CHAPTER 4

Data analysis and discussion

4.1 INTRODUCTION

This chapter presents the data and a discussion of the findings. A quantitative, descriptive survey design was used to collect data from subjects. Two questionnaires, one for diabetic patients and the other for family members of diabetic patients, were administered to subjects by the researcher personally. The study was conducted at Nkhensani Hospital and Giyani Health Centre, falling under the Lowveld region, Mopani District in the Limpopo Province. A convenient sample was selected from the two health care services. The sample consisted of 32 diabetic patients and 32 family members living with and caring for diabetic patients. The data was gathered over a six-month period. Data was analysed through the computer program, SPSS. Descriptive statistics in terms of percentages were used. The research results are presented in the form of percentages, bar graphs, pie diagrams and frequency counts.

4.2 PURPOSE OF THE STUDY

The purpose of the study was to determine the knowledge of patients and family members regarding diabetes mellitus and its treatment regimen. The researcher was interested in finding out what the cause of non-compliance with the diabetes treatment regimen could be. Once the cause is determined it may be rectified and culture specific health education and nursing care may be provided, thereby improving adherence to the treatment regimen and the quality of patient care.

4.3 RESEARCH OBJECTIVES

The objectives of this study were to

- identify the patients' and their family members' knowledge of diabetes mellitus and its treatment regimen
- identify the views of patients and their family members towards diabetes mellitus and its treatment regimen

4.4 DATA PRESENTATION AND DISCUSSION

The data is presented in descriptive statistics through frequency counts and percentages, illustrated in pie diagrams and bar graphs.

4.4.1 Section A: Demographic characteristics of participants

This section describes the demography of the participants in terms of age, gender, educational status, income and where they live. The results of the diabetic patients will be given first, followed by the results of the family members.

4.4.1.1 Age of patients

The patients' ages ranged from 16 to older than 41 years. A total of 30 (93.8%) were aged 21 and older (see figure 4.1). According to Black and Matassarin-Jacobs (1993:1775), diabetes mellitus affects mostly adults from the age of 21 to 74 years.

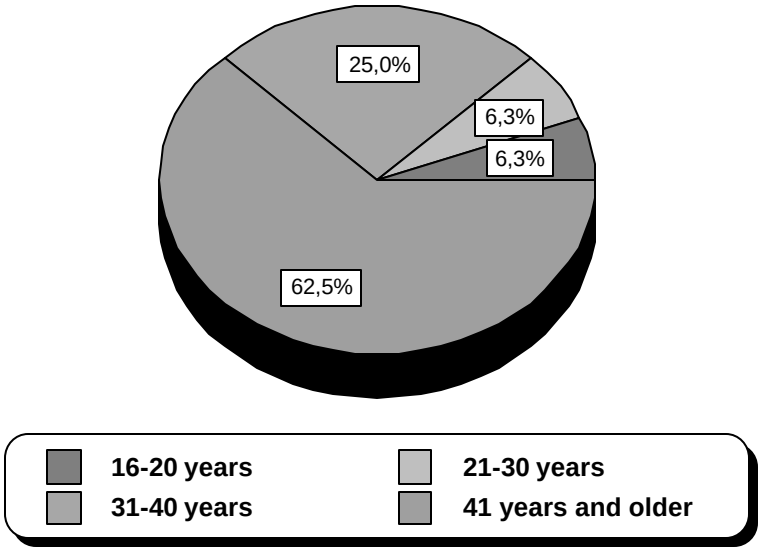

Figure 4.1

Age of patients

4.4.1.2 Gender of patients

In the study, 17 (53.1%) of the patients were males and 15 (46.9%) were females (figure 4.2).

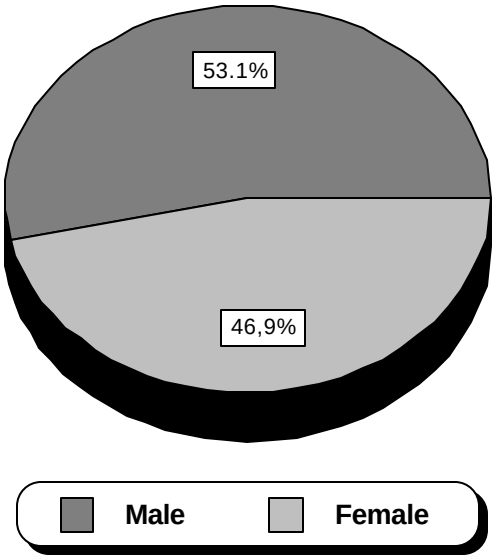

Figure 4.2

Gender of patients

4.4.1.3 Level of education of patients

According to figure 4.3, 21 (65.7%) of the patients had reached grade 8 and above, and only 11 (34.3%) had not reached grade 8. Therefore the majority can read and write, which means that they would be able to understand the importance of adhering to the treatment regimen once it has been explained to them properly.

