Neurocognitive Functions and Self Esteem of Type II Diabetes Patients in Comparison to Normal Controls

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The paper examines the differences, if any, in cognitive functioning, self-esteem and need pattern between the persons suffering from Type II diabetes mellitus and non diabetic sample. Fifty Type II diabetic and 50 non-diabetic persons of both sexes between 30 and 55 years of age participated in the study. The scores on cognitive functions and self-esteem were lower in the Type II diabetes mellitus patients than the healthy control. However, neither cognitive function nor self-esteem deteriorated below the normal range. The need for oral gratification, was present in all diabetic persons and in none in the control sample. Women had greater need for recognition and men had greater need for aggression.

Keywords: Type II diabetes, Cognitive function, Self-esteem, Need pattern

Diabetes mellitus is a chronic metabolic disorder in the category of non-communicable diseases. A number of studies have demonstrated that Type II or adult onset diabetes mellitus is associated with deterioration in different body functions as well as mood problems. Some difficulties noted from the earlier stages of diabetes may include slowed thinking, dizziness, slurred speech, blurred vision, difficulty in reading, sleepiness, numbness and lack of coordination (Cox et al., 2005; Knopman et al., 2001). Prolonged high glucose level in blood may influence a number of body functions including blindness, kidney failure, heart attack, and stroke (Rodriguez-Saldana et al., 2002).

Psychological, social and cultural factors play a crucial role in the expression and management of diabetes mellitus, and may also have a role in the genesis of the disease through inappropriate activation of hypothalamo-pituitary adrenal axis (Sridhar & Madhu, 2002). Being diagnosed as a diabetic may itself be a major life stress. After diagnosis, a patient often goes through the stages of denial, anger, depression, and finally acceptance (Sridhar & Madhu, 2002). Along with it, a number of cognitive, neuropsychiatric and emotional problems may be observed in the patients.

Some of the cognitive functions affected in diabetes are problem solving skills (Sinclair Girling, & Bayer 2000), psychomotor functions (Geddes, Deary, & Frier, 2008), learning and memory (Rolandsson, Backestrom, Eriksson, & Hallmans, 2008), and visuospatial abilities (Wredling, Levander, Adamson, & Lins, 1990). This has been attributed to neuropsychiatric dysfunction, though its exact nature is unclear. For example, disturbed brain glucose metabolism, altered brain insulin signalling, extra-neuronal hyperglycemia etc. have been implied, but with inadequate evidences (Solanki, Dubey, & Munshi, 2009). A few recent studies attempt to relate pathology in neurocognition with diabetes related Vitamin D deficiency in the brain (Nimitphong & Holick, 2011). It has also been suggested that the heterogeneity of symptoms is probably caused by differences in patient characteristics, nature of the tests, and the psychometric paradigms used. Often aging factors interact with the diabetic factors.