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Research Article

The Impact of Drinking Coffee in a Lying Position That Has an Impact on Increasing Pulse Rate

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Abstract:
The purpose of this study is to determine the impact of light doping due to drinking hot coffee and cold coffee in a lying position using an experimental method. With a sample of 16 sports students, namely 11 men and 5 women. The first step is to take a lying position and drink hot/cold coffee, then measure the pulse rate for 60 seconds, after that rest for 5 minutes, continue to drink hot/cold coffee, measure the pulse again for 30 seconds, rest again for 5 minutes, then drink hot/cold coffee followed by measuring the pulse again for 15 seconds. Then the normality test and the T test were carried out. The results of this study showed that there was a difference in pulse rate between hot coffee and cold coffee in the increase in pulse rate and it can be known that hot coffee increases the pulse rate the fastest compared to cold coffee.

Keywords: Coffee Drinks, Pulse, Sports

1. INTRODUCTION

Coffee is the most popular drink by everyone and a drink that is going viral. The taste of coffee is greatly influenced by the quality of the coffee and the quality of the filtration also depends on the form of variation in the content of rice coffee percursor compounds (Fadri et al., 2019). Coffee consists of a lot of senyama which is good for individuals and can cause menopause, caffeine intake can damage the vasomotor (Sari & Istighosah, 2019).

Caffeine has side effects on its use, for example affecting the body's cardiovascular system due to increased pulse rate, blood pressure in normal individuals. The normal limit of caffeine entering the body is 100-150 mg per day (Rahayu, 2019). In addition, the effect of drinking coffee also affects hemoglobin levels (Relita Pebrina et al., 2021).

The habit of consuming coffee causes various diseases, in addition to containing caffeine molecules, it also contains caffeine, kahweol, and chlorogenic acid (Zindany et al., 2017).

And it can increase cholesterol levels, due to fat-soluble cafestol and kahweol substances (Krispila et al., 2022). Coffee can improve performance and can slow down fatigue (Kakauhe et al., 2021). But coffee also has an important influence on the country's suppliers, Indonesia is the largest coffee producer in the world and has the 4th position in the world (Sabirin & Zakiah, 2022). Even coffee husks also have benefits as a complete feed substitution for the body, for example pig feed (Rumengan et al., 2022) .

Coffee, which we have known so far causes many diseases, turns out to have a positive impact, namely accelerating reaction time (William et al., 2019) and consuming coffee can lower blood lactate so as to accelerate recovery after doing activities (Zulfahmi, 2021). Coffee has existed from previous times which distinguishes the concept of its presentation, in this day and age everything is complete and connected to the internet so that coffee ordering can also use an app and even millennial children now many hang out at coffee places where coffee is mushrooming (Rachmawati et al., 2020).

In this day and age, coffee has become a need for the community. Many shops sell products that blend coffee drinks and create a flavorful taste to be in demand by consumers (Lie et al., 2021). Understanding the benefits and harms of consuming coffee and filtering in the manufacturing process affects the quality of the resulting coffee sangria equipment is relatively observed, filtration with effective time and temperature also affects the yield

of sangria and reduces the formation of acrylimide (Fadri et al., 2019). Regarding pulse, coffee will have the effect of increasing the pulse and keeping people awake. In this study, we tried to prove whether cold and hot coffee had the same effect on increasing pulse rate. This second study provides information on the effect of coffee on performance in sports.

2. MATERIAL AND METHOD

This research is an experimental research. The sample used in this implementation is Olaraga Coaching Education students with a total of 16 people consisting of 11 men and 5 women. The equipment used is hot coffee, cold coffee and stopwatches with testing carried out by dividing into 2 groups. The first group of hot coffee and the second cold coffee, then continued with a lying position and then drank hot/cold coffee, then measured the pulse rate for 60 seconds, then rested for 5 minutes, followed by drinking hot/cold coffee, again measuring the pulse rate for 30 seconds, resting again for 5 minutes, then drinking hot/cold coffee followed by measuring the pulse again for 15 seconds, for each test, there were 8 samples and the place where this research was carried out was at Campus 3 UNTAN Pontianak.

The data of this study was analyzed by descriptive and differential tests, then the data was processed using SPSS to find the mean, median, modestd.ddeviation, minimum and maximum, make exel graphs, make distribution tables, normality tests using Kolmogorov-smornov and parametric tests were carried out with the T test.

3. RESULT AND DISCUSSION

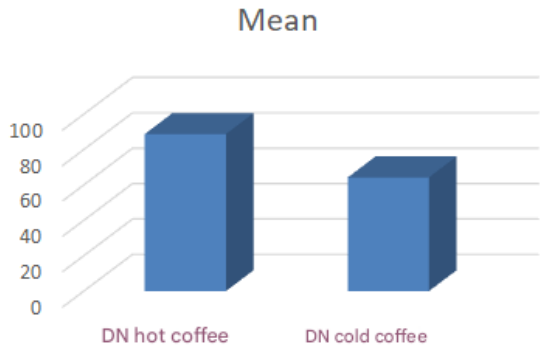
1.1 Result

This test was carried out to find out the difference in pulse rate between drinking cold and hot coffee in a lying position carried out by PKO students. Using the mean, median, and fashion experiment tests from the two groups, with a total of 16 students, 5 women and 11 men. The one who drinks hot coffee while taking a pulse is lying down.