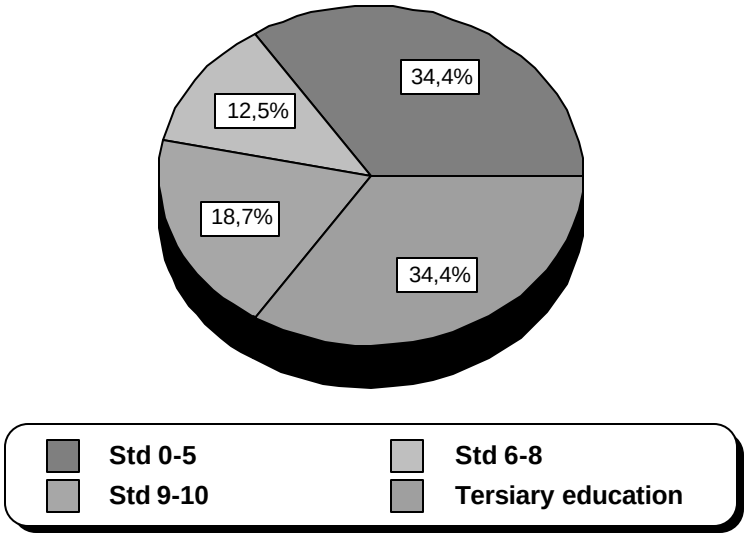

Figure 4.3

Educational level of patients

4.4.1.4 Income of patients

Figure 4.4 indicates that the majority of the patients 25 (78.1%) had a monthly income in the form of a salary or pension grant and 7 (21.9%) had no income. The income varied from R100 to more than R2100 per month, and most patients fell into the higher category of income. New Fast-acting Insulin (1997:30) reported that expenses contribute towards diabetic patients' frustration because their diet differs to that of the family.

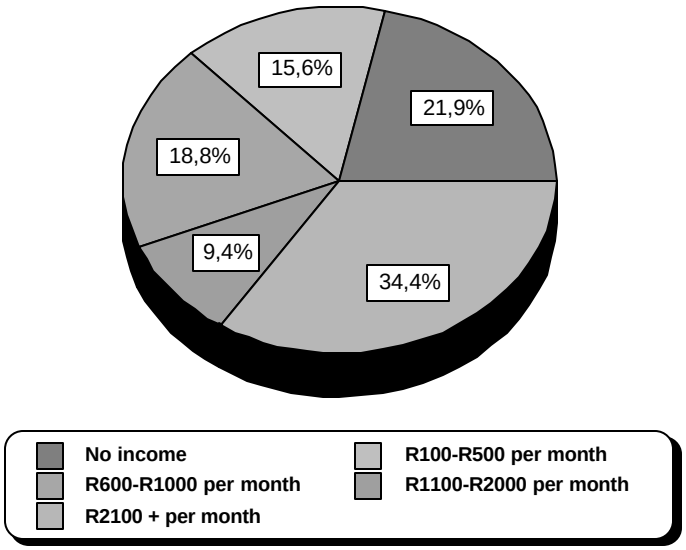

Figure 4.4

Income of patients

4.4.1.5 Living areas of patients

The majority of the patients in the sample 18 (56.2%), stay in the township and only 14 (43.8%) stay at the villages. Therefore most patients are near the hospital and the health centre, which means that health care support is readily available and accessible.

4.4.1.6 Age of family members

The age of participants who were involved in the study ranged from 16 to older than 41 years, and of the 32 subjects, 28 (87.5%) were aged 21 years and older. Only 4 (12.5%) were between 16 and 21 years of age. Therefore, family members who were staying with diabetic patients in this study were mostly adults (see figure 4.5). This indicates the possibility that patients may receive responsible support from adult family members living with them.

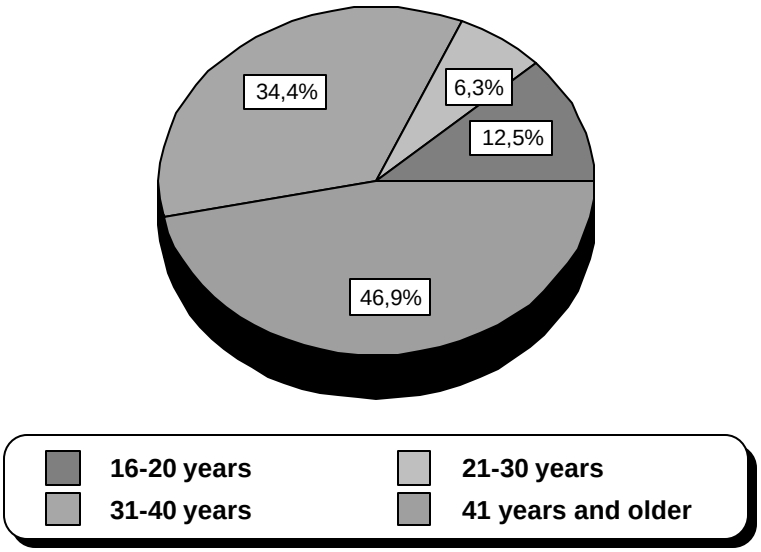

Figure 4.5

Age of family members

4.4.1.7 Gender of family members

Figure 4.6 indicates that 24 (75%) of family members were females and only 8 (25%) were males. This indicates that females are in the majority of those caring for their loved ones. It is well known that females are more nurturing and caring than males, and therefore more inclined to find themselves in caring situations.

