



IMPACTS OF PATHANJALI YOGA PRACTICES ON FLEXIBILITY AND BMI VARIABLES AMONG VOLLEYBALL PLAYERS

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Abstract: The aim of the study was to find out the impact of Pathanjali yoga practices on flexibility and BMI variables among volleyball players. Fifteen women volleyball players from St. Mary's College, Thoothukudi, aged between 18 and 23 years, participated as subjects. The participants underwent yoga training (Group-I) with the experimental group practicing Pathanjali yoga three times a week (Monday, Wednesday, and Friday) for eight weeks. These sessions were held in the evenings and Group II acted as control (CG) Pathanjali yoga practices served as the independent variable, while flexibility and BMI were the dependent variables. Flexibility was assessed using the sit-and-reach test (measured in cm), and BMI was calculated using the formula $BMI = \text{Weight (kg)} / \text{Height (m)}^2$ with height and weight measured using a wall-mounted stadiometer and a weighing machine, respectively. The study adopted a pre-test and post-test experimental design. Data were collected from participants both before and after the training period and analyzed using a paired sample t-test. The findings demonstrated a significant improvement in flexibility and BMI variables, attributed to the Pathanjali yoga practices among the volleyball players.

Index Terms – Volleyball, Patanjali Yoga Practices, flexibility, BMI

1. INTRODUCTION

Patanjali Yoga, based on the ancient Yoga Sutras by sage Patanjali, emphasizes self-discipline, ethical living, and mental focus for spiritual growth, mental clarity, and physical well-being. The eightfold path (Ashtanga Yoga) serves as its foundation. When applied to intercollegiate volleyball players, Patanjali Yoga can significantly enhance key motor fitness variables essential for their performance, such as agility, balance, flexibility, strength, coordination, power, and endurance. By integrating these practices into their training routines, players may experience improved physical capabilities and mental focus, potentially elevating their overall athletic performance. Flexibility is vital for volleyball players to perform dynamic movements like spiking, diving, and blocking. Yoga enhances joint mobility, increases range of motion, and relieves muscle tightness in areas like the hamstrings, hip flexors, and shoulders. Regular practice reduces the risk of strains and tears by preparing the body for sudden, intense movements, improving efficiency on the court. (Das, Patra, Biswas, & Mishra, 2022). In recent years, there has been growing interest among researchers and practitioners in examining the physical and physiological attributes of competitive volleyball athletes to enhance decision-making. Jump performance, for instance, has emerged as a strong indicator of an athlete's skill level. Likewise, evidence suggests that elite players tend to be taller compared to non-elite players. However, the ideal body composition for competitive volleyball players remains unclear. Given that body fat (BF) does not contribute to force production and instead increases body mass, it negatively impacts explosive performance. Explosive actions, such as quick accelerations and vertical jumps, are fundamental in volleyball, with teams performing approximately 160–190 jumps per set on average. Since BF has a significant inverse relationship with vertical jump performance (accounting for 57% of its variability, or 66% when combined with factors like sex and body weight), it is reasonable to

assume that elite volleyball players exhibit lower BF levels than their non-elite counterparts. This pattern aligns with findings in other sports, such as basketball, where body composition differentiates levels of competition.

Research Evidence Studies have shown that a structured yoga program over 8–12 weeks significantly enhances motor fitness variables like flexibility, balance, and power BMI among athletes. For volleyball players, this directly translates to improved jump height, quicker lateral movements, and greater control during rallies.as yoga directly influences the physical and neuromuscular systems essential for athletic performance.

2. METHODS

The aim of the study was to find out the impact of Pathanjali yoga practices on flexibility and BMI variables among volleyball players. Fifteen women volleyball players from Thoothukudi city, aged between 18 and 23 years, participated as subjects. The participants underwent yoga training (Group-I) with the experimental group practicing Pathanjali yoga three times a week (Monday, Wednesday, and Friday) for eight weeks. These sessions were held in the evenings and Group II acted as control (CG) Pathanjali yoga practices served as the independent variable, while flexibility and BMI were the dependent variables. Flexibility was assessed using the sit-and-reach test (measured in cm), and BMI was calculated using the formula $BMI = \text{Weight (kg)} / \text{Height (m)}^2$ with height and weight measured using a wall-mounted stadiometer and a weighing machine, respectively. The study adopted a pre-test and post-test experimental design. Data were collected from participants both before and after the training period and analyzed using a paired sample t-test. The findings demonstrated a significant improvement in flexibility and BMI variables, attributed to the Pathanjali yoga practices among the volleyball players.

