

3rd International Conference and Exhibition on Pharmacovigilance & Clinical Trials

October 27-29, 2014 Hyderabad International Convention Centre, India

Physical activity related risk factor assessment for altered drug pharmacokinetics in human population

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The study examined the intensity of an individual's physical activity by using self administered International Physical Activity Questionnaire (IPAQ-SF7) 7 Short Form as a measuring tool and assessed its impact on the various body physiological functions likely to alter drug pharmacokinetic processes. The study was conducted in normal, subjects inhabited at different regions in India, with the translated versions of IPAQ 7 Short Forms in Hindi and Tamil languages found the high intensities of vigorous, moderate activities and walking and showed excellent reproducibility as similar as it has been studied in different population worldwide. The resting state systolic and diastolic blood pressures, heart rate and respiratory rate were significantly higher in the subjects. The diaphragmatic breathing pattern was found used by majority of the subjects. The overall intensity and frequency of physical activity were very high among the subjects inhabited in hill areas. The energy utilization of the subjects on their physical activity was obtained in high Metabolic Equivalence of Task (METs) minutes per week. The Maximum Oxygen uptake (VO₂max) values were found poor among the men subjects. Thus significance in the physiological parameters was strong enough to alter the pharmacokinetics of drugs whose metabolism and elimination are primarily dependent on renal function. This results which will be helpful in optimizing and selecting the drug doses for the people under extreme physical activity with less oxygen consumption in muscles, low level of respiratory rates and high energy utilization in their body.

Biography

Thomas A is a Research Scholar of JSS College of Pharmacy, JSS University, Ooty, Tamil Nadu from the year of 2013. He is qualified with MPharm (Clinical Pharmacy Practice-Dr. M.G.R. Medical University), PDCR and has been working in the field of Clinical Pharmacology, Clinical Research since 2008. In career, he had worked with Apollo Hospitals Group Ltd, Fortis Healthcare Ltd. and Reliance Life Sciences Ltd. He is currently doing his Doctoral Research in the area of hepatic CYP450 enzyme dysregulations in response to stressors, drug pharmacokinetics and dose optimization in human population.

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