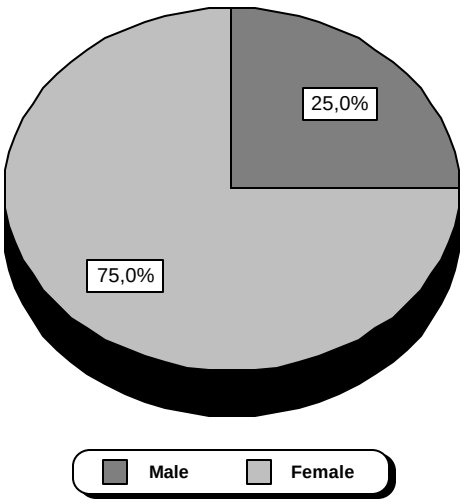

Figure 4.6

Gender of family members

4.4.1.8 Level of education of family members

Figure 4.7 indicates that a small portion, 9 (28.1%), of the family members had not reached standard 8 (grade 10) and the majority, 23 (71.9%), had reached from grade 8 to tertiary education. This may indicate that the majority of family members are able to read and write, which increases the possibility that they would understand that the adherence to a treatment regimen would benefit the patient.

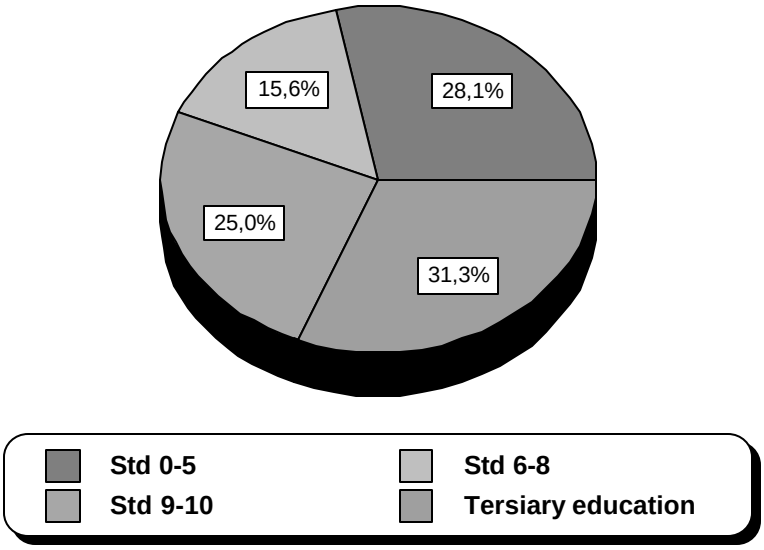

Figure 4.7

Educational level of family members

4.4.1.9 Income of family members

On average 19 (59.4%) of the family members had a monthly income in the form of a salary or pension grant. The remaining 13 (40.6%) had no income (see figure 4.8). This implies that in the majority of cases included in the sample it would be possible to purchase the correct food for the diabetic patients.

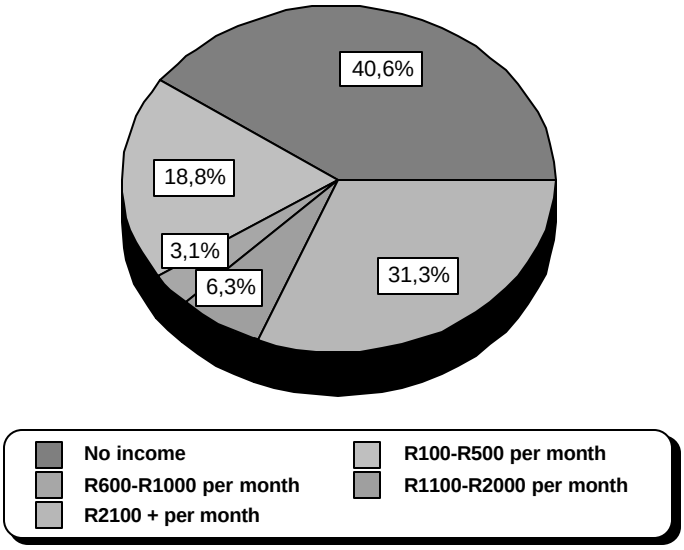

Figure 4.8

Income of family members

4.4.1.10 Area where family members live

A high percentage, 19 (59.4%) of the family members stay in the township and 13 (40.6%) stay in the villages. This correlates with the distance travelled to a health service, as the majority indicated that they travelled less than 5 km to access a health service.

4.4.1.11 Summary of demographic data

The demographic data of the diabetic patients and the family members included in the sample reveals that the majority are educated adults who receive an income, and live near the available health services. They therefore have the capacity and means to adhere to the diabetes mellitus treatment regimen.

