Chapter V
CONCLUSION

Diabetes is a slow killer with no known curable treatments. However, its complications can be reduced through proper awareness and timely treatment. Three major complications are related to blindness, kidney damage and heart attack. It is important to keep the blood glucose levels of patients under strict control for avoiding the complications. One of the difficulties with the tight control of glucose levels in the blood is that such attempts may lead to hypoglycemia that creates much severe complications than an increased level of blood glucose. Researchers now look for alternative methods for diabetes treatment. The goal of this thesis is to give a general idea of the current status of diabetes research. The author believes that diabetes is one of the highly demanding research topics of the new century and wants to encourage new researchers to take up the challenges.

Although we are not exactly sure about the causes of diabetes, we believe that it has to do with the body’s own immune system attacking and destroying insulin-producing cells in the pancreas. Without insulin, the glucose that we need to live has a hard time entering the cells of the body that need it. If too much glucose builds up in the blood, then a diabetic may begin to have headaches or blurry vision as observed in the interview methodology by the author. Diabetic patients may become very thirsty and have dry, itchy skin. If glucose levels go too low, then a diabetic may feel shakky, tired, hungry, confused, or nervous. Apart from these some of the other symptoms
were excessive thirst; constant hunger; sudden weight loss for no reason; rapid, hard breathing; sudden vision changes or blurry vision and drowsiness or exhaustion. These symptoms can occur at any time.

Type 1 diabetes can occur at any age but is most commonly diagnosed during childhood. In Type 1 diabetes, a person’s pancreas produces little or no insulin, and as insulin is necessary for life, people with Type 1 diabetes must take several insulin injection shots each day for the rest of their lives. Although insulin allows a person to stay alive, it does not cure diabetes or prevent its complications. The blood sugar level of the diabetic must be tested several times daily. This helps balance the glucose in the blood and will help determine how much insulin is needed. Diabetics need to pay careful attention to their diets, exercise and blood sugar levels in order to stay healthy. Other factors that can affect the blood sugar levels are stressed, periods of growth, dollars for infection, and fatigue as well as their exercise and any changes in their normal schedule. Type 2 Diabetes or non-insulin-dependent diabetes, is different from Type 1 Diabetes in one major way. In Type 2 diabetes, the pancreas does produce insulin, so it is not needed to be taken separately, but sometimes, not enough insulin is produced or the cells ignore the insulin. Because of the sudden rise or fall in blood sugar levels, people with this type of diabetes must also test their blood several times daily and adjust their diets and exercise accordingly. Insulin boosting pills help this type of diabetic to maintain consistent blood sugar levels. With good treatment insulin levels can return to normal. This, however, does not mean that they are cured. They will always have diabetes, but a normal level shows that they are
taking care of themselves. A good diet, exercise, and weight loss can help improve the body’s use of insulin. A good diet should include low-fat foods, moderate amount of protein, and lots of foods high in complex carbohydrates, like beans, vegetables, and grains. Exercise helps the body take in glucose. Exercise also lowers glucose levels and plays a major part in treatment. Losing weight is also a major part in treatment. It can also help the body to use insulin more efficiently. The best way to lose weight is to maintain a good exercise program and a healthy eating plan. If a healthy diet is not kept up, then life-threatening complications may arise. These life-threatening complications include: blindness; heart attack; kidney failure; stroke; nerve damage; and amputation. People with diabetes can live a normal, regular life by keeping track of their blood sugar levels. The average life span of a diabetic is 15 years less than people that are not diabetic. This does not mean that they cannot live a normal life. If a diabetic takes care of himself/herself by exercising and eating right, then his/her life can be just as happy as anyone elses.

Socio economic status holds important aspect in the scenario of diabetes mellitus. According to the census reports of 2001, the author has made his best attempts to collect the data which is more prevalent for the study and shown it in Table-1. Apart from collection of data, other information like age groups, gender, religion, marital status, different type of occupations, diet type, congenital clinical symptoms and by acquired clinical symptoms were recorded and shown in a systematic formats in forms of tables and graphs. As per the population data available male and female ratio is some what equally distributed.
Another study which reveals that most of the female diabetic persons were Housewives accounts for 38%. Most of the persons were vegetarians (those who take occasionally have been excluded) and 40% of the persons are having a diet of Non-vegetation category. Distribution of studies according to the congenital clinical symptoms, those their relatives were (living or dead) affected by diabetes were recorded 85% and those with acquired clinical symptoms have been recorded vice versa.

Comparison of Blood Pressure, Blood Sugar Sample and Lipid Profile with socio-economic factors revealed insignificance by comparing type of diet (veg and non-veg) with different sugar levels. Comparison of Congenital (Yes and No) with respect to different sugar levels is insignificant and PPBS variable is significant. Comparison of Acquired (Yes and No) with respect to different sugar levels is insignificant and PPBS variable is significant value also supported by calculated t-values and p-values. Both the congenital (Yes and No) and Acquired (Yes and No) show the vice-versa results as the socio economical factors also support in this regard. Similarly insignificance is found in the dietary intake of the persons. Congenital (Yes and No) and Acquired (Yes and No) show that the calculated Cholesterol level is significant. Interestingly dietary intake shows the comparison of type of diet (veg and non-veg) with respect to different Blood Pressure and Hemoglobin level shows the significant value.

