

Original Article

The Effect of Aerobic Exercise and Vinyasa Yoga on Body Fat Reduction among Women Gym Members at G Sports Center in Padang City

Ira Chinta¹, Nurul Ihsan^{1*}, Sri Gustri Handayani¹, Khairuddin¹, Yovhandra Ockta¹

¹Department Sport Education, Universitas Negeri Padang, Indonesia

(Correspondence author's email, nurulihisan465@gmail.com)

ABSTRACT

Adult female exercise members who take part in activities at the G Sports Center still do not know the exercises that are effective in reducing fat in their bodies. The purpose of this study is to determine the significant difference in influence between the aerobic mix impact exercise method and whether vinyasa yoga has a significant effect on reducing body fat in female exercise members at the G Sports Center. This research is a quasi-experimental study. With a study design of two pretest-posttest groups. The population in this study was female exercise members with an age range of 19 to 45 years with a total of 30 women while the sampling technique in this study used a saturated census/sampling technique. So that the entire population was involved in this study. Data were obtained using an observation sheet by measuring fat using the Omron HBF 375 BIA Tool. This tool can be used in a flat place, resulting in accurate data. Data were analyzed descriptively using a t-test with a significant level of $\alpha = 0.05$. The results showed that there was an effect of mixed-impact aerobic exercise on body fat reduction ($p = 0.000$) and there was an effect of vinyasa yoga practice on body fat reduction ($p = 0.000$). There was a significant difference between mixed-impact aerobic exercise and vinyasa yoga practice on fat reduction ($p = 0.041$). From both treatments, mixed-impact aerobic exercise had a greater effect on fat reduction with an average body fat pretest of 31,727 and posttest 27,653 with a difference in average scores. -The average was 4,074. So aerobic mix impact exercise is recommended for someone, especially in women if you want to reduce body fat.

Keywords: Aerobic Exercise, Vinyasa Yoga, Gym, Body Fat.

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INTRODUCTION

Hypokinetic conditions or lack of physical activity^{1,2}. Increased access to modern technology and transportation without adequate physical activity has led to overweight problems³⁻⁵. Body health and weight control are no longer options, but rather a necessity in this modern era to maintain optimal performance in daily activities^{6,7,8}. Overweight, as a result of an imbalance between food intake and energy used by the body, becomes a serious problem^{9,10,11}. Data from WHO and the West Sumatra Health Office indicate an increase in overweight prevalence in Indonesia, including in West Sumatra¹². Excessive body fat not only

leads to overweight but also increases the risk of diseases such as heart disease, cancer, asthma, and diabetes^{13,14}. Especially in women over 40, aging can worsen fat distribution, making it difficult to maintain body shape and avoid fat accumulation, especially in the waist and abdomen area^{15,16}. Therefore, it is important to maintain a balance of body fat through the intake of healthy foods and regular physical activity.

Aerobic exercises, especially with low impact and high impact intensity, has been shown to be effective in lowering body fat percentage^{15,16}. Yoga, specifically Vinyasa Yoga, offers an interesting alternative with a focus on core strengthening and hormonal

regulation without the need for special equipment¹⁷. Aerobic exercises is a sports activity that involves energetic and creative movements with a fast rhythm, aimed at improving heart health and body stamina^{18,19}. Aerobic exercises is divided into three main types, namely low impact, high impact, and mix impact²⁰. Low impact aerobic exercises involves slow movements without jumps, suitable for all fitness levels²¹. On the other hand, high impact aerobic exercises involves jumping movements that require high strength and endurance, more suitable for those who are already trained²². While aerobic mix impact exercises is a combination of low and high impact movements, providing benefits to improve endurance, blood circulation, and heart condition²³. The focus of this study is aerobic mix impact exercises, which is a combination of low and high impact movements to get optimal benefits. Aerobic Mix Impact exercises, which are a combination of low impact and high impact aerobic exercises, offer a variety of movements with different intensities²⁴. This exercises activity also has advantages and disadvantages. Pros include improved heart health, increased stamina, and an interesting variety of movements^{25,26}. On the other hand, its deficiency involves the risk of injury, specifically to the joints, and can be inappropriate for individuals with certain health conditions²⁷.

Furthermore, Yoga Exercises, which combines breathing techniques, relaxation, meditation, and stretching exercises, has a number of types, such as Bikram Yoga, Prenatal Yoga, Vinyasa, Hatha Yoga, and others²⁸. Benefits include improved endocrine gland function, blood circulation, intelligence, and a more well-built posture^{29,30}. With the diversity of these types of exercises, individuals can choose according to their needs and comfort to improve overall health and fitness. Vinyasa Yoga is a Yoga technique that combines mental exercise with ancient Indian medicinal traditions³¹⁻³³. Benefits include improved physical fitness, comprehension, mental fitness, physical relaxation, body awareness development, and reduced muscle pain and tension³⁴. Some Vinyasa Yoga poses involve intense movements to train and strengthen the muscles of the stomach³⁵. The advantages of

Vinyasa Yoga include increased flexibility, strength, endurance, body awareness, breathing, and stress reduction³⁶. However, there are drawbacks such as the risk of injury, not suitable for beginners, requiring good physical condition, high intensity, and lack of emphasis on meditation³⁷. Therefore, before starting Vinyasa Yoga, it is important for individuals to understand their physical abilities and health and get proper guidance to prevent injuries and maximize their benefits. G Sports Center in Kota Padang provides a variety of fitness programs, including aerobic exercises and yoga, with the aim of helping adult women lose weight, gain health, and lose excess fat. By understanding the different effects of Mix Impact exercises and Vinyasa Yoga on body fat loss, it is hoped that it can provide a holistic view of the health and well-being of adult women who participate in these activities.