4.4.2 Section B: Knowledge and views on diabetes melitus

This section of the questionnaire revealed the knowledge, beliefs and attitudes of subjects towards diabetes mellitus and its treatment.

4.4.2.1 Explanation of the term Diabetes Mellitus

The majority of patients 20 (62.5%) could not explain diabetes mellitus. They said diabetes is diabetes or is high blood or sugar in blood, a condition where you feel tired or a chronic condition that is incurable. Only

12 (37.5%) of them explained diabetes as high blood sugar due to lack of insulin. A total of 14 (43.8%) of the family members explained diabetes by indicating a relationship between high blood sugar and lack of insulin. The remaining 18 (56.2%) responded by saying that diabetes mellitus is diabetes, a disease where injuries don't heal, is sugar in the blood, or is a disease where you sweat a lot. According to Bain (2001:4), both patients and family should be given an explanation of the diagnosis, and recognition of diabetes symptoms.

4.4.2.2 Diabetes Mellitus can be cured

Subjects were asked to indicate whether diabetes mellitus can be cured or not. Many diabetic patients 20 (62.5%) reported that diabetes mellitus can be cured and only 12 (37.5%) indicated that diabetes mellitus cannot be cured (figure 4.9). A high percentage 20 (62.5%) of family members indicated that diabetes mellitus can be cured and 12 (37.5%) indicated that it cannot be cured. This indicates that the majority of patients and family members are not well informed and are not aware that diabetes is an incurable chronic disease. Richardson, Adner and Nordstrom (2001:759) indicate that a diagnosis of diabetes mellitus implies a major change in the way of life and that the person has to cope with the disease for the rest of his/her life.

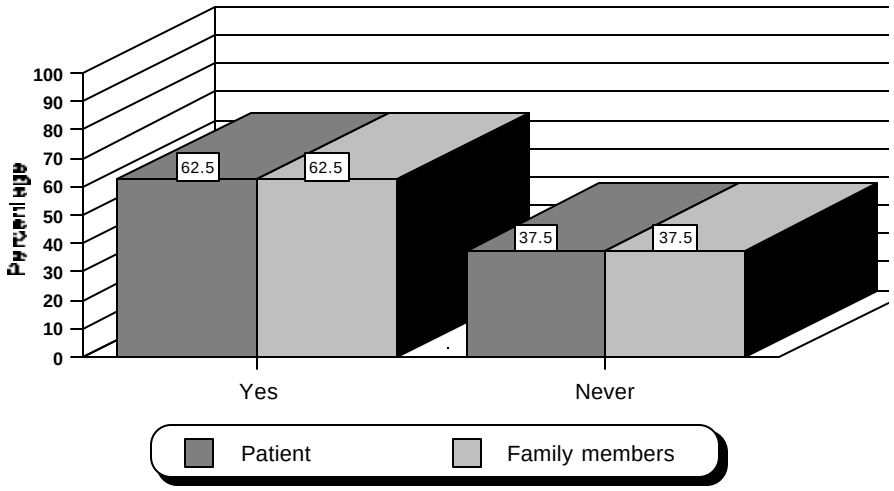

Figure 4.9

Diabetes Mellitus can be cured

4.4.2.3 Withdrawing sugar treats diabetes

On average 20 (62.5%) of patients disagreed that withdrawing sugar can treat diabetes, 5 (15.6%) were unsure and 7 (21.9%) agreed that withdrawing sugar can treat diabetes (figure 4.10). The majority of family members 22 (68.8%) disagreed with the statement, 3 (9.4%) were unsure and the remaining 7 (21.9%)

agreed. It is alarming to find once again a lack of essential knowledge about the disease among both patients and family members. It may indicate that essential information was not given to patients and family members. According to Cleaver and Pallourios (1994:181), diabetic patients eat whatever is available at social gatherings and therefore their blood glucose level is not controlled.

