

*Review Article***An Overview of Cross Fit and Aerobics Training for Fat Loss****Hitesh Kaushik^{1*}, Jai Parkash Bhukar²**¹Resrech Scholar, Department of Physical Education and Sports, Central University of Haryana²Professor, Department of Physical Education and Sports, Central University of Haryana

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Abstract

In the pursuit of optimal health and fitness, effective fat-reduction strategies are crucial. This systematic review and comprehensive analysis compare the impact of CrossFit Training and Traditional Aerobic Training on fat reduction. The study explores physiological mechanisms, metabolic adaptations, and overall efficacy, synthesizing existing research to provide evidence-based insights. CrossFit's high-intensity functional movements challenge conventional aerobic exercise, demonstrating consistent positive outcomes in reducing fat mass, increasing muscle mass, and improving health parameters. Traditional Aerobic Training exhibits specific benefits for cardiopulmonary function. The findings highlight the importance of tailored exercise programs, with both modalities offering distinct advantages. This study serves as a valuable resource for fitness enthusiasts and professionals, aiding informed decisions for effective fat reduction and a balanced lifestyle.

Keywords: CrossFit, Aerobic Training, Fat Reduction, Systematic Review, Obesity

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Introduction

In the pursuit of achieving and maintaining optimal health and fitness, the quest for an effective fat reduction strategy remains a central focus for individuals worldwide (Kumar, Dhull, et al., 2023; Nara et al., 2022; Sagra et al., 2022; Swift et al., 2021). As the fitness landscape continues to evolve, diverse training methodologies have emerged, each claiming superiority in fostering fat loss. Among these, CrossFit Training and Traditional Aerobic Training have gained prominence, captivating the attention of fitness enthusiasts and professionals alike (Deepak et al., 2022; Deepak & Yadav, 2016; Kumar, Nara, et al., 2023; Kumar & Dhull, 2023; Nara, 2018, 2020). This systematic review and comprehensive analysis aim to shed light on the optimal path to fat reduction by rigorously evaluating and comparing the impact of CrossFit Training and Traditional Aerobic Training. While traditional aerobic exercises have long been heralded as the cornerstone of fat loss programs, the emergence of CrossFit has introduced a dynamic and multifaceted approach, challenging conventional notions and garnering both fervent support and skepticism (Deepak Kumar, 2023; Dhull, n.d., 2017; Kumar, Nara, et al., 2023).

As we embark on this exploration, our objective is to provide a nuanced understanding of how these two distinct training modalities influence fat reduction. By synthesizing existing research, we aim to unravel the physiological mechanisms, metabolic adaptations, and overall efficacy associated with CrossFit Training and Traditional Aerobic Training (Mateo-Orcajada et al., 2022; Nara, 2018). In doing so, we hope to equip both fitness enthusiasts and professionals with evidence-based insights to make informed decisions about the most effective path to achieve the fat loss goals. Join us on this journey as we navigate through the intricacies of CrossFit and Traditional Aerobic Training, striving to uncover the optimal route to a leaner and healthier lifestyle. In recent years, the fitness

landscape has witnessed a paradigm shift, with individuals seeking not only physical prowess but also a holistic approach to wellness. The debate surrounding the most effective training methodology for fat reduction has thus become increasingly complex (Xiao, 2022). CrossFit, characterized by its high-intensity functional movements, contrasts sharply with the more traditional and steady-state nature of aerobic training. The diversity in these approaches prompts an in-depth examination to discern the physiological and metabolic implications, thereby illuminating the path to optimal fat reduction. Understanding the intricate interplay between exercise modalities and their impact on fat metabolism is crucial for tailoring fitness regimens to individual needs. CrossFit's emphasis on varied, high-intensity workouts aimed at functional fitness challenges the conventional belief in the efficacy of prolonged aerobic exercise for fat loss (Swift et al., 2021). This review endeavors to dissect the mechanisms underpinning fat reduction within these divergent training paradigms, addressing questions about the role of intensity, duration, and exercise modality in shaping metabolic outcomes (Butt et al., 2018; Dehghanzadeh Suraki et al., 2021).

