THE SPEED AND ACCURACY OF PASSES TO PROFESSIONAL VOLLEYBALL PLAYERS UNDER THE EFFECT OF CAFFEINE

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Abstract

Caffeine is one of the most popular psychoactive substances known for stimulating the central nervous system effects. If coffee, tea and soda, only do not provide the desired stimulus effect, consumers are returning a new mode in the use of caffeine, which consists in the consumption of energy drinks. Energy drinks are clear examples of how coffee or soda does not meet proper dose of caffeine to young people. These drinks exceed certain level of caffeine allowed by Adu (Organisation of food and drugs) which should vary with 72mg/12ml drink. Most of them contain high quantity products such as fructose, corn syrups and herbal supplements such as taurine, L-karnitina, xhenseni etc., providing the illusion of a healthy preparation that increases in energy us. Energy drinks are now a top challenge for health providers and the community in general. With this study we hope that the experiment will provide valuable information for volleyball players who use these substances containing caffeine as stimulants for their effects on performance outcomes passes. The hypothesis of this experiment is to be recorded Benj stimulation energy drinks containing caffeine in increasing the speed and quality of following technical element. 16 volleyball players Club Vllaznia, aged 20-25 years, who exercised regularly, will be installed in the area of following and will perform 5 times consecutive passes in a period of about 20 seconds each time and see how will be the number of passes and their accuracy within this time in a predetermined area before (4.5 meter distance, in a square 80 cm x 80 cm, height 3 meters). Experiments on energy drinks (caffeine) relay element to volleyball players, not fully correspond with the hypothesis. Caffeine really

gives a significant increase in the speed of passes but on the other hand noted that the accuracy of passes is lower than with out consuming these stimulants.

Keywords: Caffeine, caffeine effects, pass-element, speed, quality

Introduction

As early as hundreds of years ago, there is a new sport appeared in America --- the volleyball. And as the increasing of the undertake countries of the Olympics, the value of the sport is increasing as well, and the volleyball is also essential. Therefore, the intense degree of the volleyball match is also increasing. It is important to keep the players' health in a good condition, but to higher the score, the skill improvement is more significant.[1]

Volleyball is a game played around the world was invented by William G. Morgan, USA. Volleyball has under gone several modifications in rules and playing style which had increased the strength of the game. In volleyball players perform passes during the game are vital for match winning. Volleyball skills can be divided to attacking and defending skills. The attacking skills are serving, attacking and setting and the defending skills are blocking, defending and receiving. A team can score points in four different ways: by serving, blocking, attacking or from opponent's mistakes. The three skills that support scoring are receiving, setting and defending.[2]

Volleyball is an intermittent sport that requires players to compete in frequent short bouts of high-intensity exercise, followed by periods of low-intensity activity. The high-intensity bouts of exercise, coupled with the total duration of the match (~90 minutes), requires players to have well-developed aerobic and anaerobic alactic (ATP-CP) energy systems. Considerable demands are also placed on the neuromuscular system during the various sprints, jumps (blocking and spiking), and high-intensity court movement that occurs repeatedly during competition.[3]

Skill is an athlete's ability to choose and perform the right techniques at the right time, successfully, regularly and with a minimum of effort. One of the most appealing reasons for talent research in sport is the hope that future talent can be predicted in "key transferable skills. An individual's ability to perform compound motor tasks has been considered to be a possible determinant of physical fitness. The construction of norms of athletic excellence evidenced in sports activities cemented communities of participation who valorized rigorous sorts of physical discipline in preparation for athletic competition and in expressing the highest degree of athletic skill.[4]

The NCAA consider caffeine a restricted substance. Caffeine leves exceeding 15 micrograms in the urine will result in a positeve test in college

athletes. Caffeine pills are concentrated source of caffeine and may increase the likelihood of a positive test.[5]

