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Influence Of Yoga and Kalari Practices: A Holistic Approach to Improving Dietary Habits

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ABSTRACT

This study evaluates the effects of yoga and Kalari practices on the dietary habits of adolescent girls. A total of 90 participants were randomly assigned to three groups: Yoga Group (YG), Kalari Group (KG), and Control Group (CG), each consisting of 30 participants. Over a 24-week period, the Yoga Group engaged in a program involving asanas, pranayama, and Yoga Nidra, while the Kalari Group participated in traditional Kalari movements such as Maipayattu. The Control Group maintained their regular daily activities with no intervention. The study aimed to assess the impact of these interventions on dietary habits, comparing the experimental groups with the control group. Results indicated significant improvements in the dietary habits of both the Yoga and Kalari groups, with no significant change in the Control Group. A post-intervention analysis revealed that both yoga and Kalari practices contributed to healthier dietary behaviors, with the Kalari group showing slightly higher improvements than the Yoga group. This study addresses the gap in research regarding the comparative effects of yoga and Kalari on adolescent dietary habits and provides evidence supporting the integration of these practices into health promotion programs. Findings suggest that both interventions can effectively foster better dietary habits, contributing to overall adolescent well-being.

Key Words: Yoga, Kalari and Dietary Habits, Adolescents Girls

1. INTRODUCTION

Dietary habits play a crucial role in the overall health and well-being of adolescents, influencing their growth, development, and susceptibility to lifestyle diseases. As adolescence is a critical period for the formation of lifelong habits, promoting healthy dietary choices during this time is essential. However, poor dietary habits, such as high intake of processed foods and low consumption of fruits and vegetables, are increasingly common among adolescent populations worldwide. In response to this growing concern, various health interventions, including physical activities such as yoga and traditional practices like Kalari, have been explored for their potential to improve dietary behaviors. Yoga, known for promoting mindfulness, relaxation, and self-awareness, has been linked to healthier eating patterns by fostering a greater connection between mind and body. Similarly, Kalari, a traditional martial art, emphasizes discipline and body awareness, which may contribute to improved self-regulation and healthier lifestyle choices. While these practices have been studied individually in various contexts, their combined impact on dietary habits, particularly among adolescent girls, remains underexplored.

Existing literature provides valuable insights into the benefits of both yoga and martial arts on physical and psychological well-being, but studies specifically focusing on their influence on adolescent dietary habits are limited. Research has shown that yoga can reduce stress, increase mindfulness, and improve self-regulation, leading to healthier eating patterns (O'Reilly et al., 2014). Similarly, martial arts like Kalari have been found to enhance physical fitness, self-discipline, and body awareness, which may positively affect eating behaviors (Trulson, 1986). However, there is a lack of comprehensive studies investigating the comparative effects of

these practices on the dietary habits of adolescents, especially in the Indian context. This research gap highlights the need for a study that directly compares the effects of yoga and Kalari on adolescent dietary habits, particularly in a culturally relevant setting.

This study aims to address this gap by evaluating the impact of a 24-week yoga and Kalari intervention on the dietary habits of adolescent girls. Given the increasing prevalence of poor dietary habits and lifestyle diseases in this population, understanding the effectiveness of these traditional practices can provide valuable insights for health promotion programs. Moreover, this research could contribute to the development of more effective, holistic interventions that integrate physical activity, mindfulness, and discipline to foster healthier eating behaviours among adolescents. The findings could inform policies and programs aimed at improving adolescent nutrition and overall well-being, making this study a timely and relevant contribution to the field of health promotion.

1.1 Statement of the Problem

The purpose of the study was to find out the "effect of yoga and Kalari practices on dietary habits among adolescents girls.

1.2 Objectives of the Study

1. To evaluate the effect of yoga and Kalari practices on dietary habits among adolescent girls.
2. To determine the differences in dietary habits between the experimental and control groups after the training program.
3.

2. MATERIALS AND METHODS

2.1 Selection of Participants

A total of 120 adolescent girls were screened, and 90 participants were selected based on the inclusion criteria. These selected participants were randomly assigned to three groups: the Yoga Group (YG), consisting of 30 participants; the Kalari Group (KG), with 30 participants; and the Control Group (CG), which also included 30 participants.

2.2 Inclusion Criteria

1. Adolescent girls aged 13-18 years.
2. Physically healthy and cleared by a physician for physical activity.
3. : Participants with irregular eating patterns or poor dietary habits identified during the screening.
4. Participants and their guardians provided informed consent for the study and committed to attending all sessions.

