CHAPTER 5

CONCLUSION

The objective of the thesis was to investigate the cognitive effects of different factors associated with health care in diabetes management in their course over time. The results of the studies show that diabetes and its complications along with socio demographic factors impart a significant impairment in cognitive domains.

The rising prevalence of diabetes poses a major clinical, economical and social burden to India. The metabolic deregulation associated with diabetes Mellitus cause’s secondary pathophysiological changes in multiple organ system. The cost of diabetes care is high and is escalating worldwide. With only spare data available from developing countries on the expenditure on diabetes care, in a developing country like India which lacks a comprehensive health care system, especially the cost of treatment is limited. No uniform norms exist for disease management establishing the need for a minimal biased health care system in the country. Awareness for better diabetes management among patients needs a satisfactory literacy level, with our study proving the impact of occupation and diabetic hereditary on cognitive function; it is to be a real concern to health care providers that patients be individualised as per their literacy and occupation status and diabetic hereditary.

Long term complications of the disease are extremely concerning thus appropriate therapy is highly recommended, that too in diabetes that
requires high level of self management. Diabetic patients with minimal level of literacy tend to exhibit a drastic decline in cognitive performance than the other diabetic patients with a relatively high level of literacy. The result on occupational and diabetic hereditary impact on cognitive performance is a milestone in understanding diversity among diabetic patients and an area of interest in futuristic diabetes management.

Although several studies have examined the association between age and change in cognitive function over time (Butler et al. 1996; Albert et al. 1988; Cunningham et al. 1987; Labouvie-Vief et al. 1985; Perlmutter et al. 1987; Swihart et al. 1988) only limited studies have specifically examined the impact of literacy and occupation on cognitive function, our study aimed at examining the role of literacy and occupation with regard to cognitive function in diabetic patients. It is vital that an understanding of the relationship between educational attainment and decline in cognitive function is particularly imparted since education has been found to be associated with diabetes self management.

The more distal explanation of the cognition is that higher levels of cognition are associated with higher socioeconomic status leading to earlier diagnosis, better chronic disease management With developing economical needs of the nation it is necessary to attain better personal disease management especially in diabetes, and thereby it would be important to examine factors influencing change in cognitive function over time .With no more than minimal work done on impact of cognitive function in diabetic patients with regard to occupation, the study has triggered a new era in the management of diabetes. Further it is clearly evident that diabetes requires high level of self management unlike in case of other disease management, thereby it is mandatory for a specific patient oriented approach in diabetes management.
Cognitive function being a major criterion that alters the self management in diabetic patients is not considered as a risk factor among diabetic individuals, it is necessary that health care providers impart a more pronounced awareness among diabetic patients regarding the possible effects of cognitive functioning and causes of its decline. Considering the fact that cognitive decline in diabetes was not subjected to studies on social habits, our study had proven that diabetic cohorts with smoking and alcohol consumption had a potential decline in cognitive performance. The results interpret that diabetic patients are greatly influenced on cognitive function with regard age and gender, it is vital to consider the importance of early diagnosis of cognitive function and cessation of smoking for proper diabetes management.

With the prevalence of diabetes in epidemic proportions, World Health Organization (WHO) predicts that developing countries will bear the brunt of this epidemic in this century. With an estimated 50.8 million people with diabetics, India has the largest population, followed by china with 43.2 million. The International Diabetes Federation has reported that the 50.8 million diabetic subjects in India in 2010 would rise to 87 million by the year 2030.

Thus far no long term large prospective study has specifically examined for the possible effect modification of cognition in diabetic patients in India. With Diabetes becoming an emerging threat and a burden to the country’s economy it is vital that screening for cognitive dysfunction; be made as an integral part of the assessment process for subjects with diabetes mellitus.

Evidence of significant decrease in cognitive functioning of diabetic patients with regard to Age, Gender and social habits paves way for
need of a remarkable change in diabetes management. It is highly necessary that subjects with diabetes be screened for cognitive functioning at the earliest, considering the fact that diabetes requires high level of self management especially for better compliance.

The study emphasis that diabetic patients require a renewal in the social habits, patients need to be educated regarding the cognitive effect of diabetes so as to enable patients manage their diabetes with ease. Future studies should aim to employ longitudinal designs to clarify more carefully the relationship between diabetes and cognitive function and better identify risk factors for developing cognitive dysfunction.

5.1 FUTURE RESEARCH

The limitations of the research performed so far, by myself are to some extent avoidable in future studies. Also, several research questions are not yet answered. In order to better study the impact of diabetes on cognition, it is necessary to do focused studies where there is some degree of control over the severity and treatment of diabetes.

A person who develops diabetes may in some fundamental way, be different than a person who does not. We would ideally have wanted data from the diabetic person had the person not developed diabetes as a comparison. Since that is not possible, causal inference may be feasible through experiments with randomized treatment. If we assume that there is a dose-response effect of disease severity on cognition, and that disease severity can be modified through treatment, we can design a study that may answer some profound questions regarding the relationship between diabetes and cognition. Surprisingly, such studies have not yet been devised.
The next study that I have planned fulfils the criteria. Although one single study will, admittedly, not be sufficient for any conclusions to be considered evidence based, I believe that this study will add greatly to our knowledge of diabetes-related cognitive impairment and potential treatments to minimize it.