Caffeine is one of the most popular psychoactive substances known for stimulating the central nervous system effects. If coffee, tea and soda, only do not provide the desired stimulus effect, consumers are returning a new mode in the use of caffeine, which consists in the consumption of energy drinks. Energy drinks are clear examples of how coffee or soda does not meet proper dose of caffeine to young people. These drinks exceed certain level of caffeine allowed by Adu (Organisation of food and drugs) which should vary with 72mg/12ml drink. Most of them contain high quantity products such as fructose, corn syrups and herbal supplements such as taurine, L-karnitina, xhenseni etc., providing the illusion of a healthy preparation that increases in energy us. Energy drinks are now a top challenge for health providers and the community in general. More than 500 new beverages were launched by these companies which are always increasing. Advertising consists of very fine method to which they make young people and athletes believe in increased energy, focus, strength and weight loss. Manufacturers have reached the point of deciding on a can of Cocaine name in such a way making us believe that there is a very small amount of caffeine. Chemically, caffeine is a metilksantinë family which includes teofilinën and teobrominën. Metilksantinat cause liberation of katekolaminave by stimulating receptors B1, B2 adenozinë, blocking neurotransmitters adenosine, leading to increased intracellular cAMP. Caffeine has 100% accessibility orally. Its distribution volume is 0.6 l / kg and 36% associated with protein. Is metabolized in the liver by P450 system to activate dimetilksantinat stimulants theophylline and teobrominës. Its elimination in normal adult non-smokers was 4.5 in / hr.

Clinical effects caffeine

System	Effects
Central nervous System	gentle agitation, Irritability, headache, irritability, etc.
Cardiovascular	vasodilatation, tachycardia, palpitations, increased CO, etc.
Gastrointestinal system	gastritis
Neuromuscular system	fashikulacione
Respiratory system	bronchial muscle relaxation

Objective

In this study, we hope that the experiment will provide valuable information for volleyball players who use these substances containing caffeine as stimulants for their effects on performance outcomes passes.

Hypothesis

The hypothesis of this experiment is to highlight incentives to make energy drinks containing caffeine in increasing the speed and quality of following technical element.

Equipment

For this experiment, you need a stopwatch to record the time, volleyball court, a basket with balls, a basket to send passing, a pen, paper and a source of energy drinks.

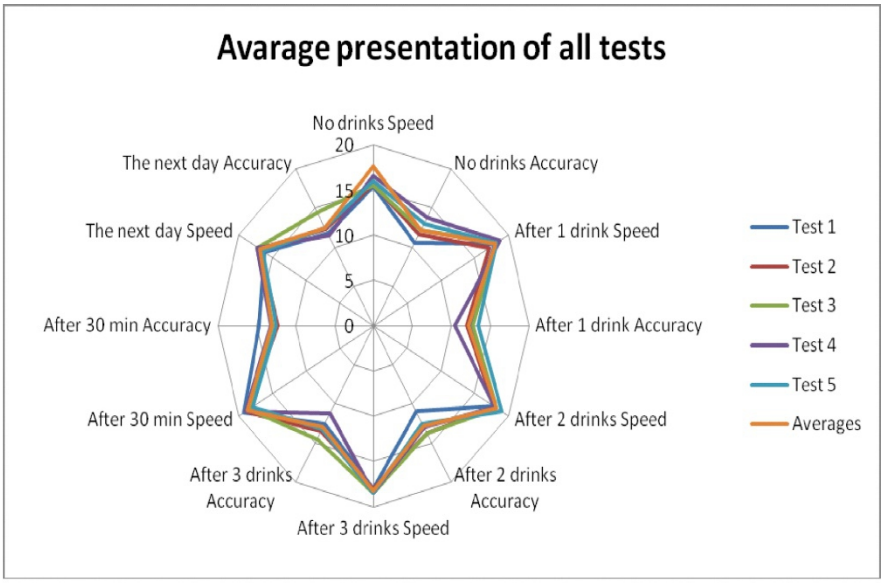
Methodology

16 volleyball players Club Vllaznia, aged 20-25 years, who exercised regularly, will be installed in the area of following and will perform 5 times consecutive passes in a period of about 20 seconds each time, and can be seen that it will be the number of passes and their accuracy within this time in a predetermined area before (4.5 meter distance, on a quad 80 cm x 80 cm, height 3 meters). The first step is to complete 5 passes early and set a record for 20 seconds and also the exact average in every test. The next step is drinking an energy drink and have to wait 5 minutes to be completed all five tests, then repeated the same test twice. Finally wait 30 minutes after they were consumed three energy drinks and become the repetition of all the evidence. The next day, repeat all the tests again. Compare test results for all tests.

