Diabetes and built environment – Emerging cognitive science approach

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Abstract

Diabetes, rather than genetic predisposition factor is today predominantly becoming a lifestyle disease. Though there is direct link of Food intake and Energy expenditure with respect to metabolic syndrome diseases, Environmental factors of the built environment are the underlying reasons for the recent growth rate especially in urban areas. Urban populations are more prone to physical/mental health issues that are chronic, while increased stress is the cause for most of the health problems. Stress predominantly, through response of people in built environments is leading to physiological and psychological health issues influencing metabolic activity and hormonal imbalances. Broadly, the responses are due to perception of complex sensory inputs of information.

1. Built environment factors as attributes, influences movement and navigation that have bearing on metabolic activity through Physical activity thereby causing stress along with the effect of food intake.

2. There is growing evidence on regulation of insulin and leptin hormones through cognitive functions. Attributes of built environment as cues of sensory inputs in regulating the functions of these hormones are leading to metabolic related diseases.

Though Visual sensory system is predominant especially in the first case, all the sensory systems in both cases and multi-sensory systems seem to provide comfort – discomfort – stress leading to Diabetes apart from food intake and energy balance. As most of the lifetime is spent in built environments, assessment of comfort/stress of the features of built environment is important. The paper is extensive review in various disciplines involved in Insulin/Leptin relation to features of built environment and cognitive sciences. Environmental enrichment by introducing dynamism rather than static models in built environments seems to show promising results in prevention of these diseases that are rampant.

Biography

Sudhir Kumar Pasala has completed Ph.D in Architecture in the year 2011 at the age of 41 from Andhra University and pursuing research in cognitive sciences in built environment. He has association with Dr. GR Sridhar, Director, Endocrine and Diabetes Center, Visakhapatnam, Prof. Allam Appa Rao, Director, AIMSCS, University of Hyderabad, Hyderabad and Dr.Kosuri Madhu, Department of Psychology and Parapsychology, Andhra University during his research and continues in further exploration and innovation. He has publications in Built Environment and Diabetes and held a National Conference recently in Built Environment, Cognitive Sciences and Health Issues during Feb, 2012