Preface

Nutrition transition coupled with urbanization, boost in the family economy due to the higher earning, maintaining nuclear families and lack of physical activity together have all contributed to the increase in Non Communicable Diseases (NCDs) both in developed and developing countries since the later part of the last century, and the trend has been growing rapidly in this decade too. Among the various NCDs, Diabetes Mellitus has superseded all the others as the disease occurs at an early stage in life and affects all the cells and organs of the body. India especially is facing an epidemic of diabetes and has been deemed as the ‘Diabetic Capital’ of the world. Multiple approaches in understanding the disease from aetiology to epidemiology through pathobiochemistry, pathophysiology, clinical and non-clinical management have all helped in the better management of the disease through medical nutrition therapy. All the medical nutrition interventions have been directed not only towards the dietary management of the disease, but also from the point of view of prevention.

Continuous research we carried out in all the above areas for understanding the disease better so that effective interventions can be planned, ultimately leading to the prevention and control of the disease. The salient features of the whole study have been covered in a nutshell under the abstract of the study. The observations on various researches and various aspects of NCDs are covered as a brief write up in Introduction (Chapter 1) and in detail under Review of Literature (Chapter 2). The tables and figures appearing in a chronological sequence have also been indicated. Methods and Materials (Chapter 3) gives a comprehensive picture of the study design and methodologies.

Studies on various causative factors have clearly demonstrated the close relationship between obesity (the mother of all chronic degenerative diseases), diabetes and the direct correlation of development of secondary complications with high rate of morbidity and mortality. Further, it has now been well documented and understood that effective approach always depends on follow up of optimum dietary practices and staying physically active as much as possible at all stages of the life cycle.
Physical activity has clearly shown several beneficial effects. Therefore, we have studied the impact of physical activity in the development of secondary complications in this comprehensive study and the interesting observations are presented in Chapter 4.

Chronic hyperglycemia associated with diabetes is known to cause excessive free radicals which lead to increased prevalence of secondary complications. Modern dietary therapy has focused on reducing hyperglycemia using food based approaches. Active research in this area has resulted in the exploration of many medicinal plants for control of hyperglycemia. The data obtained with supplementation of Gymnema sylvestre in the management of type 2 diabetes is presented in Chapter 5.

Understanding of the pathobiochemistry, pathophysiology and etiology of NCDs is the basis of Health Promotion attempted at various settings world over. It is very difficult to carry out a successful Health Promotion Program due to the requirement of attitude, motivation, commitment and discipline in continuing over a long period of time. Success stories and observation of failures have all provoked a wealth of information and have also paved pathways for future attempts across the globe. Our initial success in a Health Promotion Activity with an Industry has prompted us to plan the present comprehensive Health Promotion study. DEAR study which has been presented in Chapter 6; Stage 1 & 2. Both the stages involved the use of non electronic or electronic media, to bring about awareness and help in the management of the disease.

The observations of the present study are quite interesting and have opened up new avenues and routes for future research and all these aspects are covered in Chapter 7 under Summary and Conclusions.

Bibliography in alphabetical order has been presented in Chapter 8. The appendix at the end of the thesis includes the questionnaires used for data collection and some of the NHE material that was provided to the subjects.

As the study carried out in this thesis has been both challenging and interesting, we wanted to cash on the opportunities as and when available through various fora such as conferences, symposia and through peer reviewed publications.
National /International Scientific Meetings

3. 47\textsuperscript{th} Annual Conference, Research Society for the Study of Diabetes in India, Ahemdabad, 8 – 10 November 2009.

Research Publications

1. An Open Label study on the Supplementation of Gymnema sylvestre in Type 2 Diabetics. Journal of Dietary Supplements. (Accepted)
2. Influence of Physical Activity on the Pathobiochemistry and prevalence of Secondary Complications in Diabetes Mellitus. International Journal of Diabetes in Developing Countries. (Communicated)

Awards


This road map has always been fruitful and encouraging.