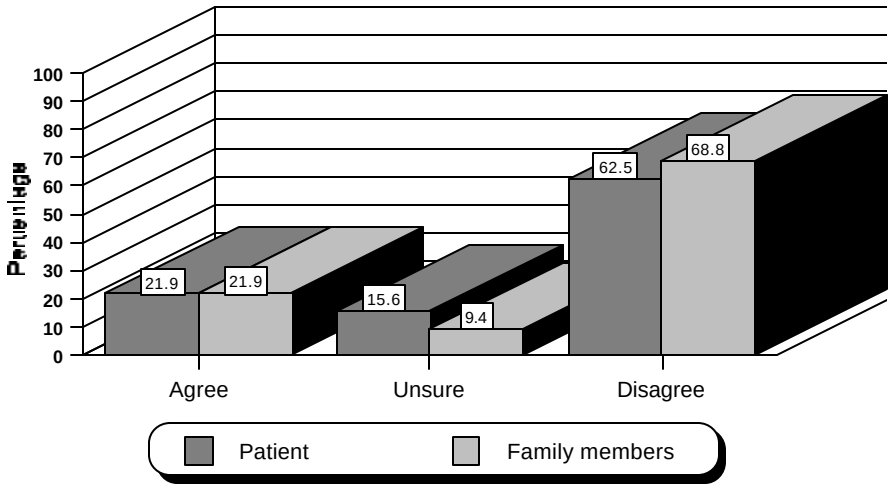

Figure 4.10

Withdrawing sugar

4.4.2.4 Once sugar is normal, stop treatment

Figure 4.11 indicates that 27 (84.4%) of the patients did not agree with the statement which says that once sugar is normal, treatment should be stopped, 3 (9.3%) were unsure and only 2 (6.3%) agreed with the statement. Family members revealed the same percentage of those who did not agree with the statement as that of patients 27 (84.4%). Again, 3 (9.3%) of them were not sure about the statement, and only 2 (6.3%) of the family members agreed that once sugar is normal treatment should be stopped. It is not acceptable that there are patients and family members who think that treatment can be stopped once the blood sugar is normal. This implies that they do not realise that diabetes is a chronic disease. According to Bain (2001:4), patients and family members should be reassured about the continuity of care.

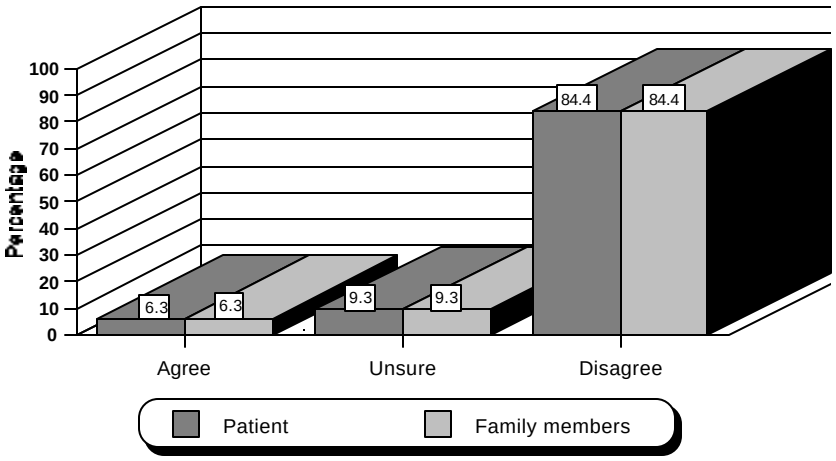

Figure 4.11

Normal sugar – stop treatment

4.4.2.5 Causes of diabetes mellitus

"Name the causes of diabetes mellitus", was the question directed at patients and family members. According to the results 20 (62.5%) of the patients mentioned that eating sugar is the cause of diabetes mellitus whereas 12 (37.5%) indicated that heredity and failure of the pancreas to secrete insulin is the cause of diabetes mellitus. Family members responded in the following manner: 21 (68%) indicated that nature, loss of power, sweating, drinking alcohol, eating starchy and fatty foods as well as problems are the causes of diabetes mellitus and 11 (32%) of family members indicated that heredity is the cause of diabetes mellitus. According to Smeltzer and Bare (1992:1025), the possible causes of diabetes mellitus include genetic, immunologic and environmental factors, age, obesity, family history and ethnic group. Royle and Walsh (1992:596) add that viral infections may cause IDDM. It appears that patients and family members do not fully understand the causes of diabetes. The majority of patients in the sample apparently do not know the real causes of diabetes mellitus whereas most of the family members mentioned a few related causes.

4.4.2.6 Programmes attended

According to figure 4.12, 19 (59.4%) of patients reported that they had never attended organised programmes and 13 (46.6%) had attended such programmes. Family members had a high percentage 27 (84.4%) of those who had never attended the programmes whereas 5 (15.6%) had attended. According to findings by Chen-Yen and Fenske (1996:468), Gowers et al. (1995:995) and Keller in Cleaver and Pallourios (1994:176), the type of support system the patient has, has an influence on the adherence to the

diabetic regimen. Thompson (1995:1401, 1415) defines a support system as an organised group of individuals that encourages or assists. Attending programmes may assist diabetic patients to cope with the disease as a result of the advice and support that they may get.

