The Positive and Negative Effect of Caffeine in the present era.

Poster · December 2024

DOI: 10.13140/RG.2.2.21162.53448

1 author:

Jeno baptis melaine Noble Jebakumar
Ilia State University
9 PUBLICATIONS **0** CITATIONS

SEE PROFILE

The Positive and Negative Effect of Caffeine in the present era.

Jeno Baptis Melaine Noble Jebakumar.

Faculty of Natural Science and Medicine.

Ilia State University

Tbilisi, 2024.

Introduction:

Millions of people drink caffeine every day worldwide to boost concentration, focus and attention. Normally people consume average of about 400miligram of caffeine on their daily basis. Caffeine is present in various beverages and food material such as coffee, chocolate, candy, energy drinks, soda, tea, etc. More concerns have been prompted by the recent trend of adding caffeine to snacks and beverages that do not naturally contain it. The possible health advantages and disadvantages of caffeine, the problems regarding energy drinks, and the possibility of a caffeine overdose will all be covered in this review.

Research Review:

Caffeine (1,3,7-trimethylxanthine) is a methylxanthine derivative whose chemical formula is $C_8H_{10}N_4O_2$. It is classified as an alkaloid substance since it is a product of nitrogen metabolism. It is psychoactive drug belonging to methylxanthine class. Caffeine is the widely intake CNS stimulant,

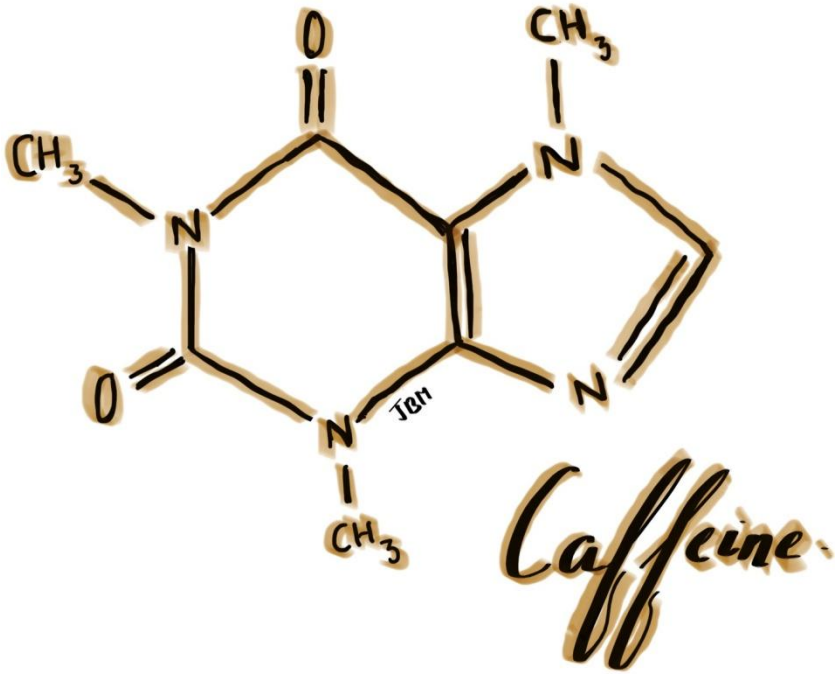

Figure represents the chemical formula of caffeine products.

Nawrot, P., S. Jordan, J. Eastwood, J. Rotstein, A. Hugenholtz, and M. Feeley (2003) reported Children are at-risk group identified in the study's findings. While there is limited research on teenage children, there are several studies on pre-adolescents.Caffeine use in children has been associated with altered behavior, such as stress, despite limitations in the literature. Adults who are not pregnant or lactating and do not have any specific health issues can consume coffee or tea in moderation as part of a healthy lifestyle.

Guest, Nanci S., Trisha A. VanDusseldorp, Michael T. Nelson, Jozo Grgic, Brad J. Schoenfeld, Nathaniel D. M. Jenkins, Shawn M. Arent, et al. (2021) examined in their study that the caffeine is a widely used stimulant in military, athletic, and fitness communities. It has been shown to significantly improve a range of performance in most studies, but not all. Caffeine is energetic, if one drinks an amount of 3-6 mg/kg body mass. Extremely high caffeine dosages (e.g., 9 mg/kg) do not provide an ergogenic effect, but causing a high frequency of adverse effects.

Ortiz-Sánchez, David, Alfredo Bravo-Sánchez, María Ramírez-delaCruz, Pablo Abián, and Javier Abián-Vicén.(2024) reported the placebo effect of a high caffeine intake (9 mg/kg) had no influence on performance in the great majority of variables examined in the bench press and squat tests at various loads. A considerable increase in nervousness, tachycardia, and urine production of participants, caffeine's placebo effect did not alter perceptions of performance or effort. As a result, a high dose of placebo in subjects having prior experience with acute caffeine ingestion fails to bring about the expected outcomes, and in certain cases has the opposite effect.

Conclusion:

In concluding the present study, a lot of caffeine might not be good for humans. Despite disputes regarding the health benefits of caffeine, this review indicates that moderate coffee use may have both advantages and disadvantages.

References:

Nawrot, P., S. Jordan, J. Eastwood, J. Rotstein, A. Hugenholtz, and M. Feeley. 2003. "Effects of Caffeine on Human Health." *Food Additives & Contaminants* 20 (1): 1–30. doi:10.1080/0265203021000007840.

Guest, Nanci S., Trisha A. VanDusseldorp, Michael T. Nelson, Jozo Grgic, Brad J. Schoenfeld, Nathaniel D. M. Jenkins, Shawn M. Arent, et al. 2021. "International Society of Sports Nutrition Position Stand: Caffeine and Exercise Performance." *Journal of the International Society of Sports Nutrition* 18 (1). doi:10.1186/s12970-020-00383-4.

Ortiz-Sánchez, David, Alfredo Bravo-Sánchez, María Ramírez-delaCruz, Pablo Abián, and Javier Abián-Vicén. 2024. "Placebo Effect of Caffeine on Physiological Parameters and Physical Performance" *Nutrients* 16, no. 10: 1405. https://doi.org/10.3390/nu16101405