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IMPACT OF VARIED FREQUENCIES OF AEROBIC DANCE TRAINING ON LIPID PROFILES FOR THE STUDENTS AT COLLEGE LEVEL

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Abstract:

The purpose of this study was to determine the effectiveness of various frequencies of aerobic dance training effects on the lipid profiles response. A total of 74 students at College level who have been studying for 1-3 years volunteered for the study from Salem, Tamilnadu were selected. The present study is an experimental one and to test the effects of varied intervening strategies, the care was taken in distributing the samples to each experimental group. A sample size of 60 was randomly selected out of 74 for the study in the age group between 18 and 25 years (21 ± 2.14). Subjects satisfied with the inclusion criteria were recruited for the study. After the initial screening for selection criteria, the experimental group was divided into three subgroups such as medium frequency aerobic dance training, (MFADT), high frequency aerobic dance training (HFADT), and control group do not exposed to any experimental training other than their regular daily activities. A mixed ANOVA and post-hoc test was administered. Aerobic dance training is effective in bringing positive changes to the lipid profiles.

Key Words: Aerobic Dance Training, Lipid Profiles, University Students.

Introduction:

The word "aerobic dance" refers to a type of physical exercise that has its origins in the West. Even though it's an excellent form of exercise, it's still not widely known in India (1). This is due to the fact that aerobic dancing classes need to be taught by an instructor, and there aren't many of them in India (2,7). If you would rather not hire instructors, you can purchase a video tape that contains the entire education programme. Using a video cassette or even a tape recorder, one can practise aerobic dancing at home (3,4). A vital warm-up precedes the aerobic exercise session to prime the muscles for action. This is important because a thorough warm-up regimen will help to avoid injuries (3,5). Attending an aerobic dancing class or formal jazzercise will ensure that the person gets a good workout. Many popular dance moves are intense enough to provide aerobic benefits. Lipid profiles are affected in different ways by different frequencies (6).

Methodology:

Selection of Subjects:

A total of 74 students at College level who have been studying for 1-3 years volunteered for the study from Salem, Tamilnadu were selected. The present study is an experimental one and to test the effects of varied intervening strategies, the care was taken in distributing the samples to each experimental group. A sample size of 60 was randomly selected out of 74 for the study in the age group between 18 and 25 years (21 ± 2.14). Subjects satisfied with the inclusion criteria were recruited for the study.

Inclusion Criteria:

- The students between 18 to 25 age groups only were included.
- Students were given a form of consent to know the willingness and included to participate in this investigation.
- Lipid profiles was the only outcome of interest.

Exclusion Criteria:

- Those who had personal problems as per their statement in their registration were excluded.
- Subjects suffering from asthma, eye sight problems and anxiety problem were excluded from the study.
- Studies which did not provide lipid profiles data were excluded.

Experimental Design:

After the initial screening for selection criteria, the experimental group was divided into three subgroups such as medium frequency aerobic dance training, (MFADT), high frequency aerobic dance training (HFADT), and control group do not exposed to any experimental training other than their regular daily activities.

Statistical Analysis:

A mixed ANOVA and post-hoc test was administered. To test the obtained results on variables, level of significance 0.05 was chosen and considered as sufficient for the study.

Results:

Table 1: ANCOVA on HDL

Source	Sum of Squares	df	Mean Squares	Obtained 'F'Ratio	Sig.
Test	43.900	1	43.900	4.80*	.004
Test*Group	18.267	2	9.133	25.60*	.001
Error	20.333	57	0.356	--	--

* Significant at 0.05 level. The table value required for significance at 0.05 level with df 2 and 57 is 3.15.

The ANCOVA revealed that the main effect of test in HDL was significant ($F(1, 57) = 4.80$, $p < .001$) in the predicted direction. There was a significant interaction between HDL and training groups ($F(2, 57) = 25.60$, $p < .001$). The Sig. column reveals probabilities for both the main effect (.004) and the interaction (.001) are both less than 0.05, so we can conclude that these are both significant effects. Mixed ANOVA is an omnibus test statistic and cannot tell which specific groups within each factor were significantly different from each other. Hence simple main effect and post hoc test was computed.

Table 2: Scheffe's test of group within post test for HDL

Adjusted Post-Test Means			Mean Difference	Required CI
MFADT	HFADT	Control Group		
48.67	53.14	---	4.47*	2.34
48.67	---	43.79	4.88*	
---	53.14	43.79	9.35*	

***** Significant at 0.05 level

The mean differences for HDL between MFADT and HFADT, MFADT and CG, HFADT and CG were 4.47, 4.88 and 9.35 respectively which was greater than the CI value 2.34. Hence there exists significant difference between the groups.