Results:

Table no. 1

..	No drinks	After 1 drink	After 2 drinks	After 3 drinks	After 30 min.	The next day
Tests	**Speed | Accuracy**	**Speed | Accuracy**	**Speed | Accuracy**	**Speed | Accuracy**	**Speed | Accuracy**	**Speed | Accuracy**
Test 1	15.37/10.62	18/12.5	17.75/11	18/12.5	19.25/14.75	16.25 /11.75
Test 2	15.62/11.62	17.25/12	18/13.75	18/13.5	19/12.25	17/12.25
Test 3	15.5/12.12	18.25/12.75	18.25/13.75	18.5/14.5	18.5/13	17.25/14.5
Test 4	16.5/13.8	18.75/10.5	18/13	18.5/11.25	19/13.25	17.25/11.5
Test 5	16/13	18.25/13.5	19/12.5	18.5/13.25	18/12.5	16.5/12.5
Averages	15.79/12.23	18.1/12.25	18.2/12.8	18.3/13	18.75/13.15	16.85/12.5



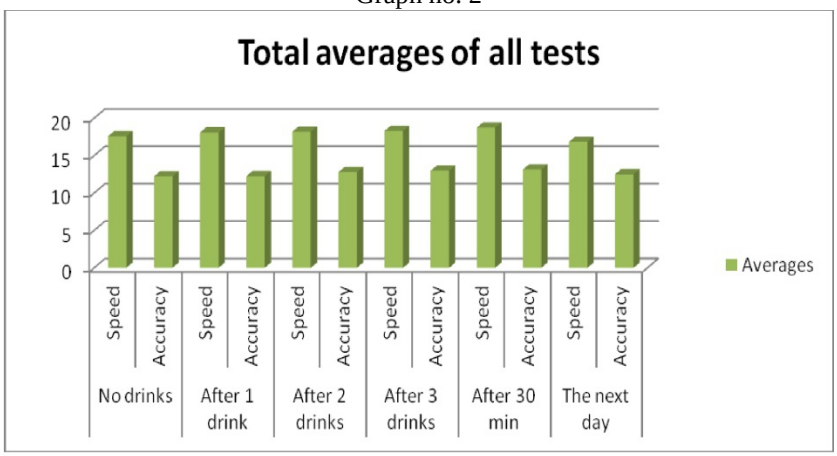
Graph no. 1

In the above table, it is noticed that passes speed and accuracy of their increase in number after each consuming energy drinks, after one, two, three and the highest level is after 30 min after all the drinks consumed. Also higher level of relay is within the tests results 3, 4 and 5.

Table no. 2

..	No drinks	After 1 drink	After 2 drinks	After 3 drinks	After 30 min.	The next day
Tests	**Speed | Accuracy**	**Speed | Accuracy**	**Speed | Accuracy**	**Speed | Accuracy**	**Speed | Accuracy**	**Speed | Accuracy**
Averages	15.79/12.23	18.1/12.25	18.2/12.8	18.3/13	18.75/13.15	16.85/12.5

Graph no. 2



In the above table presenting all averages only passes tests taken together, it is noted that the average high is always after the receipt of each energy drink, which holds the record time average after 30 minutes after total three energy drinks with reduced averages also observed at the time without consuming energy drinks and the next day.