Moreover, the study aims to bridge gaps in existing knowledge by critically assessing the available literature, considering factors such as participant demographics, training protocols, and study design. By doing so, we aspire to provide a comprehensive overview that transcends anecdotal claims, offering a foundation upon which practitioners can make informed decisions about the most suitable fat reduction strategy (Oliver-López et al., 2022; Schultz et al., 2016). As we unravel the layers of CrossFit Training and Traditional Aerobic Training, it is our aspiration that this systematic review not only adds clarity to the ongoing discourse but also serves as a valuable resource for both fitness enthusiasts and professionals. Together, let us navigate through the labyrinth of fitness methodologies, seeking to unveil the optimal path to fat reduction and fostering a deeper understanding of the intricate relationship between exercise, metabolism, and achieving a healthier, more balanced lifestyle.

Methodology

Objective Clarification

Define the primary objective of the systematic review: to compare and analyze the impact of CrossFit Training and Traditional Aerobic Training on fat reduction.

Search Strategy

Develop a comprehensive search strategy using appropriate keywords and Boolean operators. Utilize databases such as PubMed, Scopus, and Web of Science to identify relevant studies. Include search terms like "CrossFit," "Aerobic Exercise," "Fat Loss," and variations.

Inclusion and Exclusion Criteria

Clearly define inclusion criteria: studies published within the last decade, written in English, and reporting on the impact of CrossFit or Traditional Aerobic Training on fat reduction. Exclude studies with insufficient data, duplicate publications, or those not meeting predefined criteria.

Study Selection Process

Conduct a two-phase screening process: Initial screening based on titles and abstracts to identify potentially relevant studies. Full-text assessment of selected studies to determine final inclusion.

Data Extraction

Develop a standardized data extraction form encompassing key variables: participant demographics, intervention details, outcome measures, and study design. Perform data extraction independently by two reviewers to enhance accuracy.

