Effect of Caffeine on the Body Composition of the Male Players of LNIPE

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Abstract

Research suggests that caffeine may effect on Body Composition and fat percentage of the male Players of LNIPE. This study examined the effect of caffeine on the body composition and it helps to reduce the body weight and decreasing the fat percentage of the male players of LNIPE. For this I had opted the level of significance 0.05. Collegiate athletes (n = 05) completed 2 study visits, Pre-test and post-test. After pre-test the Participants were provided the caffeine (80-140mg) with hot water in the morning session before starting their physical activities, reported average intake of one cup per day. It has been continued for 2 weeks without any gap in it. After the 2 weeks schedule the participants again called for the Post-test. And again we had tested the same things as we had done in Pre-test, like- their Height, Weight and Age and based on this the test was held and result was accordingly. On the day of testing, participants were not given the caffeine. However, 100% of the participants were reduced their weight and fat percentage with the caffeine. So the conclusion is that if we provide the caffeine with hot water without sugar in early morning before starting the physical activities, so it will be 100% beneficial to reduce the fat percentage and body weight and it helps to maintain the good Body Composition. So the Hypothesis is rejected, but it may be concluded that Caffeine is effected to reduce the fat percentage and Body Composition.

Introduction

Health, as defined by the World Health Organization (WHO), is "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. This definition has been subject to controversy, as it may have limited value for implementation. Health may be defined as the ability to adapt and manage physical, mental and social challenges throughout life.[1] According to the World Health Organization, the main determinants of health include the social and economic environment, the physical environment and the person's individual characteristics and behaviors. Exercises may play a therapeutic role in addressing a number of psychological disorders. Studies also show that exercise has a positive influence on depression. Physical self-worth and physical self-perception, including body image, has been linked to improved self-esteem. The evidence relating to health benefits of physical activity predominantly focuses on intra-personal factors such as physiological, cognitive and affective benefits, however, that does not exclude the social and inter-personal benefits of sport and physical activity which can also produce positive health effects in individuals and communities. Body composition is the proportion of fat and fat-free mass in your body. A healthy body composition is one that includes a lower percentage of body fat and a higher percentage of fat-free mass, which includes muscle, bones, and organs. Body composition is measured to assess your health and fitness level.[2] The main ingredient in coffee is caffeine - a

compound that naturally derives from over 60 different plant sources, including coffee beans, tea leaves, cacao seeds and cola nut seeds. Caffeine acts as a stimulant by activating the central nervous system. It can combat tiredness and improve concentration and focus. Caffeine is a powerful substance that can improve physical and mental performance. A single dose can significantly improve exercise performance, focus and fat burning. Athletes have long lauded caffeine for better workout performance, but experts say even the average joe may benefit from it. Caffeine functions as a stimulant, which means you'll experience an increased heart rate, more blood flow to your body, and an extra dose of oxygen to your muscles when you consume it.[3] This is the fight-or-flight hormone, which prepares your body for intense physical exertion. Caffeine breaks down body fat, making free fatty acids available as fuel.

Methods

The primary purpose of this study was to examine the effects of a moderate dose of caffeine (80-140mg) with hot water without sugar before physical exercises.[4] Our primary hypothesis was that rather it should be accept or reject after the whole procedure. For this we had opted the level of significance 0.05 (decided after examining the many reviews related this topic). And after deciding this all we had selected the 5 students of our LNIPE, those who are tensed to reduce their fat, and for this we had done the survey to all the houses for finding the better subjects Participants were selected randomly. Five male collegiate players (age-20 ± 3 yr; wt-70 ± 10 kg; ht-180 ± 10 cm; fat%-10 ± 7;) completed this study. Height was measured (without shoes) to the nearest 0.1 cm using a stadiometer,[5] Weight was measured to the nearest 0.1 kg using a digital platform scale. And after finding our proper subjects we had done the Pre-test for their Fat percentage of particular 5 athletes. And after it the study examined the impact of a moderate dose of caffeine (80-140mg .1 cup per day to per person) at early morning before starting the workout on male LNIPE players, for 2 weeks continue without any gap. When the 2 weeks are finished, then on the very next day we go for the Post-test. And To measure it we use the Bio-Electrical Impedance, which measures the exactly fat percentage of the body, and it is done in Pre-Post test both. For Statistical analysis and interpretation of data Pearson the Paired t-test was conducted to find out the effect of caffeine on the body composition. Descriptive statistics mean and standard deviation were used to do better findings.

Results

In order to find out the effect of Caffeine, Paired t-test was calculated. The level of significance was set at 0.05. The descriptive statistics are presented in table-1 &2.

Table-1 ---- Descriptive statistics

Tests	Mean	N	Std. Deviation	Std. Error Mean
Pre-test	10.8400	5	4.64351	2.07664
Post-test	10.1620	5	4.75686	2.12733

Note: N – Number of Samples.

Table No. 1 shows the Means and Standard Deviations of the selected variables. The Mean along with SD of Pre-test and Post-test were 10.8400 ± 4.64351 and 10.1620 ± 4.75686 respectively.

Table-2 ---- Paired Samples Test

		Mean	**Std. Deviation**	**Std. Error Mean**	**Lower**	**Upper**	**T**	**df**	**Sig.(2-tailed)**
Pair 1	Pre-Post	.67800	.13773	.06160	.50698	.84902	11.007	4	.000

Table-2 shows the Paired Samples Correlation and the Table-3 shows the Paired t-test which is our main formula, and from here we found the t-value and that is 11.007. For Two-tailed df test tabulated **t.**05 = 2.132 but here the t-value is coming 11.007. Therefore, calculated t > 2.132, Null Hypothesis may not be Accepted at 5% level. Because here the t-value is coming 11.007, which is much bigger value than 2.132.

DISCUSSION AND CONCLUSIONS

Findings of the study shows that Null Hypothesis is Rejected, it may be concluded that Caffeine is effected to reduce the Fat Percentage and Body Composition, there was a significant improvement in Fat Percentage of the students. For checking the body fat percentage we use the Bio-Electrical Impedance machine and it was checked 2 times, first before giving the Caffeine and second after giving the Caffeine. It is been due to Caffeine, which is given to the students per day at early morning one cup without sugar in it before workout. The reasons for better result is in both the cases are continuous intake of Caffeine at early morning before physical workout training program which were related to losing the fat percentage of the body. Further more, the analysis showed that the subjects belonging to this research giving much better performance from previous performance in Cricket. Within the limitations and delimitations set for the study and considering the results obtained, the conclusion drawn was that, calculated t > 2.132, Null Hypothesis may not be Accepted at 5% level. Because here the t-value is coming 11.007, which is much bigger value than 2.132. Since Null Hypothesis is Rejected, but it may be concluded that Caffeine is effected to reduce the Fat Percentage and Body Composition.

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