2.3 Exclusion Criteria

1. Participants with any chronic illnesses, injuries, or physical limitations that could interfere with yoga or Kalari practice.
2. Girls with prior extensive experience in yoga or Kalari practices.
3. Participants currently on medications that could affect dietary patterns or physical performance.
4. Those unable to commit to the 24-week intervention schedule due to other obligations.
5. Participants with strict dietary restrictions unrelated to the study objectives (e.g., medical or religious).

2.4 Selection of Variables and Questionnaire

The criterion variable selected was dietary habits, which were measured using the Dietary Habits and Lifestyle Assessment for Adolescent Girls.

2.5 Training Intervention

The study involved a 24-week intervention to evaluate the influence of yoga and Kalari practices on dietary habits. The Yoga Group participated in a structured program including loosening exercises, asanas (such as Tadasana and Trikonasana), pranayama techniques like Kapalbhati, and relaxation practices like Yoga Nidra, emphasizing mindfulness and self-awareness. The Kalari Group engaged in traditional Kalari training focusing on Maipayattu, a series of dynamic movements and postures designed to enhance discipline and physical agility. The Control Group received no intervention and continued their regular daily activities. These tailored programs aimed to explore the holistic effects of physical and mental practices on dietary behavior.

2.6 Statistical Techniques

Descriptive statistics were used to summarize the data. Analysis of Covariance (ANCOVA) was applied to determine significant differences between the groups, with Scheffe's post-hoc test used to identify pairwise differences. The significance level was set at $p<0.01$.

4. RESULTS OF THE STUDY

Table 1: Descriptive Statistics and Paired 't' Test Value on Stress, Anxiety and Stress Level of Different Pranayama Training Group and Control Group

Variables	Group	Pre Test	Post Test	F Ratio	P value
Dietary Habits	Yoga Group	30.52	19.52	178.72*	0.00
	Kalari Group	29.90	18.21		
	CG	30.19	30.16		

Significant at 0.01 level

The study revealed significant improvements in dietary habits for both the Yoga and Kalari groups over 24 weeks, while the control group showed no notable changes. The mean dietary habits score in the Yoga group decreased from 30.52 to 19.52, and in the Kalari group, it reduced from 29.90 to 18.21, indicating substantial improvements in dietary behavior. The F-ratio of 178.72 and a p-value of 0.00 ($p < 0.01$) confirm these changes were statistically significant. Conversely, the control group exhibited no significant difference, with mean scores remaining nearly unchanged (30.19 pre-test to 30.16 post-test).

Figure: 1: Illustrates Pre-Test and Post-Test Test Mean Values of Three groups on Dietary Habits