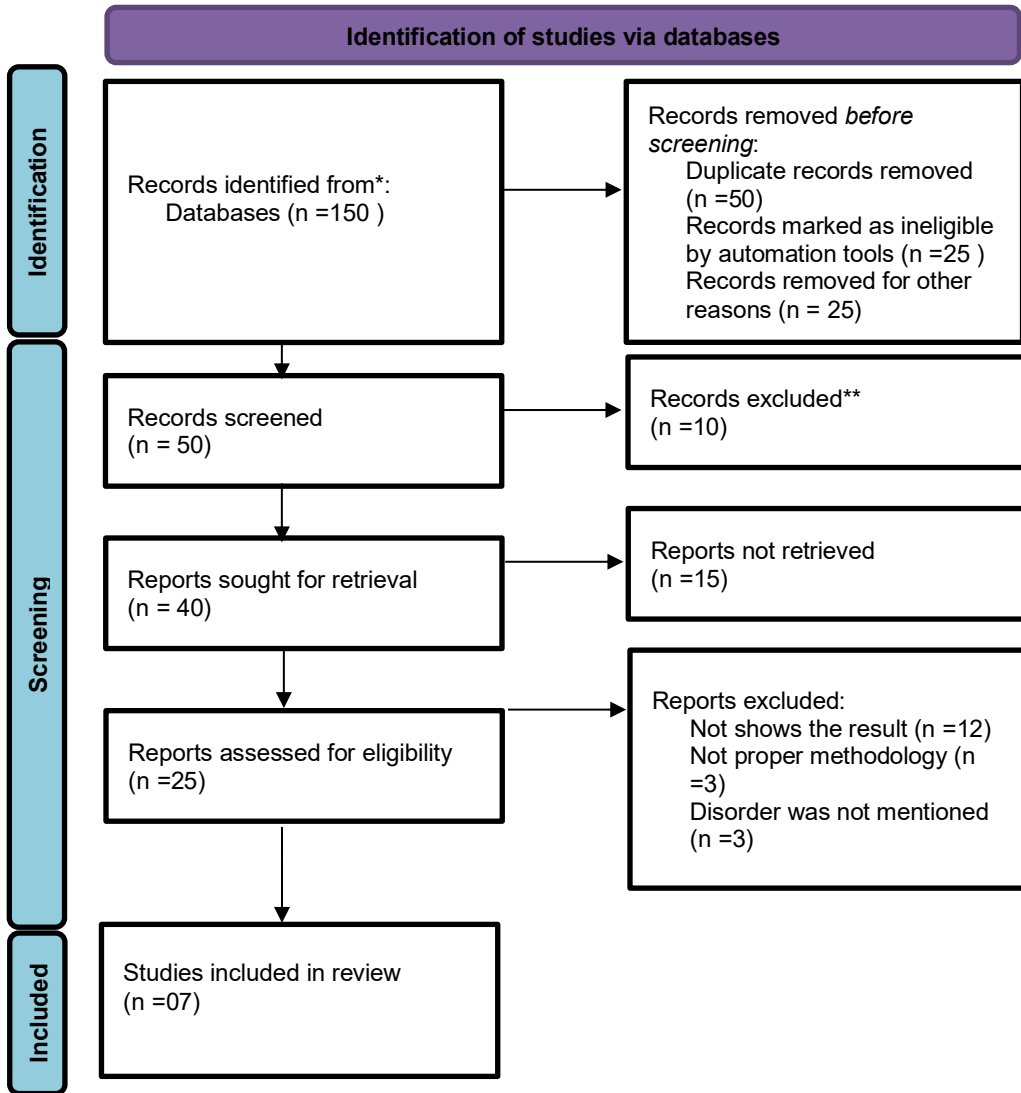


Fig. 1 A flowchart indicates the exploration of studies (Page et al., 2021)

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Table 1 shows the included studies

Study	n, Study Type, Gender	Training method	Outcome
Da Silva-Grigoletto,et. al.	26, experimental, male	10 weeks of cross training	Both Cross Training programs, organized in a grouped and alternated circuit, were effective in reducing fat mass, increasing muscle mass, and improving cardiorespiratory fitness in young adults.
(Butt et al., 2018)	8, Experimental study, male	28 days cross fit study	The research found that applying a 28-day Cross Fit training program and diet plans based on individual Basal Metabolic Rate (BMR) and Total Daily Energy Expenditure (TDEE) resulted in a positive significant change in variables such as body weight, percentage of fat ratio, percentage of total body water contents, and percentage of lean muscle mass in males aged 18 to 25 years
Dehghanzadeh Suraki et al., 2021	26, Experimental study ,male	CrossFit training for 4 weeks	CrossFit training for 4 weeks significantly improved weight, BMI, body fat percentage, resting heart rate, diastolic blood pressure, maximal oxygen uptake (VO2max), peak and average power, triglyceride (TG), low-density lipoprotein (LDL), and LDL-high-density lipoprotein (HDL) ratio in overweight men compared to the control group .
Oliver-López et al., 2022	62 research article, Systematic review, male and female	Cross fit training	CrossFit training drives several physiological changes, which can be influenced by the athlete's expertise. CrossFit training has a high physiological demand and is perceived as such by athletes
Schultz et al., 2016	6, Pilot study, male and female	Cross fit training	CrossFit training may have physiological benefits, as the study found statistically significant increases in lean mass and decreases in mean fat after an 8-week program.
Xiao, 2022	18, experimental, female	6 weeks aerobic training	Aerobic exercise was found to effectively improve cardiopulmonary function, and the benefits were directly proportional to the duration of practice.
Swift et al., 2021	45, Experimental , male and female	6-month aerobic training	Increasing nonexercised physical activity along with aerobic training may lead to a larger increase in fitness compared to aerobic training alone and has potential benefits for other health indicators.

Result

The diverse studies presented a comprehensive view of the impact of various training methods on individuals' health and fitness. CrossFit training, whether conducted for 4 weeks or 10 weeks, consistently demonstrated positive effects on body composition, cardiorespiratory fitness, and physiological markers. The studies emphasized the effectiveness of CrossFit in reducing fat mass, increasing muscle mass, and improving overall health parameters, supporting its potential as a valuable training approach. Furthermore, the research on CrossFit training, both in experimental and systematic review settings, highlighted its demanding nature and potential to induce significant physiological changes. The physiological benefits of CrossFit, including increased lean mass and reduced body fat, were evident across genders and various durations of training programs.

