to the impact of physical activity and training programs on human health, particularly concerning weight management and body composition. Obesity has become one of the most serious public health issues of our time, closely linked to chronic diseases such as type 2 diabetes, cardiovascular disorders, and hormonal imbalances, not to mention its psychological and social consequences. Accordingly, many experts in physical training, physiology, and nutrition have been exploring effective and evidence-based strategies to prevent and combat obesity, emphasizing the role of structured physical activity programs combined with appropriate nutritional plans tailored to individual needs.

Recent studies confirm that energy imbalance—between calorie intake and expenditure—is a key cause of weight gain. Excessive food consumption without real physiological need leads to positive energy storage in the form of fat, especially in the absence of regular physical activity (Jakicic et al., 2021). In this context, regular physical activity is a crucial factor in increasing energy expenditure, stimulating metabolism, and improving hormonal function and lean body mass (Laaloui, Saghi & Hammadi, 2023).

Scientific and technological advancements have contributed significantly to refining training methodologies and evaluation tools, enabling fitness coaches to

design more effective and personalized programs suited to individuals' age, health status, and level of physical fitness. Current evidence strongly supports the integration of exercise and dietary programs to ensure efficient and sustainable weight loss outcomes (Donnelly et al., 2020).

Practically, effective training for weight loss should not rely solely on aerobic exercises but must include resistance training, flexibility routines, balance exercises, and a proper distribution of volume, intensity, frequency, and duration—adjusted to each person's physical and psychological condition. Studies also show that embedding physical activity into daily routines and promoting adherence are essential for long-term success (Lee et al., 2022).

According to the American College of Sports Medicine (ACSM, 2023), successful weight loss requires combining a low-calorie diet with moderate to high-intensity physical activity for at least 150–300 minutes per week, while respecting individual variability.

Given the above, the fitness coach plays a key role in addressing obesity not only by guiding physical practices, but also by providing nutritional education, psychological support, and motivation. The fitness coach becomes a central agent in both preventive and therapeutic strategies. This leads to the core research question:

To what extent can a fitness coach effectively contribute to solving weight-related issues through structured training and nutritional programs?

From this main question, several sub-questions arise:

- What is the impact of fitness coach-designed physical programs on weight loss?
- What are the key components of the proposed training program for weight reduction?
- How are nutritional and physical programs integrated to support effective weight loss?
- How adaptable are these training programs to different age groups and physiological conditions?

This research aims to answer these questions through an interdisciplinary scientific approach that incorporates knowledge from training science, nutrition, physiology, and psychology.

The practical chapter:

1- Followed Methodologies:

We adopted the descriptive method as it is the most appropriate approach for studying this phenomenon. It represents one of the forms of systematic scientific analysis and interpretation used to describe, classify, and accurately examine the phenomenon under investigation. The Preliminary study was conducted on a sample of five (05) fitness coaches. As part of this phase, we calculated the psychometric properties of the questionnaire. The results were as follows: The internal consistency of the questionnaire was acceptable, as indicated by a Cronbach's alpha exceeding (0.81). Additionally, the test-retest reliability demonstrated strong temporal stability, with a correlation coefficient (r) greater than (0.75). The research sample consisted of (53) participants, selected through

non-random sampling (case study approach). All participants responded to a structured questionnaire composed of (17) closed and opened questions. The statistical analysis was performed using SPSS version 21, and the Chi-square test (χ^2) was applied to examine associations between variables.

2- Exposure, analyses and result exam:

Table 1. Chi-square Test Results

Item	χ^2 Calculated	Level of significance	Df	Signification
1	46.38	3.33	1	
2	13.05	1.55	1	
3	38.72	0.00	1	*
4	17.88	1.98	1	
5	35.98	2.87	1	
6	9.18	0.01	2	*
7	32.00	0.00	1	*
8	8.00	0.00	1	*
9	10.25	0.19	1	
10	1.28	0.25	1	
11	18.00	0.00	1	*
12	8.00	0.00	1	*
13	38.72	0.00	1	*
14	35.89	0.00	2	*
15	10.72	0.00	2	*
16	3.80	0.15	2	
17	45.59	0.00	2	*

3- Finding and propositions results

The analysis focused on four core sub-hypotheses derived from a questionnaire administered to a sample of certified fitness coaches.

1 .To what extent does the proposed physical training program influence weight loss?

Most respondents agreed that structured physical training plays a central role in promoting weight loss, particularly when programs are designed based on scientific principles such as progression, overload, diversity, and individualized monitoring. The data showed that aerobic exercises (e.g., walking, jogging, cycling) combined with resistance training can produce visible results after 6–8 weeks of consistent training.

These findings align with recommendations by the American College of Sports Medicine (ACSM, 2021), which suggests that moderate-to-vigorous intensity exercise for 150–300 minutes per week is necessary for significant weight loss. Similarly, Donnelly et al. (2020) emphasized that regular physical activity is among the most effective non-pharmacological strategies to reduce obesity and improve body composition.

2 .What are the program's training components?