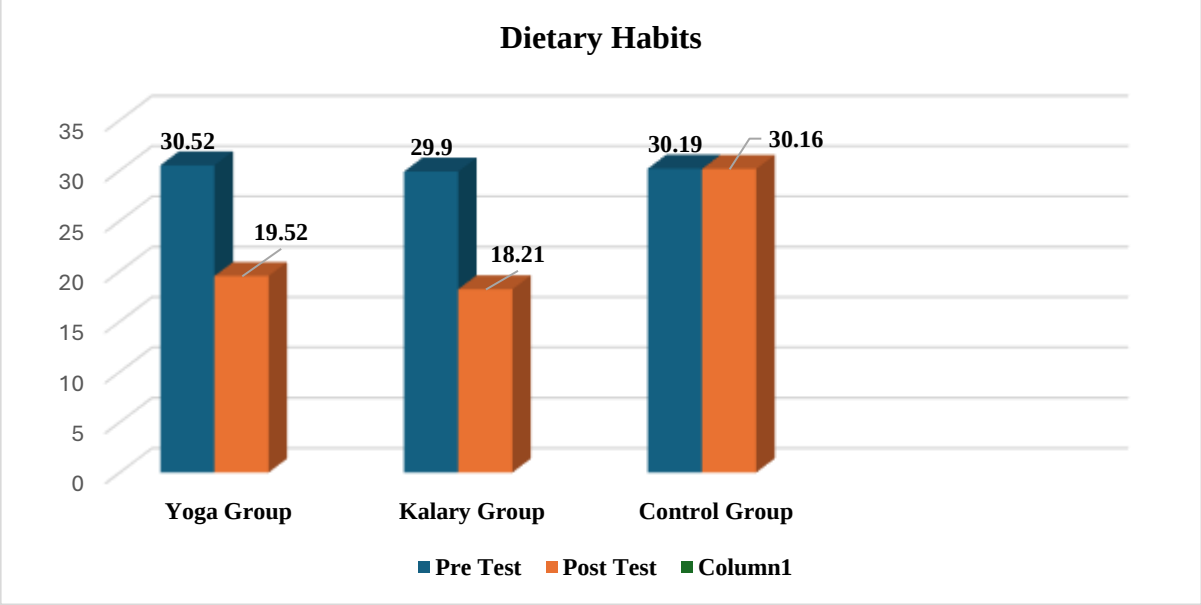

Table 2: Effectiveness of Intervention on Dietary Habits among Adolescent School Obese Girls for Yoga, Kalari and Control Group

Group	Effect Score on Dietary Habits		
	Mean	SD	Paired t test and p value
Yoga group	11.00	4.22	t=14.517 p=0.000 ***
Kalari group	11.69	1.91	t= 32.949 p= 0.000 ***
Control group	0.03	1.09	t= 0.162 p= 0.872 (N.S)
F test value and p value	F= 176.69, p= 0.000 ***		
Post hoc test (Scheffe test)			
Yoga vs Kalari	p= 0.626 (N.S)		
Yoga vs control	p= 0.000 ***		
Kalari vs. control	p= 0.000***		

Note: *** - p<0.001 Level of Significant, N.S – Not Significant

The paired t-test results demonstrate significant improvements in dietary habits for both the Yoga and Kalari groups after 24 weeks of intervention. The Yoga group showed a mean effect score of 11.00 with an SD of 4.22 (t=14.517,p=0.000t = 14.517, p = 0.000t=14.517,p=0.000), while the Kalari group had a mean effect score of

11.69 with an SD of 1.91 (t=32.949,p=0.000t = 32.949, p = 0.000t=32.949,p=0.000). These results confirm highly significant changes in dietary habits within both groups. In contrast, the Control group showed no meaningful change, with a mean effect score of 0.03 and an SD of 1.09 (t=0.162,p=0.872t = 0.162, p = 0.872t=0.162,p=0.872).
The F-test value (F=176.69,p=0.00) indicates significant differences in dietary habits among the three groups. Post hoc analysis using the Scheffe test showed no significant difference between the Yoga and Kalari groups (p=0.626), suggesting similar effectiveness in improving dietary habits. However, both the Yoga and Kalari groups were significantly better than the Control group (p=0.00 for both comparisons).

4. Discussion on Findings

The findings of this study indicate significant improvements in dietary habits following 24 weeks of yoga and Kalari practice, aligning with prior research highlighting the positive impact of structured physical and mental training on lifestyle behaviors. Yoga's effectiveness in enhancing dietary habits can be attributed to its focus on mindfulness, self-awareness, and stress management. Studies have demonstrated that mindfulness practices, including yoga, help individuals develop better control over eating habits and reduce unhealthy food choices, as reported by Gard et al. (2014). This supports the observed significant change in the Yoga group, with a mean reduction in dietary habits score from pre-test to post-test.
Similarly, Kalari, a traditional Indian martial art, fosters discipline and routine, which may contribute to better dietary practices. Physical activities like Kalari are known to improve self-regulation and awareness of bodily needs, as indicated by research on martial arts' role in promoting healthier lifestyle choices (Trulson, 1986). The slightly higher mean effect score in the Kalari group (11.69) compared to the Yoga group (11.00) suggests that its rigorous physical demands might further enhance dietary behaviors.
The control group, showing no significant change, underscores the necessity of structured interventions for improving dietary habits. The findings also highlight the comparable effectiveness of yoga and Kalari, aligning with studies by Barlow et al. (2020) emphasizing the importance of integrating cultural practices and mindfulness in health interventions.

5. CONCLUSION

The study concluded the significant impact of yoga and Kalari practices on improving dietary habits over 24 weeks. Both interventions demonstrated comparable effectiveness, with no significant differences between them, though the Kalari group showed a slightly higher mean effect score. In contrast, the control group exhibited no significant changes, underscoring the importance of structured interventions in enhancing dietary behavior. These findings align with previous studies emphasizing the role of mindfulness, discipline, and physical activity in fostering healthier lifestyle choices. The results provide a strong foundation for incorporating yoga and Kalari into health-promotion programs to encourage positive dietary habits and overall well-being.

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