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The Impact of a Yogic Program on Low-Density Lipoprotein Levels in Trained Handball Players of Tamil Nadu

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Abstract The purpose of this study was to investigate the effect of a yogic package on low-density lipoprotein (LDL) among trained handball players. To achieve this, thirty trained handball players were selected from Sivaganga District, Tamil Nadu, India, during the year 2019. The subjects' ages ranged from 18 to 25 years. The selected players were divided into two equal groups of 15 each: an experimental group and a control group. The experimental group underwent a yogic package program for six weeks, while the control group did not participate in any training during the study. LDL was taken as the criterion variable and was measured using the LDL analyzer method (blood test). A pre-test was conducted before the training period, and a post-test was administered immediately after the six-week training. The statistical technique of the 't' ratio was used to analyze the pre-test and post-test data of both groups. The results revealed a significant difference in LDL levels due to the yogic package administered to the experimental group compared to the control group.

Keywords: Yogic practice, low-density lipoprotein, 't' ratio

Introduction

Sports training produces various physical fitness, physiological, and psychological benefits, enhancing an athlete's overall well-being and performance. Today, sports play a crucial role in various social institutions, including education, economics, arts, politics, law, mass communication, and international diplomacy (Alaguraja, K. et al., 2019) [4].

Yoga is universally beneficial for people of all ages and is defined as the practice of silencing the mind's activities to realize the intrinsic nature of the Supreme Being (Alaguraja, K. et al., 2017) [1]. In sports, physical education plays an essential role, as it enhances performance and effectiveness (Alaguraja, K. et al., 2018) [2].

Yoga, a system of exercises, helps the mind and body achieve tranquility and spiritual insight (Alaguraja, K. et al., 2019) [5]. Practicing yoga requires engaging both the body and mind (Alaguraja, K. et al., 2019) [8]. One can begin yoga at any time, either through meditation or pranayama without performing asanas (Alaguraja, K. et al., 2019) [3].

Today, there is an increasing emphasis on looking smarter, feeling better, and living longer. Scientific evidence supports the importance of fitness and exercise in achieving these goals (Alaguraja, K. et al., 2019) [7]. When an individual is conscious and engaged with their intellect and senses, they may seem awake and aware, but their mind can be less receptive and more critical (Yoga, P. et al., 2019) [10].

Yoga is a practical aid rather than a religion, and its techniques can be practiced by individuals from all backgrounds, including Buddhists, Jews, Christians, Muslims, Hindus, and atheists (Selvakumar, K. et al., 2019) [9].

Research Methodology

Selection of Subjects

The purpose of this study was to analyze the effect of yogic training on LDL levels among trained handball players. To achieve this, thirty trained handball players were selected randomly. The subjects' ages ranged from 18 to 25 years.

Selection of Variables

- **Independent Variable:** Yogic Practice
- **Dependent Variable:** Low-Density Lipoprotein (LDL)

Experimental Design and Implementation

The selected subjects were divided into two equal groups of fifteen:

- **Experimental Group:** Underwent yogic training six days per week for six weeks.
- **Control Group:** Did not undergo any special training beyond their regular physical activities.

LDL levels were measured using an LDL analyzer method (blood test) before and immediately after the training program.

Statistical Technique

The ‘t’ test was used to analyze significant differences, if any, between the groups.

Level of Significance

A 0.05 level of confidence was set as the threshold for significance.

Analysis of the Data

The significance of the differences among the means of the experimental group was determined using the dependent ‘t’ test at the 0.05 level of confidence.

Table 1: Analysis of ‘t’ Ratio for the Pre- and Post-Tests of Experimental and Control Groups on LDL (mg/dL)

Variables	Group	Pre-Test Mean	Post-Test Mean	Pre-Test SD	Post-Test SD	df	‘t’ Ratio
LDL	Control	142.93	143.00	4.33	3.62	14	0.21
LDL	Experimental	142.26	126.46	4.00	1.92	14	15.01*

*Significant at 0.05 level of confidence.

The results indicate that the control group’s pre-test and post-test mean values for LDL were 142.93 and 143.00, respectively, with a ‘t’ ratio of 0.21, which is statistically insignificant. However, the experimental group’s pre-test and post-test mean values were 142.26 and 126.46, respectively, with a ‘t’ ratio of 15.01, which is statistically significant.

Discussion on Findings

The findings suggest that the experimental group that underwent yogic training demonstrated a significant reduction in LDL levels compared to the control group. This improvement highlights the positive impact of yogic training on biochemical parameters.

Conclusion

Based on the results obtained, the following conclusions are drawn:

1. There was a significant difference between the experimental and control groups in LDL levels after the training period.
2. There was a notable improvement in LDL levels in the experimental group due to six weeks of yogic training.

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