The analysis revealed that most training programs implemented by coaches include a combination of aerobic exercises, strength training, and flexibility work. Exercise intensity typically ranged from 60% to 80% of maximum heart

rate, with a frequency of 3 to 5 sessions per week, lasting 45 to 60 minutes per session.

These parameters fall in line with modern fitness guidelines for weight management. According to Jakicic et al. (2021), combining resistance and aerobic training not only facilitates fat loss but also helps maintain muscle mass, which is essential for sustaining a high resting metabolic rate. Wewege et al. (2022) also confirm that resistance training is critical in improving muscle strength and preserving lean mass during caloric restriction.

3 .What is the relationship between the training program and the nutritional program in achieving effective weight loss?

Over two-thirds of the coaches surveyed emphasized the necessity of integrating a proper dietary plan with physical training. They reported that training without nutritional support often leads to slower or inconsistent results.

This finding is consistent with Johnston et al. (2014), who concluded that combined interventions (exercise + nutrition) are more effective than either strategy alone in achieving sustained weight loss. Caloric deficit remains the key factor, and this can be achieved efficiently through simultaneous control of intake and increased expenditure via physical activity.

4 .Are training programs flexible enough to suit various age groups and health conditions?

According to the data, approximately 70% of coaches confirmed that they adjust their programs to accommodate individual characteristics such as age,

gender, physical capacity, and medical conditions. They asserted that flexible and personalized programs yield better adherence and safer outcomes.

These insights are supported by ACSM (2021) guidelines, which stress the importance of individualization in training to optimize results and reduce injury risk. Furthermore, Lee et al. (2022) showed that age-appropriate and ability-based training programs significantly improve motivation and long-term engagement, especially in previously sedentary individuals.

This study highlights the essential role of structured fitness programs in reducing excess body weight when designed and implemented by qualified fitness coaches. The findings confirmed that well-planned training programs, combining aerobic and resistance exercises, significantly contribute to fat loss and improvement in body composition. Moreover, training programs that are adapted to individual needs — such as age, sex, and health status — show higher effectiveness and long-term adherence. Importantly, the study emphasized that physical training alone is insufficient if not coupled with a controlled, scientifically supported nutritional program. The synergy between caloric control and energy expenditure through physical activity is the cornerstone of sustainable weight loss. The inclusion of recovery strategies, such as proper rest, hydration, and post-exercise nutrition, also emerged as a crucial factor in ensuring continuity and preventing injury or burnout. Flexibility in program design, allowing for modifications based on progress and personal conditions, further enhances outcomes. Ultimately, the fitness coach plays a pivotal role not only as a trainer but also as a guide and motivator in the

weight loss journey. By integrating scientific knowledge, practical tools, and personalized approaches, coaches can significantly impact public health by reducing obesity prevalence and promoting active lifestyles.

4- References and quotations:

American College of Sports Medicine. (2021). *ACSM's Guidelines for Exercise Testing and Prescription* (11th ed.). Wolters Kluwer.

American College of Sports Medicine. (2023). *ACSM's Guidelines for Exercise Testing and Prescription* (11th ed.). Wolters Kluwer.

Donnelly, J. E., Blair, S. N., Jakicic, J. M., Manore, M. M., Rankin, J. W., & Smith, B. K. (2020). Appropriate physical activity intervention strategies for weight loss and prevention of weight regain for adults. *Medicine & Science in Sports & Exercise*, 52(8), 1702–1711. <https://doi.org/10.1249/MSS.0000000000002342>

Jakicic, J. M., Rogers, R. J., Davis, K. K., & Collins, K. A. (2021). Role of physical activity and exercise in treating patients with overweight and obesity. *Clinical Chemistry*, 67(1), 39–45. <https://doi.org/10.1093/clinchem/hvaa243>

Johnston, B. C., Kanters, S., Bandayrel, K., et al. (2014). Comparison of weight loss among named diet programs in overweight and obese adults: A meta-analysis. *JAMA*, 312(9), 923–933. <https://doi.org/10.1001/jama.2014.10397>

Lee, I. M., Shiroma, E. J., & Lobelo, F. (2022). Effect of physical activity on major non-communicable diseases worldwide: An overview of systematic reviews. *The Lancet Global Health*, 10(3), e304–e313. [https://doi.org/10.1016/S2214-109X\(21\)00510-1](https://doi.org/10.1016/S2214-109X(21)00510-1)

Wewege, M. A., Desai, I., Honey, C., Coorie, M., & Jones, M. D. (2022). Effects of resistance training on muscle strength and hypertrophy in overweight and obese individuals: A meta-analysis. *Obesity Reviews*, 23(1), e13486. <https://doi.org/10.1111/obr.13486>

العلوي عبد الحفيظ، ساغي عبد القادر و حمادي جمال (2023). علاقة بعض المؤشرات الجسمية (pmg, imc) بمؤشرات اللياقة البدنية المرتبطة بالصحة. *مجلة الابداع الرياضي*, 14(01)، 36-56.