In contrast, studies focusing on specific aerobic training methods, such as 6 weeks of aerobic exercise or a 6-month aerobic training program, demonstrated positive outcomes in terms of cardiopulmonary function and overall fitness. Combining aerobic training with increased nonexercised physical activity was suggested as a strategy to enhance fitness gains. Overall, the findings from these studies contribute valuable insights into the effectiveness of different training methods, with CrossFit showing consistent positive results in diverse populations, and aerobic training demonstrating specific benefits for cardiopulmonary function. These conclusions underscore the importance of tailored exercise programs to meet individual health and fitness goals.

Discussion

The systematic review and comprehensive analysis conducted in this study aimed to compare and analyze the impact of CrossFit Training and Traditional Aerobic Training on fat reduction. The exploration delved into the physiological mechanisms, metabolic adaptations, and overall efficacy associated with these two distinct training modalities. The review considered a range of studies, each providing unique insights into the effects of CrossFit and traditional aerobic exercises on fat loss. CrossFit Training, characterized by high-intensity functional movements, emerged as a dynamic and multifaceted approach challenging conventional notions of fat loss through prolonged aerobic exercise. The studies included in the review consistently demonstrated positive effects of CrossFit on body composition, cardiorespiratory fitness, and physiological markers. Whether the training period was 4 weeks or 10 weeks, CrossFit exhibited effectiveness in reducing fat mass, increasing muscle mass, and improving overall health parameters. These findings suggest that CrossFit may serve as a valuable training approach for individuals seeking diverse and impactful outcomes in their fat reduction journey.

Furthermore, the physiological benefits of CrossFit were evident across genders and various durations of training programs. The demanding nature of CrossFit, as highlighted in both experimental and systematic review settings, underscores its potential to induce significant physiological changes. Increased lean mass and reduced body fat were consistent outcomes, reinforcing the notion that CrossFit can be a versatile and effective strategy for individuals with different fitness goals.

On the other hand, studies focusing on specific aerobic training methods, such as 6 weeks of aerobic exercise or a 6-month aerobic training program, also demonstrated positive outcomes, particularly in terms of cardiopulmonary function and overall fitness. Combining aerobic training with increased nonexercised physical activity was identified as a strategy to enhance fitness gains. These findings indicate that traditional aerobic training methods continue to offer specific benefits, especially in the realm of cardiopulmonary health.

Conclusion

In conclusion, the systematic review and comprehensive analysis shed light on the optimal path to fat reduction by comparing CrossFit Training and Traditional Aerobic Training. The findings suggest that both modalities can be effective, but they offer distinct advantages. CrossFit Training consistently demonstrated positive outcomes in terms of fat reduction, muscle gain, and overall physiological improvements. The versatility of CrossFit, its adaptability to different durations of training, and the ability to induce significant changes in body composition make it a compelling option for individuals seeking diverse and impactful fitness outcomes.

Traditional Aerobic Training, on the other hand, showcased specific benefits, particularly in improving cardiopulmonary function and overall fitness. The study supports the idea that combining aerobic training with increased nonexercised physical activity can enhance fitness gains, offering a strategic approach to fat

reduction. Ultimately, the conclusions emphasize the importance of tailoring exercise programs to individual needs and goals. The effectiveness of CrossFit and Traditional Aerobic Training may vary based on factors such as fitness levels, preferences, and specific health objectives. Fitness enthusiasts and professionals can use these evidence-based insights to make informed decisions about the most suitable fat reduction strategy, fostering a deeper understanding of the intricate relationship between exercise, metabolism, and achieving a healthier, more balanced lifestyle.

Implementation of the study

To implement the findings of the study comparing CrossFit Training and Traditional Aerobic Training on fat reduction, fitness professionals and enthusiasts can adopt a nuanced approach to exercise programming. Tailoring exercise routines to individual needs, preferences, and health goals is essential. For those seeking efficient and dynamic fat loss, integrating elements of CrossFit, characterized by high-intensity functional movements, could be beneficial. The study underscores the positive outcomes of CrossFit on fat reduction, muscle gain, and overall physiological improvements, making it a compelling choice for individuals with time constraints. However, recognizing the specific benefits of Traditional Aerobic Training in improving cardiopulmonary function is crucial.

Conflict of interest: The authors has no conflict of interest.

