CAFFEINE AS AN AID TO REDUCE BODY COMPOSITION OF MALE PLAYERS

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Abstract

Sportsmen strive to maintain their body weights within prescribed limits. Many of them miss out on opportunities in various competitions, be it National or International due to weight constraints. Various means and methods to reduce and sustain weight are available in the market. Many of them are useful and may be, some of them are not useful. Body composition and fat percentage plays a vital role in increasing or decreasing body weights. In pursuit towards helping sports men to manage body weight, the researcher conducted a study and it indicates that caffeine in moderate amount plays a vital role in reducing body composition and fat. Five students of LNIPE were selected after various consideration like; Age, Height, Fat % and, weight etc., in addition, there availability and those interested in reducing there weights. All the five sports men were administered coffee with hot water without sugar early morning before their physical activity for two weeks. There weights and other parameters were noted after two weeks.

Key words: Fat, Caffeine, Body composition

The genesis : *Physical activity and its Imperative to Health* : World Health Organization (WHO) defines health, as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity". The definition has been a subject to various controversies, as it may have limited value for implementation. Wikipedia defines Health as the "ability to adapt and manage physical, mental and social challenges throughout life". 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. Physical Exercise may play a therapeutic role in addressing a number of psychological disorders. Studies also show that exercise has a positive influence against 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.

A Healthy Body Composition for fitness level: 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 [1]

Coffee and its usefulness: Caffeine is a powerful substance that can improve physical and mental performance. A single dose can significantly improve exercise performance, focus and fat burning. 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. It awakens more and less of tiredness. Athletes have long lauded caffeine for better workout performance, but experts say that even the average 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. [2] 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.

Method

The Hypotheses

H_0: $P=P_0$, Caffeine does not effects in reduction of Body fat percentage and ultimately body weight

H_a: $P \neq P_0$, Caffeine effects in reduction of Body fat percentage and ultimately body weight

The primary purpose of this study was to examine the effects of coffee (80-140mg) with hot water without sugar which is administered before physical exercises. [3] . Our primary hypothesis was that either 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). After deciding the hypothesis, a survey was done to all the houses for finding the better subjects. Five students of LNIPE were selected as subjects, those who are tensed to reduce their fat. Five male collegiate players (age-20 ± 3 yr.; wt-70 ± 10 kg; ht-180 ± 10 cm; fat%-10 ± 7;) have taken to this study. Height was measured (without shoes) to the nearest 0.1 cm using a stadiometer, Weight was measured to the nearest 0.1 kg using a digital platform scale. A Pre-test for the Fat percentage of particular 5 athletes were conducted. And after it the study examined the impact of a moderate dose of caffeine (80-140mg 1 cup per day per person) at early morning before starting the workout on male LNIPE players, for 2 weeks continue without any gap. Fat percentage of the body was measured after two weeks of administering coffee to the players using Bio-Electrical Impedance, as was done in Pre –Test. 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.

Analysis

Table-1 -- Descriptive statistics

Test	Mean	N=Number of Samples	Standard Deviation	Standard Error Mean
Pre -Test	10.8400	05	4.64351	2.07664
Post- Test	10.1620	05	4.75686	2.12733

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 and 2. Table 1 shows that 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)
1	Pre-Post test	.67800	.13773	.06160	.50698	.84902	11.007	4	.000

Table-2 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.

DISCUSSIONS: Findings of the study shows that Caffeine effects reduction of the Fat Percentage and Body Composition. There was a significant reduction 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. The reasons for better result in both the cases, are continuous intake of Caffeine early morning before physical workout training program which were related to losing the fat percentage of the body. Furthermore, the analysis showed that the subjects belonging to this research giving much better performance from previous performance in Cricket.

CONCLUSION:

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 11.007, which is much bigger value than 2.132. Since Null Hypothesis is rejected and thus Alternate hypothesis is accepted, we conclude that Caffeine effects reduction of Fat Percentage and Body Composition.

References

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