Comparison of Anthropometric measurements with socio-economic factors showed that there is no significant value found in the diet with anthropometric circumferences tests and anthropometric skin
fold measurement tests. There is no significant value found in comparison of congenital with different anthropometric circumferences and different anthropometric skin fold measurements. Comparison of congenital with different anthropometric circumferences and anthropometric skin fold measurements also have not shown any significance.

Comparison of Sugar Tests with different Socio Economic Status by one way ANOVA and Tukeys multiple post hoc procedures revealed some of the significant values. Significant value is observed in all the sugar levels in all the talukas, pair wise comparison of different taluks and significant levels were recorded in most of all the values. Comparison of age groups with different sugar levels shows significant values in all the variables. More number of significant values in the sugar levels values from the age groups between 20-29yrs to 30-39yrs and 40-49yrs. FBS and RBS values showed significant values in 20-29yrs to 50+yrs age group. Significant level is also found in RBS value in 40-49yrs to 50+yrs age group. Comparison of male and females with different sugar levels shows significant value in FBS variable. Significant value is found in PPBS sugar level value among different occupations. Pair wise comparison of occupations by Tukeys multiple post hoc procedures reveals significant value is observed between the employees and housewives.

In Lipid Profile Level pair wise comparison of talukas shows significant levels in many talukas. Significant values in cholesterol and TG lipid profiles. Pair wise comparison of age groups among cholesterol and TG shows the significant value among the age groups 20-29yrs to
40-49yrs. It also shows the significant value in 30-39yrs to 40-49 yrs in TG. Comparison of males and females with respect to different lipid profile levels and all the values were significant except HDL. Comparison of religions with respect to different lipid profile levels shows the significant value in the cholesterol level in all the religion groups. Significant level in Hindus-Christian and Muslin-Christian groups this may be due to the less number of samples. The relationship among lipid profile levels showed significance values between LDL-Cholesterol, TG-Cholesterol and TG-LDL parameters by Karl Pearson’s correlation coefficient method.

In Blood Pressure and Hemoglobin comparison of taluka places with respect to different Blood Pressure, significant values were found in SBP, DBP, and stature. Significant values were recorded in all the age groups with comparison to Blood Pressure. Similarly the comparison of Age groups shows the most significant values in all the age groups. Comparison with weight and stature shows the significant values among married-unmarried with weight and married-others with stature. The occupations with respect to different Blood Pressure, shows significant values in all the variables including weight and stature.

In Anthropometric measurements, the anthropometric circumferances with respect to different talukas shows significant values in all the variables. Pair wise comparison of taluks by different circumferances has shown significant values. In the Comparison of taluka places with respect to different skin fold measurement, significant values were recorded in triceps and bicep. Pair wise
comparison of taluks by triceps and biceps has resulted in 30% of significant values. Comparison of Age groups with respect to different Circumferences, except calf significance values been observed in abdomen, chest and upper arm values. 50% of the significant values have also been recorded in the pair wise comparison of Age groups. In the comparison of marital status, significant value is been recorded in chest and is further compared among marital statues values and significance is observed in Married-Unmarried category. Comparison of Occupations with different Circumferences, significance value is recorded in abdomen and it is further compared among different occupational groups and observed that significant value is found in Employee-Business category.

Relationship between many of the variables like sugar level, lipid profile levels and blood sugar parameters with circumferences revealed some of the important results.

They are:

- Significance is observed in comparison with FBS to Chest, PPBS to Chest and PPBS to U. arm.
- Significance is observed in comparison with TG to Calf.

Significance is observed in comparison with SSB to Abdomen, DBP to Abdomen, DBP to Chest, WT to Abdomen, WT to Chest, Stature to Chest, stature to U.arm and Stature to Calf.

Relationship between sugar levels, lipid profile levels and blood sugar parameters with skin fold parameters revealed some of the important results. They are: In sugar levels significance is found in PPBS to Bicepes. In Blood Pressure significance is found in SBP to
Bicepes and DBP to Bicepes. Significance is observed in WT to Triceps and biceps. Significance is also observed in stature to triceps.

There is a positive relation between Abdomen - Bicepes and Abdomen – Scapular, it is significant. Positive relation between U.arm – Triceps, U.arm – Bicepes and it is significant. Positive relation between Calf – Triceps, Calf – Bicepes and it is significant. Positive relationship is shown in Chest with Triceps, Bicepes, Abdomen and Scapular but no significance is found. There is a negative relationship present with chest and Abdomen.

This study has concluded many aspects and showed significant levels in variables. Though aimed primarily at the study of population on diabetes mellitus studies will continue to play an important role in such areas as examining socio-cultural influences on the persons living with disease. It is evident that our investigation of small population can offer no more than snapshot of disease history from the clinical perspective. Moreover, based on the present results obtained, it is very difficult to trace their exact aspect also the influence of genetic drift between period of their migration and the period of sampling can not be ignored. In future detailed study and analyses of more populations can reveal some interesting patterns of maternal as well as WHO is all the way on its work in throughout the world and in India. Moreover, recent studies on Indian diabetic scenario conducted by ICMR opens new insights to many unique studies that can be made to find unique patterns of disease footprints of different geographical locations in India.