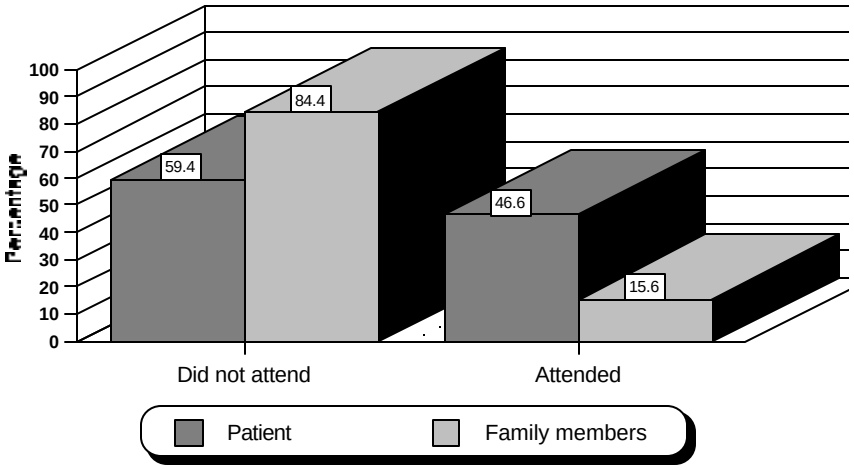

Figure 4.12

Programmes attended

4.4.2.7 Warning signs of hypoglycaemia

That the following are warning signs for hypoglycaemia or low blood sugar, namely, sweating, hunger, and faintness, was a statement to which 18 (56.3%) patients indicated that they knew the signs and 14 (43.8%) that they were not sure. Half of family members, 16 (50%), knew the warning signs and 16 (50%) were not sure (see figure 4.13). According to Bain (2001:4), patients, friends and family should be educated to recognise symptoms of hypoglycaemia. It is extremely important that patients and family members know these signs as immediate action is required to prevent the patient from falling into a coma.

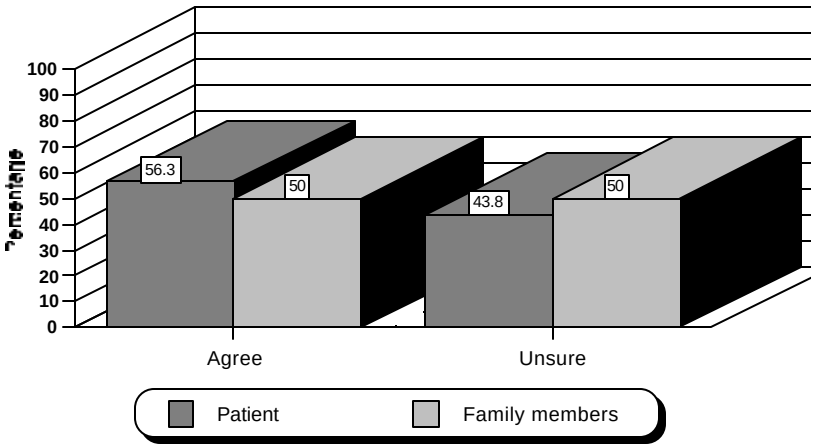

Figure 4.13

Recognition of warning signs of hypoglycaemia

4.4.2.8 Urine testing

Data indicates that a high percentage, 24 (75%) of patients, never tested their urine and only 8 (25%) were testing their urine on a daily or monthly basis (see figure 4.14). Family members also reported a high percentage of patients, 19 (59.4%), not going for urine testing. Only 13 (40.6%) of family members reported that patients were testing their urine. Bain (2001:4) stresses the importance of teaching patients and family about urine testing and that glucose in urine is correlated with hypoglycaemia.

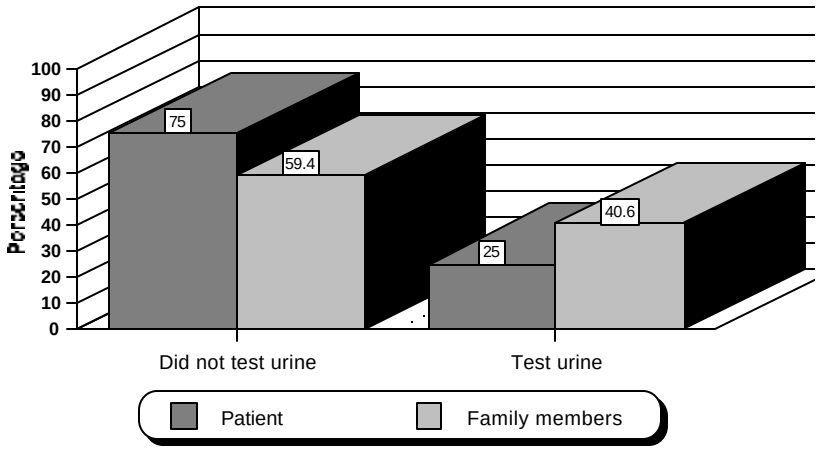

Figure 4.14

Urine testing

4.4.2.9 Glucose monitoring

The results indicate that 18 (56.3%) of the patients never went to the clinic for glucose monitoring and 14 (43.8%) did visit the clinic for glucose monitoring. Among the family members 28 (87.5%) indicated they never visited the clinic with patients for glucose monitoring and 4 (12.5%) did visit the clinic for glucose monitoring of patients (figure 4.15). Bain (2001:4) says that blood glucose self-monitoring is important and preferable to urine monitoring and that patients, friends and family should be instructed on how to do blood glucose self-monitoring. If they do not have the equipment they should visit the clinic or hospital for testing. Patients do not test their urine or blood. This supports the high rate of complications of diabetes mellitus indicated by Smeltzer and Bare (1992:1060), as complications are aggravated by continuously elevated blood sugar levels. Diabetic patients should monitor their blood glucose since it is preferred to urinalysis. Urinalysis has a problem in that it may not warn the patient of impending hypoglycaemia (Coates 1994:264).

