Effect of coffee on blood pressure and electrocardiographic changes in nicotine users

Dileep Kumar Verma *,1, Pradeep Kumar2, Jagdish Narayan3, S Tiwari4

Introduction: Coffee is one of the most widely consumed beverages in the world. Inspite of caffeine, it also contains several other biologically active components that may have either harmful or beneficial cardiovascular effects. Caffeine is widely consumed by people of all ages in India as well as many other countries. Ingestion of nicotine is well known factor to increase the risk of cardiovascular disease.

Aims and Objectives: Therefore the aims of our study was to see the acute effect of coffee on Blood pressure, Electrocardiographic changes and Heart rate in nicotine users.

Methods: The study was conducted on 120 volunteers aged 21-40 years and with body mass index (BMI) between 17.3-28.0 kg/m². The subjects were divided into two groups: Control (n=40) and Study group (n=80).

Observation and Results: Our data suggests that increment in blood pressure, recorded in study group after coffee ingestion, was lesser than that of control group. Observation showed that there were no significant changes in diastolic blood pressure in any group while the mean arterial pressure was higher in both the groups following coffee ingestion. Ingestion of coffee also decreases the heart rate in both groups.

Conclusion: On the basis of our observations we concluded that less amount of coffee ingestion may not be harmful.

*Corresponding author: Dileep Kumar Verma, Associate Professor, Deptt of Physiology, KGMU Lucknow, India

Effect of 12 weeks of Pranayama training on tested basal physiological parameters in young, healthy volunteers

Dinesh T1, Gaur G S2, Sharma V K3, Bhavanani AB3, Harichandra Kumar KT4
Department of Physiology1, Vinayaka Missions Medical College, Kanyakumari. Department of Physiology2, Department of Biostatistics4, Jawaharlal Institute of Post Graduate Medical Education and Research, Puducherry – 6.

Background: Pranayamas are breathing techniques that exert profound physiological effects on pulmonary, cardiovascular and mental functions. Previous studies demonstrate that different types of pranayamas produce divergent physiological effects.

Aim & Objective: To study the effect of 12 weeks of pranayama training on the tested basal physiological parameters in healthy, young subjects

Materials and methods: Present study was conducted in Department of Physiology, JIPMER on 60 healthy volunteers. After getting informed, written consent, subjects were randomized into pranayama (n=30) and control groups (n=30). Supervised training was given to the pranayama group by a certified yoga instructor and they practiced nadishodhana, pranava and savitri pranayamas for 30 minutes/day, thrice/week for 12 weeks. Cardiorespiratory parameters including resting heart rate (HR), systolic blood pressure (SBP) and diastolic blood pressure (DBP) measured after 10 minutes of supine rest using digital BP monitor (Citizen- CH 432B, Japan) and respiratory rate (RR) were recorded before and after 12 weeks of study period.
Results: Pranayama training resulted in marginal decrease (P>0.05) in all basal cardiovascular parameters while RR decreased significantly (P<0.01) from 17.66 ± 1.2 to 16.86 ± 0.92. On the other hand, there was a significant increase in RR from 17.23 ± 1.22 to 18.33 ± 1.81 in the control group with no significant change (P>0.05) in resting cardiovascular parameters such as HR, SBP and DBP.

Conclusion: 12 weeks of pranayama training showed improvement in the tested basal physiological parameters with significant decrease in RR while it increased in control group. The RR depends on mental-emotional activity and this decrease in RR may be attributed to a calm and stable mind-emotion complex in our subjects. Hence we conclude that pranayama training is useful in reducing RR through psycho-somatic mechanisms and that this enhances the health and well being of young subjects.

Corresponding address: Dinesh T1, Department of Physiology1, Vinayaka Missions Medical College, Karaikal. Department of Physiology2, Department of Biostatistics4, Jawaharlal Institute of Post Graduate Medical Education and Research, Puducherry – 6. Center for Yoga Therapy, Education and Research3, Mahatma Gandhi Medical College and Research Institute, Puducherry.

Effect of active learning methods on 1st year MBBS physiology students

Dipali Chatur
Assistant Professor, Dept. of Physiology, PIMS(DU), RMC, Loni, Tahsil Rahata, District Ahmadnagar, State Maharashtra.

Background: In India, majority of medical teachers are using didactic lectures as mode of providing information. Students being passive learners are facing difficulties in knowledge gain and recall of information. “Active learning” means the process of engaging students in some activity that forces them to reflect upon ideas and how they are using those concepts. The focus of this research is to study the effect of active learning methods on first year MBBS students.

Aim and Objectives:

1. To improve subject knowledge by using active learning methods.
2. To assess the satisfaction level of students with active learning methods.

Methods: The study was conducted in Department of Physiology, Pravara Institute of Medical Sciences (DU), Rural Medical College, Loni (BK). 66 students participated in the study. For a group of 33 students “Finger Signals” and “Pen grabbing” method were implemented as active learning methods. Perspective of students to active learning methods was assessed by feedback with five point ‘Likert type’ response scale. Improvement in learning was evaluated by MCQ test.

Results: 95% students strongly agreed that both Finger signals and Pen grabbing methods helps to gain knowledge and recall of facts. As whole active learning methods created interest and fun in learning. There was significant improvement in MCQ test score with active learning method (p value< 0.05).

Conclusions: Active learning methods provide safe learning environment and helps students to learn with fun. Helps to gain subject knowledge and improve recall abilities.

Corresponding address: Dr. Dipali Chatur; Assistant Professor, Department of Physiology, PIMS(DU), RMC, Loni, Tahsil Rahata, District Ahmadnagar, State Maharashtra. Contact No. 9175633973, Email id: dipalichatur@gmail.com

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