METHOD

This study aimed to assess the impact of two distinct exercise methods, namely aerobic mix impact and Vinyasa Yoga, on reducing body fat among female exercise members aged 19 to 45 years at G Sports Center Kota Padang. The quasi-experimental design involved two groups, each undergoing 16 sessions over 6 weeks, with three weekly training sessions. The BIA Omron HBF 375 body fat measuring device was utilized for pretest and posttest measurements. This tool must be used on a flat place so as to produce accurate data. The population of 30 healthy women with a body fat percentage exceeding 26% was sampled using the census method. Criteria included good health, absence of chronic injuries, and willingness to participate. Data analysis incorporated descriptive statistics, normality and homogeneity tests, paired sample t-test, and independent t-test. The BIA Omron HBF 375 device provided information on body weight, body fat percentage, subcutaneous fat percentage, visceral fat level, and body muscle mass. The results, analyzed through statistical techniques like mean, standard deviation, and t-tests, aimed to determine the effectiveness and comparative impact of the two exercise methods on body fat reduction.

RESULTS

Table 1. Aerobic Mix Impact Exercise

Aerobic Mix Impact Exercise	Treatment		n
	Pretest	Posttest	
Body Fat	31.727	27.653	15
SD	2.7175	2.2048	
Minimal	28.1	24.8	
Maximum	37.6	32.1	
Average	31.727	27.653	
Sum	15	15	

Based on the table 1 above, it can be seen that in the aerobic mix impact exercise group, the average before (pretest) doing aerobic mix impact exercises was 31.727 with a standard deviation of 2.7175. Before doing aerobic mix impact exercises, the lowest body fat was 28.1 and the highest body fat was 37.6 in female exercises members at G Sport Center Padang. While the average after (posttest) doing aerobic mix impact exercises was 27.653 with a standard deviation of 2.2048. After doing aerobic mix impact exercises, the lowest body fat was 24.8 and the highest body fat was 32.1 in female exercises members at G Sport Center Padang. The results showed that there was an average difference before and after doing aerobic mix impact exercises on female exercises members at G-Sport Center Padang with an average difference of 4.074.

Table 2. Vinyasa Yoga Exercise Group

Vinyasa Yoga Exercise	Treatment		n
	Pretest	Posttest	
Body Fat	31.780	29.387	15
SD	2.0446	2.2229	
Minimal	29.2	26.6	
Maximum	37.1		
Average	31.780	35.4	
Sum	29.387		

Based on table 2 above, it can be seen that in the vinyasa yoga exercise group, the average before (pretest) doing vinyasa yoga exercises is 31.780 with a standard deviation of 2.0446. Before doing vinyasa yoga exercises, the lowest body fat was obtained at 29.2 and the highest body fat at 37.1 in female exercises members at G Sport Center Padang. While the average after (posttest) doing vinyasa yoga exercises was 29.387 with a standard deviation of 2.2229. After doing vinyasa yoga exercises, the lowest body fat was obtained at 26.6 and the

highest body fat at 35.4 in female exercises members at G Sport Center Padang. The results showed that there was an average difference before and after doing vinyasa yoga in female exercises members at G-Sport Center Padang with an average difference of 2.393.

Table 3. Aerobic Mix Impact group normality test

	Shapiro-Wilk		
	Statistic	df	Sig.
Body Fat Before Aerobic Exercise Mix Impact	0.954	15	0.588
Body Fat After Aerobic Exercise Mix Impact	0.928	15	0.251

Based on the table 3 above, it can be seen that based on the results of the Shapiro-Wilk normality test in the aerobic mix impact exercises group with a total of 15 samples obtained, namely pretest 0.588 > 0.05 and posttest 0.251 > 0.05, it can be concluded that the normality test results show normal distributed data in the aerobic mix impact group of female exercises members at G Sport Center Padang.

Table 4. Vinyasa Yoga group normality test

	Shapiro-Wilk		
	Statistic	df	Sig.
Body Fat Before Vinyasa Yoga	0.895	15	0.081
Body Fat After Vinyasa Yoga	0.888	15	0.062

Based on the table 4 above, it can be seen that based on the results of the Shapiro-Wilk normality test in the vinyasa yoga exercises group with a total of 15 samples obtained, namely pretest 0.081 > 0.05 and posttest 0.062 > 0.05, it can be concluded that the normality test results show normal distributed data in the vinyasa yoga group of female exercises members at G Sport Center Padang.

