Abstract of the Ph.D. Thesis entitled

“Physical activity pattern and metabolic syndrome among adult males and females: A follow up study”

Submitted by:
Meenal Dhall
Department of Anthropology
University of Delhi

Under the supervision of:
Prof. Satwanti Kapoor
Department of Anthropology
University of Delhi

A follow up study was carried out by multistage stratified purposive sampling method among adult Punjabi (Khatri and Arora) males and females of Delhi ranging in age from 25 to 60 years. Out of 456, 396 individuals met the conditions of inclusion criteria. Out of 396, 286 came under physically active group and 110 under sedentary group. Socio-demographic profiles, biological attribute which include anthropometric and physiological variables and association between various biological variables, physical activity pattern, health and lifestyle indicators were studied.

Subjects with higher education and involved in jobs were found to be higher in physically active group and lower education and self employed or housewives were more in sedentary group.

Regular physical active group showed lower mean values for various cardio metabolic and adiposity markers when compared to sedentary group. Irregular physical active group showed fluctuations in their mean values when compared to other two groups among females and males. During the follow up study all the cardio vascular and adiposity markers marginally decreased consistently from first month to third month of follow up.
Reverse trend was observed among males and females engaged in irregular pattern of physical activity except respiratory functions. Irregular active females and males had higher percentage of metabolic syndrome and higher risk of increasing regional and general adiposity compared to regular active group. Higher percentage of low density lipoprotein (LDL) and cholesterol risk was found among females and males with irregular pattern of physical activity. Among females, polymorphic form of genotype (GG) showed high mean values for obesity markers and blood pressure followed by heterozygous form (AG/GA) and wild type (AA type) of UCP 1. UCP1 showed a strong link between blood pressure and obesity phenotypes among females, so it may be considered an excellent candidate for cardiovascular disease.

When compared with the other Indian populations, the prevalence of metabolic syndrome among adult males and females of Delhi was higher. The increasing number of metabolic syndrome and associated health hazards can be attributed to the change in dietary habit, increasing sedentary lifestyle and growing urbanization among the adult Punjabi males and females of Delhi.