3. RESULTS AND DISCUSSION

The data pertaining to the variables in this study were examined by using paired sample 't' test to find out the significant improvement for each variable separately in order to determine the difference and tested at 0.05 level of significance. The analysis of paired sample 't' test on a data obtained for flexibility and BMI of the pre and post test have been analysed and presented in Table I

TABLE- I
MEAN AND PAIRED SAMPLE 't' TEST OF EXPERIMENTAL ON SELECTED VARIABLES

Variables	Mean	Yoga practices Group I	Control Group II
Flexibility	Pre test Mean	21.40	20.40
	Post test Mean	22.57	20.53
	't' test	16.29*	1.47*
BMI	Pre test Mean	24.41	24.41
	Post test Mean	23.57	24.34
	't' test	9.83*	0.920*

Significant at 0.05 level of confidence (14) = 2.145

The obtained paired sample 't' ratio value on Flexibility and BMI variables is higher than the table value and Control group lower than the table value, it is understood that the impacts of pathanjali yoga practices made significant improvement on flexibility and BMI.

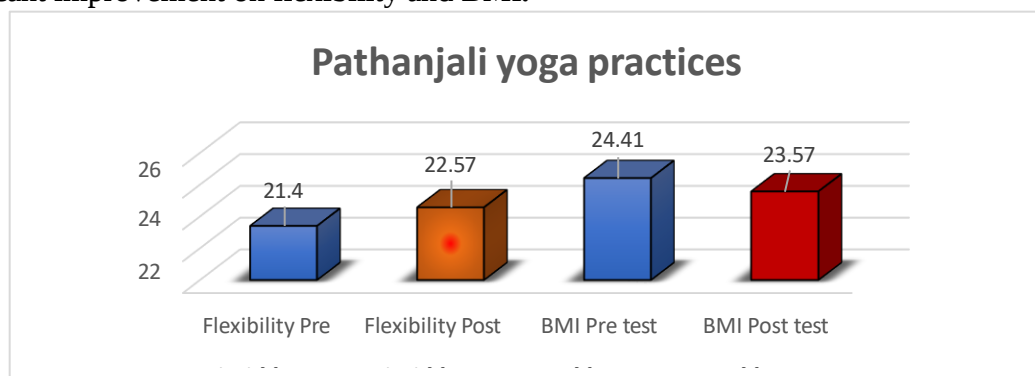


Fig-1: Bar diagram shows that the Patanjali yoga practices for pre-test and post-test on flexibility and BMI

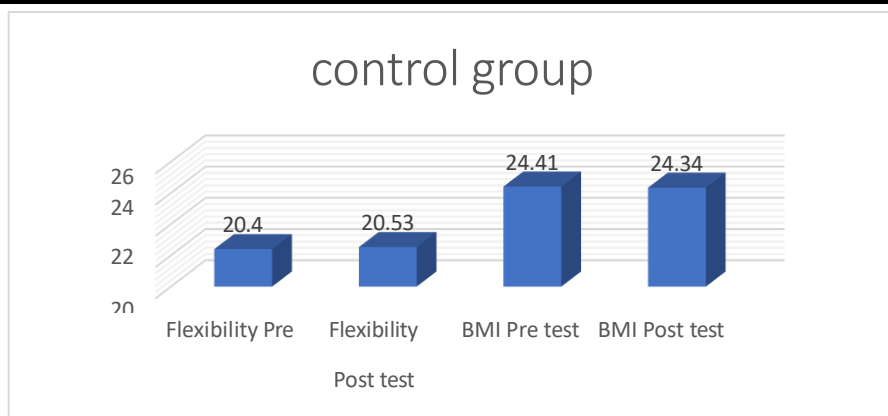


Fig-II: Bar diagram shows that control group of the pre-test and post-test on flexibility and BMI

4. CONCLUSION

The study's findings, within its limitations, indicate that practicing Patanjali yoga contributed to improvements in motor fitness variables among volleyball players. There was a consistent enhancement in the chosen fitness parameters for college-level female volleyball players over an eight-week period. Additionally, yoga had a positive impact on BMI and flexibility. Comparative results suggest that yoga practice resulted in more substantial gains in motor fitness compared to other methods. The study concluded that tailored yoga practices led to statistically significant improvements in flexibility for male volleyball players. Impact of Pathanjali yoga practices had significantly improves the BMI among men volleyball players .

5. REFERENCES

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