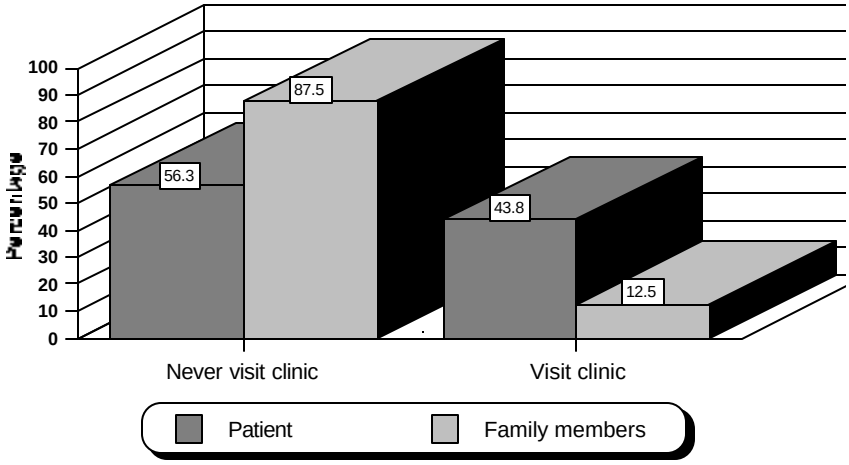

Figure 4.15

Visit clinic for glucose monitoring

4.4.2.10 Medication

A total of 25 (78.1%) of the patients reported that they were taking treatment and 7 (21.8%) were not using treatment but diet only. Of the family members 25 (78.1%) reported that patients were using treatment whereas 7 (21.9%) reported that patients were not using treatment but diet only. Oral anti-diabetic drugs and insulin treatment are introduced when a patient with type II diabetes mellitus cannot achieve satisfactory metabolic control with his/her diet. The majority of the subjects are taking treatment, therefore they have to monitor blood glucose, and yet the majority also indicated that they never test their urine and most of them do not visit the clinic for glucose monitoring (4.4.2.8 and 4.4.2.9).

4.4.2.11 Name of medication

When asked about the medication they are using, patients responded in the following manner: 22 (67.2%) said they used Dianol, Glucophage or Insulin, and 10 (32.8%) did not know the medication. Half of the family member 16 (50%) indicated that Glucophage, Dianol or Insulin were used, 14 (44.8%) did not know and 2 (5.2%) indicated that the diabetic patients were not taking treatment. This correlates with item 4.4.1.3 which indicates a smaller percentage of patients who did not reach grade 10, and thus cannot read and write, which may account for their not knowing the name of the medication they are using.

4.4.2.12 The better treatment, injection or oral treatment

"Which is better, insulin injection or oral treatment?" This was a question directed to patients and family members. According to the results, 12 (38.5%) of the patients indicated that oral treatment is the best because it doesn't cause loss of libido, and 7 (20.9%) regarded an injection as the best whereas 13 (40.6%) responded by saying that they do not know. Of family members 13 (40.6%) indicated that oral treatment is the best, 6 (18.8%) said an injection is the best because it acts faster, whereas 13 (40.6%) did not know which is the best. According to the researcher both oral medication and injection could be beneficial when instructions are followed. Treatment is said to be the best when the desired results are obtained. Both treatments are advantageous because they supplement each other if blood glucose fails to respond to one drug (Smeltzer & Bare 1992:1022).

4.4.2.13 Body not functioning as before

Figure 4.16 depicts that 16 (50%) of the patients indicated that their body functioning had changed since they started using the diabetic treatment, 15 (46.9%) said there was no change in their body functioning and 1 (3.1%) was not sure whether body functioning had changed or not. The reasons given for affirmation of a change in body function were indicated as weakness, feeling tired, dizziness, a tingling sensation and loss of libido. The reasons given for the change in body functioning are alarming as they all indicate that these patients' diabetes is not well controlled – they are signs of low blood sugar. According to Andrews and Boyle (1995:241), sexual dysfunction aggravates feelings of frustration. Family members did not answer this question. Half of the patients experienced altered body image which might indicate complications such as sexual dysfunction as indicated by Boyle and Andrews (1998).