Table 1. Descriptive results of pulse measurement between cold and hot coffee.

	Initial DN Hot Coffee	Initial DN Cold Coffee	DN Hot Coffee	DN Cold Coffee
Mean	15.63	12.00	86.75	64.25
Median	15.50	12.00	85.00	64.00
Mode	15[a]	10	64[a]	58
Std. Deviation	2.615	2.000	15.040	9.161
Minimum	11	10	64	50
Maximum	19	15	110	78

Based on table 1 above, the pulse rate obtained from 16 research samples between cold and hot coffee, resulted in a pulse value of hot coffee with a mean of 86.75, a median of 85.00, a mode of 64, a Std. Deviation of 15,040 with a minimum value of 64 and a maximum of 110 while cold coffee with a mean of 64.25, a median of 64.00, a mode of 58, a Std. Deviation of 9.161 with a minimum value of 50 and a maximum of 78



Graph 1. Mean value

Graph 1 shows the results of pulse measurement when drinking hot coffee and cold coffee in a lying position and it can be known that the mean value of the 16 samples of the study produced a mean value of hot coffee of 80 and a mean value of cold coffee of 50.

Table 2. Results of data normality calculations

N		8
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	9.04904166
Most Extreme Differences	Absolute	.183
	Positive	.183
	Negative	-.132
Test Statistic		.172
Asymp. Sig. (2-tailed)		.200[c,d]

All of the above data is declared significant because the data is above 0.05, and we can conclude that the above data is normal. If the above data is not normal, a parametric test and a T test will be carried out with the help of SPSS.

Table 3. Test Results

					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	Df	Sig. (2-tailed)
Pair 1	DN Kopi Panas - DN Kopi Dingin	22.500	16.34	5.779	8.836	36.164	3.894	7	.006

Table 3 above shows the sig value (2 tailed) with a sample of 16 students obtained a value of .006 so that the data from the pulse measurement results of the two coffees were different. So the first pulse of hot and cold coffee is 86.75 > 64.25 (86.75>64.25).

So it can be seen that the results of the study from the pulse rate due to hot coffee are 86.75 and cold coffee is 64.25, it can be seen that drinking hot coffee increases the pulse rate faster than cold coffee. Judging through the lowest minimum score is cold coffee 50, while hot coffee is 64, and with a test of difference in sig value (2 tailed) with a sample of students/I obtained .006 so that the data of hot coffee and cold coffee are different. The conclusion of this study is that the effect of hot coffee and cold coffee in the lying position is that hot coffee is > greater than cold coffee (86.75>64.25), meaning hot coffee has more effect on increasing pulse rate when lying down.

1.2 Discussion

According to (Fadri et al., 2019) said that drinking coffee can maintain a healthy body. (Muchtaridi, 2018) explained that apart from maintaining health and energy by drinking coffee, it can reduce the risk of getting diseases such as being able to live longer without getting sick. Consuming coffee that contains caffeine can have effects such as improving mood, concentration, physical activity, and can lose weight (Br Ginting et al., 2022). Caffeine can help improve physical fitness, namely physical endurance when doing sports (Husna et al., 2023). More specifically, the body will be better prepared to go to the training zone and improve performance to get maximum results. Coffee can also meet the nutritional needs of pregnant women (Oktarina & Wardhani, 2020). But if you consume excessively it is also not good, this can cause death in mothers and future babies.

According to (Zindany et al., 2017) the habit of consuming coffee can cause health disorders and

various diseases such as cholesterol. There are also those who state that drinking coffee can reduce sleep quality (Julia & Ayu, 2023). This has been researched by (Varera & Herawati, 2023) saying that Indonesians have high blood pressure so that consuming coffee will have the effect of making a person young and sleepy. There is also a study that states that consuming coffee can cause stroke and coronary heart disease if you are not used to consuming it (Tuminah & Riyadina, 2014).

However, the side effects of consuming coffee in excess can increase muscle tension, stimulate heart work, and stomach acid (Sri & Rubiyanti, 2020). Caffeine itself can also be lowered by adding coffee bean husks to ground coffee (Imama et al., 2019). Tests have been carried out on coffee extracts against digestive enzymes, namely protease enzymes where papain is used as a model. The enzyme papain hydrolyzed was inhibited by the interaction with the –SH group of Sis 25 with the N imidazole atom of His 159 from papain for the active remainder and concluded that coffee extract inhibits enzyme activity by 35% (Sumarlin et al., 2012). Therefore, it is necessary to have knowledge about consumption patterns for the use of coffee so that the coffee consumed is right on target in its function (Assegaf et al., 2021).

Based on the test test above, it is concluded that drinking hot and cold coffee both shows its effect on pulse rate, at the time of measuring the pulse rate when lying down, each hot and cold coffee gives a different reaction time. Reaction time aims to assess a person's performance and present the level of musculoskeletal coordination (William et al., 2019), physical fitness also plays an important role in concentrating and progressing to achievement (Akbar et al., 2019).

4. CONCLUSION

Coffee is a drink that is now widely loved by everyone without exception. Not many people know that coffee includes doping, if it is not known specifically for the athletes, it will be dangerous for the athletes themselves. Based on what has been tested between hot coffee and cold coffee, both have an impact on a person's pulse and have side effects on the body, reinforced by the results of different tests. And it can be seen from this study that hot coffee increases the pulse rate the fastest compared to drinking cold coffee.

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