Figure 1: Profile plots on HDL

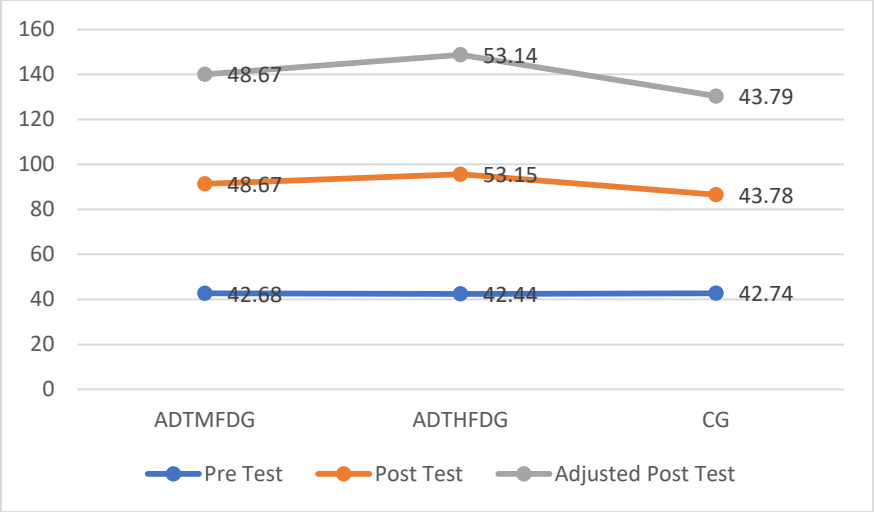


Table 3: ANCOVA on LDL

Source	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio	Sig.
Test	36.77	1	36.77	4.81*	.002
Test*Group	15.26	2	7.63	6.13*	.002
Error	52.23	42	1.24	--	--

* Significant at 0.05 level. The table value required for significance at 0.05 level with df 2 and 57 is 3.15.

The ANCOVA revealed that the main effect of test in LDL was significant ($F(1, 57) = 4.81$, $p < .001$) in the predicted direction. There was a significant interaction between LDL and training groups ($F(2, 57) = 6.13$, $p < .001$). The Sig. column reveals probabilities for both the main effect (.002) and the interaction (.002) are both less than 0.05, so we can conclude that these are both significant effects. Mixed ANOVA is an omnibus test statistic and cannot tell which specific groups within each factor were significantly different from each other. Hence simple main effect and post hoc test was computed.

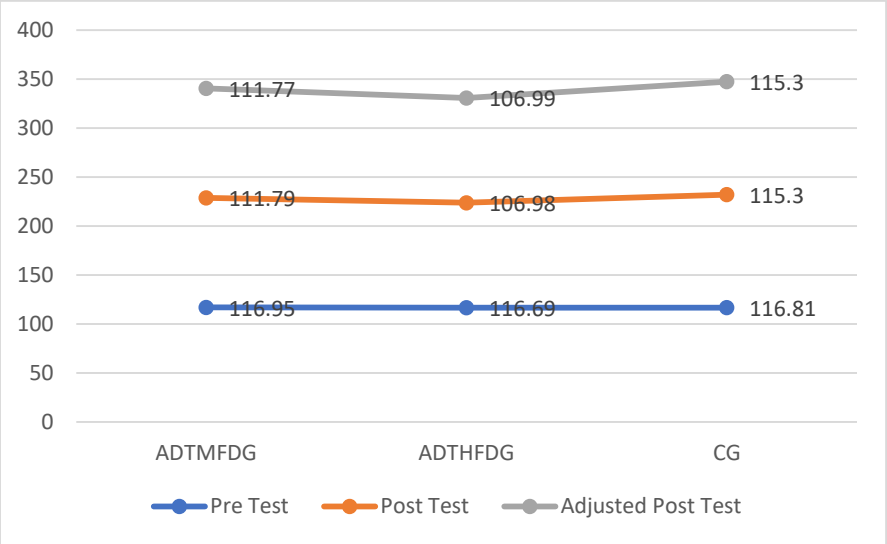
Table 4: Scheffe's test of group within post test for LDL

Adjusted Post-Test Means			Mean Difference	Required CI
MFADT	HFADT	Control Group		
111.77	106.99	---	4.78*	3.13
111.77	---	115.30	3.53*	
---	106.99	115.30	8.31*	

***** Significant at 0.05level

The mean differences for LDL between MFADT and HFADT, MFADT and CG, HFADT and CG were 4.78, 3.53 and 8.31 respectively which was greater than the CI value 3.13. Hence there exists significant difference between the groups.

Figure 2: Profile Plots on LDL



Discussion on Findings:

This study set out to ascertain how well different aerobic dance training frequencies affected the response of the lipid profiles. After 12 weeks, there was a statistically significant increase in the mean values of the lipid profiles in test 2 (post test) for groups I and II when compared to the initial value. With CG, there is a significant difference between high frequency and medium frequency aerobic dance training ($P < 0.05$). This study verified that alterations in lipid profiles were made possible by the aerobic dance training. This suggests that the experimental group's physical activity increased as a result of the intervention, improving their healthy behaviour. This is significant because the student body can adopt active lifestyles as a counterbalance to sedentary and unhealthy lifestyles through intervention. This result is in line with other research findings (3,7).

Conclusion:

- Aerobic dance training is effective in bringing positive changes to the lipid profiles.
- The time and the duration of the program have an influence on the program effectiveness, and the higher the duration and time, the higher the effect.

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