References

- Butt, Z. I., Mughal, A. W., Adnan, M. A. J., Butt, R. H., Fozia, T., & Sohail, M. U. (2018). Effect of cross fit exercises on weight loss of males in Lahore. *THE SPARK" A HEC Recognized Journal"*, 3, 38–55.
- Deepak Kumar, S. D. K. N. (2023). Effect of Plyometric Training on Body Composition of Kabaddi Players. *Atishay Kalit Volume 10 Issue 18 Pages 424-431*, 10(18), 424–431.
- Deepak, N. K., & Yadav, A. (2016). Contribution of sports and games for the promotion of health and sanitation in India. *Development*, 4, 32–36.
- Deepak, N. K., Yadav, A., & Sagre, S. (2022). Relationship between motor ability and anthropometric components of Kho-Kho and Kabaddi players.
- Dehghanzadeh Suraki, R., Mohsenzade, M., Tibana, R. A., & Ahmadizad, S. (2021). Effects of CrossFit training on lipid profiles, body composition and physical fitness in overweight men. *Sport Sciences for Health*, 1–8.
- Dhull, S. (n.d.). Study on the impact of pro kabaddi league on the socio economic status and psychological profile of the players of Haryana.
- Dhull, S. (2017). A Comparative study of Sports Achievement Motivation among National Level Athletes. *Int. J. Phy. Edu. Spo*, 2(12), 43–45.
- Kumar, D., & Dhull, K. N. S. (2023). A comprehensive analysis of circuit training: Assessing the benefits and drawbacks for diverse fitness goals. *Journal of Sports Science and Nutrition*, 4(1), 190–193.
- Kumar, D., Dhull, S., Nara, K., & Kumar, P. (2023). Determining the optimal duration of plyometric training for enhancing vertical jump performance: a systematic review and meta-analysis. *Health, Sport, Rehabilitation*, 9(3), 118–133.
- Kumar, D., Nara, K., & Dhull, S. (2023). The advantage and disadvantage of body composition on athletic success: A kabaddi player perspective. *Methods*, 1, 19.
- Mateo-Orcajada, A., González-Gálvez, N., Abenza-Cano, L., & Vaquero-Cristóbal, R. (2022). Differences in physical fitness and body composition between active and sedentary adolescents: a systematic review and meta-analysis. *Journal of Youth and Adolescence*, 51(2), 177–192.
- Nara, K. (2018). Level of depression among the male and female athletes of Maharshi Dayanand University, Rohtak. *International Journal of Physiology, Nutrition and Physical Education*, 3(1), 128–130.
- Nara, K. (2020). Quality of Sleep and Mood States as Predictors of Work Related Quality of Life among Sportspersons.

- Nara, K., Kumar, P., Rathee, R., & Kumar, J. (2022). The compatibility of running-based anaerobic sprint test and Wingate anaerobic test: a systematic review and meta-analysis. *Pedagogy of Physical Culture and Sports*, 26(2), 134–143.
- Oliver-López, A., García-Valverde, A., & Sabido, R. (2022). Summary of the evidence on responses and adaptations derived from CrossFit training. A systematic review. *Retos*, 46, 309–322.
- Page, M. J., Moher, D., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., & Brennan, S. E. (2021). PRISMA 2020 explanation and elaboration: updated guidance and exemplars for reporting systematic reviews. *Bmj*, 372.
- Sagre, S., Kumar, N., & Kumar, S. (2022). effects of circuit training on selected physical fitness components of kabaddi players. *Sports Science & Health Advances*, 1(01), 12–15.
- Schultz, J. T., Parker, A., Curtis, D., Daniel, J., & Huang, H.-H. (2016). The physiological and psychological benefits of CrossFit training—a pilot study. *International Journal of Exercise Science: Conference Proceedings*, 2(8), 14.
- Swift, D. L., Nevels, T. R., Solar, C. A., Brophy, P. M., Mcgee, J. E., Brewer, S. B., Clark, A., Houmard, J. A., & Lutes, L. D. (2021). The Effect of Aerobic Training and Increasing Nonexercise Physical Activity on Cardiometabolic Risk Factors. *Medicine and Science in Sports and Exercise*, 53(10), 2152–2163.
- Xiao, P. (2022). Cardiopulmonary resistance in obese individuals during different aerobic exercises. *Revista Brasileira de Medicina Do Esporte*, 28, 486–488.