ABSTRACT

Diabetes mellitus is not ordinarily considered to be a central nervous system disorder, but there is now much evidence to indicate that diabetic children and adults manifest mild brain dysfunction. Reviewing recent studies that have used neuropsychological techniques, this chapter delineates neurocognitive decline in orientation, registration, attention and calculation, recall, language, copying are associated with diabetes. Common to all patients is a reduction in registration of information, indexed by cognitive test. In addition, older adults with type 2 diabetes show moderately severe learning and memory deficits, which may be correlated with knowledge of disease, literacy and which may, in part, be related to a long history of hyperinsulinemia. Children and adults who develop diabetes in the early years of life manifest all of these features as well with the magnitude of these effects often falling into the clinically significant range. Lower scores on measures of IQ and academic achievement are particularly pronounced. Although earlier work suggested that diabetes-associated brain dysfunction was primarily a consequence of recurrent episodes of moderately severe hypoglycemia, it now appears that socio demographic and the many metabolic and physiological changes associated with diabetes – that underlie these brain changes. The primary aim of the present study was
to examine the relationship of socio demographic characteristics, life style factors and metabolic characteristics of diabetic patients related to cognitive dysfunctioning and management of diabetes. The secondary aim was to assess the impact of knowledge of diabetes and its management due to decline in cognitive dysfunction.

Cognitive functioning was evaluated in patients with the aid of MMSE (Mini Mental State Examination). The evaluation period of eighteen months of which two follow ups and one baseline evaluation was done. Patients were randomised into two groups depending on their socio demographic data and knowledge in management of diabetes. Sperman’s rank correlation test was done to elucidate statistical significance in the respective diabetic patient population. Therefore, the findings of this study provide support for the hypothesis that cognitive functioning and diabetes management are directly interlinked.