Table 5. Homogeneity Test on Aerobic Mix Impact group

Levene Statistic	df1	df2	Sig.
0.730	1	28	0.400

Based on the table 5 above, it can be seen that the results of the homogeneity test in the aerobic mix impact exercises group found that a significant value of 0.400 > 0.05, so it can be concluded that the data has a homogeneous variant.

Table 6. Homogeneity Test on Aerobix Mix Impact group

Levene Statistic	df1	df2	Sig.
0.011	1	28	0.917

Based on the table 6 above, it can be seen that the results of the homogeneity test in the vinyasa yoga exercises group found that a significant value of $0.917 > 0.05$, so it can be concluded that the data has homogeneous variants.

Table 7. The Effect of Aerobic Mix Impact on Fat Loss

Aerobic Mix Impact	Mean	SD	95% confidence interval of the difference	
			Lower	Upper
Pretest	31.727	2.7175	3.6743	4.4724
Posttest	27.653	2.2048		

Based on the table above, it can be seen that the average value of body fat pretest is 31.727 and posttest is 27.653 with a difference in average value of 4.074. Based on the results of the paired sample t-test obtained t-count $21.893 > t$ -table 1.761 and it was also found that the significance value (p-value) $0.000 < 0.05$, it can be concluded that there is an effect of aerobic mix impact on reducing body fat in female exercises members at G-Sports Center Padang.

Table 8. The Effect of Vinyasa Yoga on Fat Loss

Yoga Vinyasa	Mean	SD	95% confidence interval of the difference	
			Lower	Upper
Pretest	31,780	2,0446	1,9471	2,8395
Posttest	29,387	2,2229		

Based on table 8 above, it can be seen that the average value of body fat pretest is 31.780 and posttest is 29.987 with a difference in average value of 2.393. Based on the results of the paired sample t-test obtained t-count $11.504 > t$ -table 1.761 and it was also found that the significance value (p-value) $0.000 < 0.05$, it can be concluded that there is an influence of vinyasa yoga on body fat reduction in female exercises members at G-Sports Center Padang.

Table 9. The difference in the effect of low impact aerobic exercise and Vinyasa yoga on body fat loss

Variable	Mean	Difference Mean	t	Sig
Aerobic Mix impact	27.653	-1.734	-2.144	0.041
Yoga Vinyasa	29.387			

Based on the table 9 above, it can be seen that based on the results of the independent t-test it was found that the average value of aerobic mix impact exercises was 27,653 and the average vinyasa yoga exercise was 29,387 with an average difference of -1,734. Based on the results of the independent t-test obtained t-count -2.144 with t-table 1.701. While the results of the study found that the significance (p-value) was $0.041 < 0.05$, it can be concluded that there is a significant difference between aerobic mix impact exercises and vinyasa yoga exercises on fat loss in female exercises members at G-Sports Center Padang.

DISCUSSION

With a regular frequency of exercise, both of these sports activities are proven to have a significant impact in reducing body fat levels, having a positive effect on endurance, and maintaining overall physical shape. This is in line with previous research that in addition to reducing body fat levels, aerobic mix impact exercise also has an impact on increasing a person's cardiovascular endurance³⁸. In addition, mix-impact aerobic gymnastics also involves a combination of low-impact and high-impact movements, providing a variety that keeps the workout interesting and effective. This corroborates previous research that aerobic mix impact gymnastics with varied movements is very significant in affecting a person's physical fitness²³.

Then, Yoga vinyasa, with its combination of movement, breathing, and meditation, not only helps to lose body fat, but also has a positive impact on body strength and mind balance. This statement is evidenced by previous research that calmness is very significant in influencing one's well-being³⁶. With a focus on flexibility and core strength, vinyasa yoga is an attractive option for those

looking for a combination of physical and spiritual exercise. In this study proves the comparison between the impact of aerobic mixed impact gymnastics and vinyasa yoga shows a real difference. Mixed impact aerobic exercise focuses more on burning calories and reducing fat through high-intensity dynamic movements³⁹. While vinyasa yoga offers a more holistic approach by combining body movements, breathing, and mind focus¹⁷. The difference in concepts and objectives of the two can give an idea that each type of exercise has its own unique benefits, depending on the goals and personal preferences of the trainee.

CONCLUSION

This study emphasizes the significant impact of mixed aerobic and vinyasa yoga exercises on body fat reduction among female sports members at G-Sports Center Padang. While the observed reduction in body fat wasn't very high, it confirmed the effectiveness of these two exercise methods as alternatives. Practical implications extend to developing more focused exercise programs for G-Sports Center and similar institutions, offering valuable insights into the diverse health benefits. By explicitly stating these implications, we aim to guide exercise participants and instructors in making choices aligned with their health goals, fostering a healthier and more informed community. G-Sports Center and similar institutions can leverage these findings to enhance existing fitness programs, reinforcing the importance of combining diverse exercise methods. Scientific support from this research encourages the incorporation of varied exercises for more people to enjoy proven health benefits. Overall, our research envisions inspiring a wider audience to embrace different types of exercise, contributing to the ongoing improvement of exercise programs and fostering a healthier community.

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CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest and that this research used only personal funds.

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