Table no. 3

..	**No drinks**	**After 1 drink**	**After 2 drinks**	**After 3 drinks**	**After 30 min.**	**The next day**
% of accuracy	77.45%	67.67%	70.32%	71.03%	70.13%	65.63%

Graph no. 3

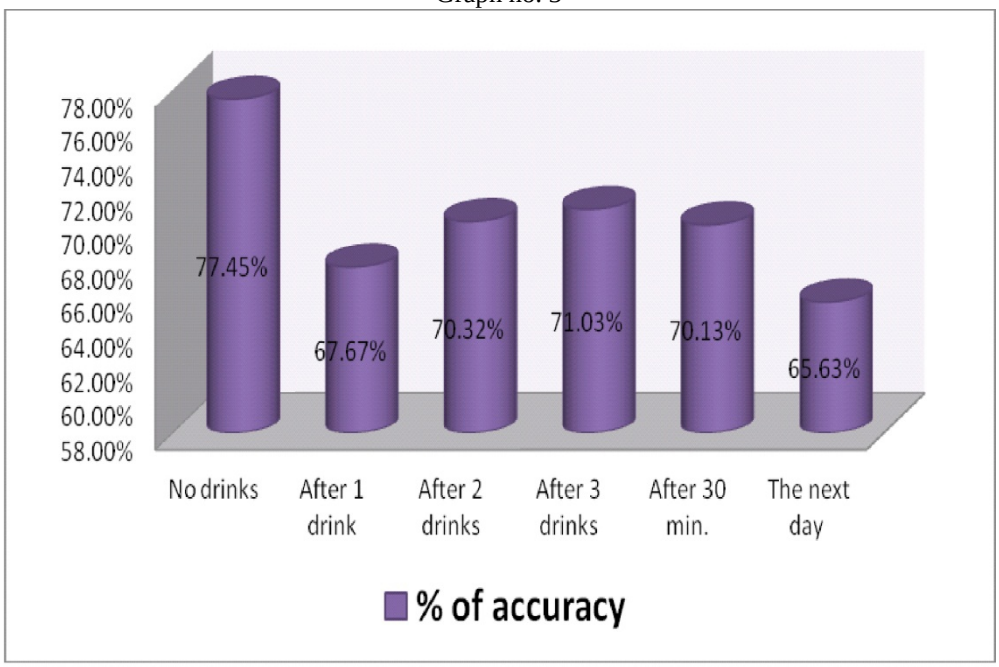


Table no. 3 shows the percentages of the total accuracy of all evidence. As noted, higher accuracy is the first moment when we do not have energy drinks reception. Then comes the moment after the 3 energy drinks, two energy drinks after 30 minutes having taken all drinks after an energy drink, and finally the next day.

Conclusion

Based on the results, simply by virtue of the table no. 1, at first glance it seems that the impact of caffeine on performance of passes and strongly affects their accuracy. It is noted that an increase of the speed of service, but also referring simply have numbers and numerical growth and quality of services. In the above table, it is noticed that passes speed and

accuracy of their increase in number after each consuming energy drinks, after one, two, three and the highest level after 30 min after all the drinks consumed. Also higher level of relay is within the test results 3, 4 and 5.

Also, starting from the graph 2, which graphically represents the total averages of all evidence passes note that the average high is 30 minutes after taking all energy drinks, then rank after the third drink, after the second drink after the first drink, the next day, and finally in the first without the consuming of energy drinks.

Graph no. 3, is the graph that brings interesting data regarding the impact of caffeine on performance quality passes to volleyball players. As seen from the chart, the highest accuracy is service when volleyball players are still without consuming energy drinks with 77.45%. Then by taking energy drinks, service accuracy falls sharply to 65.63%, which is the next day.

Finally, experiment on energy drinks (caffeine) relay element to volleyball players, not fully correspond with the hypothesis. Caffeine really gives a significant increase in the speed of passes but on the other hand noted that the accuracy of passes is lower than the consumption of these stimulants.

Recommendation

The use of energy drinks by volleyball-players is prohibited by the International Volleyball Federation.

Although one might think that energy drinks stimulate the sympathetic nervous system and can increase the performance of the player, it is simply wrong because they increase the speed but lose accuracy.

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