Chapter – VII

Summary, Findings, Recommendations & Suggestions
CHAPTER - VII
SUMMARY, FINDINGS, RECOMMENDATIONS AND SUGGESTIONS

SUMMARY
Once regarded as a single disease entity, diabetes is now seen as a heterogeneous group of diseases, characterised by a state of chronic hyperglycemia, resulting from a diversity of aetiologies, environmental and genetic, acting jointly. The underlying cause of diabetes is the defective production or action of insulin, a hormone that controls glucose, fat and amino acid metabolism. Characteristically, diabetes is a long-term disease with variable clinical manifestations and progression. Chronic hyperglycemia, from whatever cause, leads to a number of complications cardiovascular, renal, neurological, ocular and others such as intercurrent infections. The present study was undertaken to understand the various ill effects of diabetics along with management of disease.

OBJECTIVES
The main objectives of the study are:
1. To study the socio-economic conditions of diabetes patients.
2. To find out the causes of diabetes mellitus.
3. To analyse the impact of diabetes mellitus on the health of the people.
4. To assess the awareness of diabetes mellitus in South Indian population in Tamil Nadu.
5. To find out the ways of managing the disease.
6. To suggest methods of managing diabetes mellitus.

Comprehensive interview schedule was used to collect information from 1000 respondents who have been identified and selected by purposive sampling method. The data collected from them was subjected to both qualitative and quantitative analysis under the six objectives of the study. An attempt is made in this chapter to recapitulate the major conclusions arrived at in the course of the study.
FINDINGS

The sample study shows that the mean age of male respondents is 45.3 and the same is 49 for female. It is also noted that more number of male respondents below 50 years and higher number of females above 50 years are diabetics. Majority of the sample irrespective of sex followed endogamy in marriage which is justified. In the study by the total number of married out weighing the unmarried

Endogamy is also followed by the parents. Hence it is clear that endogamy may be one of the causes for the prevalence of diabetes. Females in the study have relatively poor educational background compared to males. It is natural that the executives and business people are always busy with their hectic work schedule. Further, the high prevalence of diabetes in this group is due to good economic status, sedentary life style and consumption of oil rich food. However, the number of diabetic patients is more in males than in females in the first category because of more number of males holding executive post.

Irrespective of sex more than half of them earn more than Rs.10,000 per month. As medicines and medical treatments are costly, it is more difficult for people with an income of less than Rs.10,000 per month to meet their medical expenses, it is because of this reason perhaps that a little less than 50 per cent of respondents are irregular in their treatment. It is proved that majority of the males who live in joint family and more females who live in nuclear family are diabetic. Besides it is also found urban living is the contributory factor for diabetes. Age is found to be an influencing factor in type I and sex does not have any impact on type of diabetes.

Family history, obesity, smoking, alcohol consumption, hypertension, consumption of non-vegetarian food are the major cause of diabetics. Apart from this sedentary activity, place of residence are also the contributory factors of diabetes. Similarly, family history, obesity, lack of physical activity, are associated with sex.
Age, sex, food habits and various causes are found to be associated with duration of disease. As the age advances the duration of disease also increases. Similarly among the newly detected, female predominates and among those who have history of diabetes for more than 16 years, male dominates. In other words it can be said that male, older age group and those who consume non-vegetarian food have diabetes for more number of years.

All complications associated with diabetes mellitus revealed that educated urbanites, one who engaged in sedentary type of activity, non-vegetarian people out numbered their counterparts. The complications due to diabetes in the order of seriousness are Retinopathy, DFS, PVD, PD, Neuropathy, CVD, Renal disease and HD. Respondents have been hospitalised for more than seven times for CVD, Neuropathy, PVD and HD.

Irrespective of sex for urbanites Retinopathy and DFS are the two predominant complication found, whereas for rural people PVD and Neuropathy are noticed. Similarly Retinopathy, DFS and PVD are seen for both educated and uneducated and also among respondents engaged in various types of activity. Even among both vegetarian and non-vegetarian DFS and retinopathy are found.

Only less than 50 per cent of patients, who suffer due to diabetic neuropathy takes medicines. Though more number suffer due to PVD, it is revealed that only half of the percentage of male suffer from severe PVD. Male are more prone to CVD and they top in heart diseases both in rural and urban areas compared to their counter parts. On the contrary female exceed male in the case TB. For more than 50 per cent of female, renal disease is detected newly and majority of them take regular treatment.

Both the sexes are equally affected by the renal failure, but the severity of the disease differ. More number of male suffer from chronic renal failure and they have to go for dialysis and transplantation. Nearly three fourth of the respondents suffer from any one of the eye problems. Cataract is the most significant one. A little less than 50 per cent have diabetic foot syndrome.
Overall the study conclude that the awareness and knowledge of diabetes is inadequate especially among respondents in rural areas, though more women from urban areas and more rural males are aware of diabetes, they are not aware of complications which is even life threatening. Even among those who know that diabetes can cause complication, many are not able to specify a single organ which can get affected. The study proves that eye disease and hypertension are the two notable complication which is realised by most which is followed by foot problem. Role of doctor is appreciated in creating knowledge about diabetes. Majority are not hospitalised since they take regular treatment and they do regular consultation as they are aware of the evil effects of diabetes and hence the desire to keep it under control. For only less than 50 per cent the expenses are manageable, out of which more number of females are more experienced in making both the ends meet.

