NATIONAL SCIENCE FOUNDATION

4th International Conference on Multidisciplinary Approaches - 2017

"Sustainable Development through Multidisciplinary Research"

PROCEEDINGS

INTERNATIONAL CONFERENCE ON MULTIDISCIPLINARY APPROACHES

Sustainable Development through Multidisciplinary Research

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FACULTY OF GRADUATE STUDIES
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UNIVERSITY OF SRI JAYEWARDENEPURA

MINISTRY OF SCIENCE, TECHNOLOGY AND RESEARCH

NATIONAL SCIENCE FOUNDATION

20TH - 22ND OF SEPTEMBER, 2017

BODY MASS INDEX AND COGNITIVE FUNCTIONS AMONG YOUNG ADULTS IN TWO SELECTED MOH AREAS IN COLOMBO DISTRICT, SRI LANKA

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Recent studies have shown that obesity is a risk factor for poor cognitive performance. The cognitive functions (CFs) are the collection of intellectual process, such as perception, thinking, reasoning and remembering for goal directed behaviours. Impairment of CFs has been associated with academic and behavioural problems in young adulthood. This study was conducted to determine association between body mass index (BMI) and cognitive functions in a sample of young adults (21-25 yrs) living in two selected Medical Officer of Health (MOH) divisions (Ratmalana & Piliyandala) in Colombo District, by simple random sampling, using electorate register of each Grama Niladari (GN) divisions . WHO cutoff values for Asian were taken as BMI cutoff values. CFs were assessed via validated Wechsler Adult Intelligence Scale-IV (WAIS-IV) which consists four domains; verbal comprehension (VCI), perceptual reasoning (PRI), working memory (WMI) and processing speed (PSI) and composite score in each task was calculated to determine the level of cognition. Differences in mean scores and correlations were assessed through ANOVA and spearmen correlation coefficient and significant level was taken as $p<0.05$. Study sample consists of 100 young adults of which 51% were females. Mean (SD) age was 23.42yrs±1.5. Mean BMI (SD) was 26.13 Kg/m2±5.4, of which 35% and 32% were overweight and obese respectively. A decrease in the VCI, PRI, WMI, PSI and full score of IQ (FSIQ) composite scores, were observed amongst the overweight and obese groups when compared with the normal weight group ($p<0.05$). Furthermore, a negative significant correlation coefficient was observed in WMI, PSI and FSIQ domains of the WAIS-IV with BMI (WMI r= -0.632 PSI r= -0.611 & FSIQ r= -0.578; $p<0.01$). However, age, gender and educational status weren't statistically significant between normal, overweight and obese groups ($p>0.05$). It is concluded that overweight/obese young adults in this sample have poorer cognitive functions when compared to the normal weight. Therefore, we recommend that urgent measures need to be taken to overcome obesity for preventing cognitive impairment amongst the young adult population.

Keywords: *Cognitive functions, BMI, WAIS-IV & Young adults*