Strict diet followed by drugs are the major methods used to control the disease for both the sexes. Though male used to relax diet occasionally women strictly follows it. Though negligible in number almost an equal number of male and female are also not following diet, mainly because of lack of time and heavy work. Walking, jogging, running in tread mill are also the other methods practiced by few. Because of the awareness obtained by way of attending classes and camps, more than three fourth of the respondents go for regular allopathic treatment among whom educated dominates. Next to allopathic respondents prefer Ayurvedic treatment. Among them women dominates men and they take this treatment due to its less expensive nature. Besides the survey revealed that due to the influence of elders at home they have faith in ayurvedic medicines. Some still take methi, bitter guard soup, guava leaves, as medicines for diabetes.

Sex, type of family, economic conditions are the major determining factor for the respondents for taking up regular treatment. Female, respondents living in joint family and one who earns less than Rs.10,000 are the people who are irregular in their treatment. Though diabetes is a life long disease, by way of proper management the patient can lead a normal life.
Following are some of the suggestive measures to manage the disease.

**BLOOD SUGAR REGULATION TIPS**

- Eat small and frequent meals.
- Avoid meal skipping / fasting.
- Eat variety of foods from various food groups to get the required nutrients.
- Eat plenty of foods rich in complex carbohydrate and fiber through whole grains, vegetables and fruits.
- To make the milk-fat free, boil it twice and remove the cream from the top.
- Use your oils in rotation to get the benefits of all kind of oils.
- Exercise at least three-four times a week for half an hour. Walking is the best exercise for diabetes.

Annual checkup for eyes, kidney, heart, dental hygiene, foot and skin are essential to identify the complications in early stage. Prevention is the goal of diabetes care, and this is most important for every one. It is important to watch for signs of problems before they become serious. Regular visits to ophthalmologist (Eye specialists) and podiatrists (foot specialists), dermatologists (skin specialists), Dentist, Nephrologists (Kidney specialists), Cardiologists (Heart doctors) are recommended. Treatment of high blood pressure and high blood fat (cholesterol) level is also important. Smoking is always discouraged.

Diabetes mellitus is a disorder that has reached epidemic proportions in the community. Good control of blood sugar in association with weight, blood pressure and cholesterol ensures a healthier and longer life.

When diabetes suddenly hits, many unpleasant things come to mind like Injections, strict diet, urine tests, blindness. Infact, most people with diabetes may not need injection, if their diet is normal and wholesome. Urine tests have gone out of fashion and eye disease can now be successfully
treated. However, people have to learn to control their diabetes and they can do this by understanding the condition. Much advice and help comes from nurses, doctors, dietitians and others. By understanding the complexity of diabetes, most people manage to lead full lives by incorporating their condition into their normal work and activities.

RECOMMENDATIONS

1. Diabetic education should form part of the curriculum so that children get knowledge about the disease by way of which they will try to either control or prevent of the same.

2. Issue of diet sheet to every patients should become mandatory and ensure it is not very much different from the family’s diet.

3. Initiate diabetes health care centre in every rural areas with full facilities so that all critical cases can be managed.

4. Importance of yoga should be inculcated in the mind of the patients. Teach Yoga such as Pranayama, Halasana, Dhaurasana, Arthamal, Sendrassana, Pachimatarasana, Vajrasana, Dhanurasana as it is more effective in controlling diabetes.

5. Diabetes education and treatment camps to be conducted in different area once or twice in a month with social organisation like Rotary club or Lion club etc.

6. Media can be used to propagate the information about diabetes to public.

7. Folk songs, street plays can be initiated to spread the evil effects of the disease.

8. Government voluntary organisation should come forward to provide medicines especially insulin in concession rate.

9. Diabetes health care costs may be reduced using a variety of cost contained strategy.

Figure : 7.1
Prevention of Type – 2 Diabetes Mellitus

- Family History
- Age > 40
- Over Weight
- Stressful Individual
- Lack of Physical Activity
- Over Eating

Glucose Tolerance Test
Yearly Once

- Positive
  - Plan Treatment early
  - To prevent (or) postpone occurrence of complication
- Impaired
  - Life style modification
  - Diet Modification
- Normal
  - Repeat GTT
  - Every Year

To prevent or postpone occurrence of Diabetes Mellitus
Figure: 7.2
Prevention of Diabetes Related Complication

Good Management

To Identify Complication
In early stage

Identify Diabetes
Early

To Start
Treatment Early

Diet Modification
Life Style Modification
Regular Medical Follow Up

Maintain Adequate
Glycemic Control

Yearly Evaluation

Eye
Fundus Exam
Fundus Angio

Kidneys
24 Hrs, Urine Protein
Blood Urea
Sr.Creatinine
USG-Abdomen

Heart
Lipids (F)
ECG
ECHO
Holter/TMT

Others
as advised
by medical
team

Suggestion for further research

1. Family's support in managing the disease can be one of the area to be explored.

2. Studies can focus on specific target group like high-risk patients, single parent families, patients from low income, children with psychopathology.

3. More research is needed to determine the best ways to help diabetics and their families succeed with intensive insulin therapies.

4. Research can focus on behavioural and phychosocial issues and therapies for the prevention and treatment of type 2 diabetes in youth.