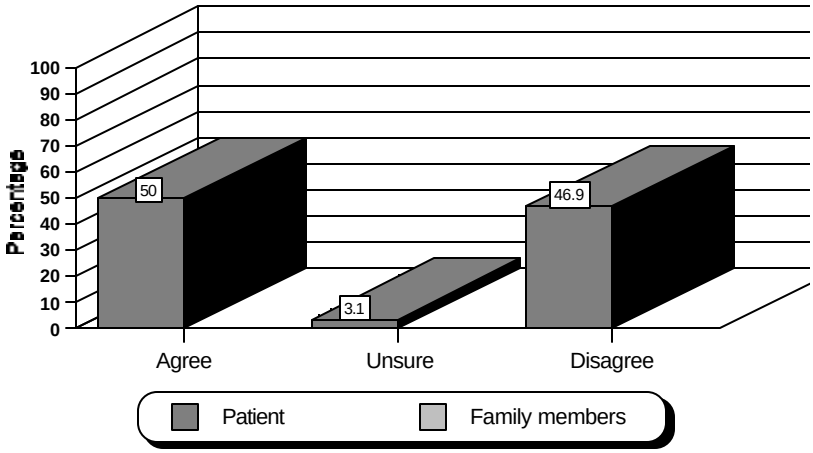

Figure 4.16

Body functioning

4.4.2.14 Meals

Figure 4.17 indicates that 7 (21.9%) of the patients said they eat twice, 21 (65.6%) eat thrice and 4 (12.5%) eat four times per day. Of family members 1 (3.1%) said patients eat twice, 23 (71.9%) said they eat thrice and 8 (25%) said four times per day. The majority of the patients eat according to Smeltzer and Bare (1992:1028), who describe the recommended diet for diabetic patients and the importance of eating 3 meals per day and having snacks in between the meals in order to prevent hypoglycaemia.

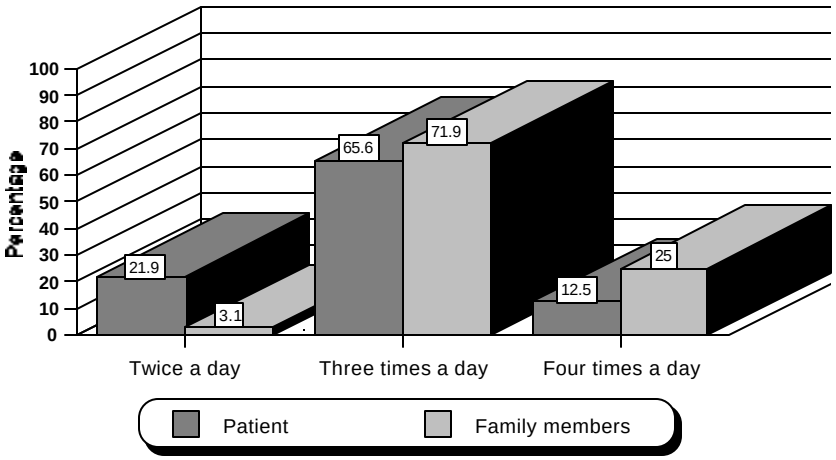

Figure 4.17

Meal times

4.4.2.15 Snacks

On average 17 (53.1%) of the patients reported that they carry snacks wherever they go to supplement their blood sugar, and 15 (46.9%) indicated that they don't carry snacks. Of family members 18 (54.7%) reported that patients carry snacks and 14 (45.3%) reported that patients don't carry snacks (figure 4.18). According to Smeltzer and Bare (1992:1028), diabetic patients should have snacks in between their meals to prevent hypoglycaemia, and to prevent them from eating full meals frequently which can lead to weight gain. Adherence to the treatment regimen requires the patients to carry snacks with them.

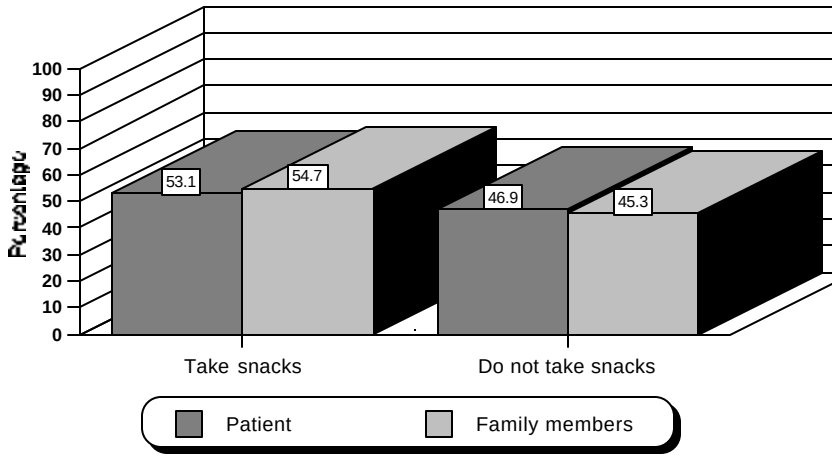

Figure 4.18

Snacks for supplementing blood sugar

4.4.2.16 Nutrition counselling

Subjects were asked if they went for nutrition counselling following the diagnosis. Only 15 (46.9%) of the patients indicated that they never went for counselling and 17 (53.1%) did. Almost half of the family member 15 (46.9%) reported that they never went for nutrition counselling and 17 (53.1%) went (figure 4.19). It is a known fact that diabetic patients should consult a dietician for advice on their diet following diagnosis. It is alarming that so many of the subjects did not have nutrition counselling, as the correct diet is a very important part of the management of diabetes. This is supported by Savoca and Miller (2001:225) who indicate that most people with diabetes mellitus fail to adhere to a healthy diet, which might be due to failure to attend nutrition counselling offered by a dietician.

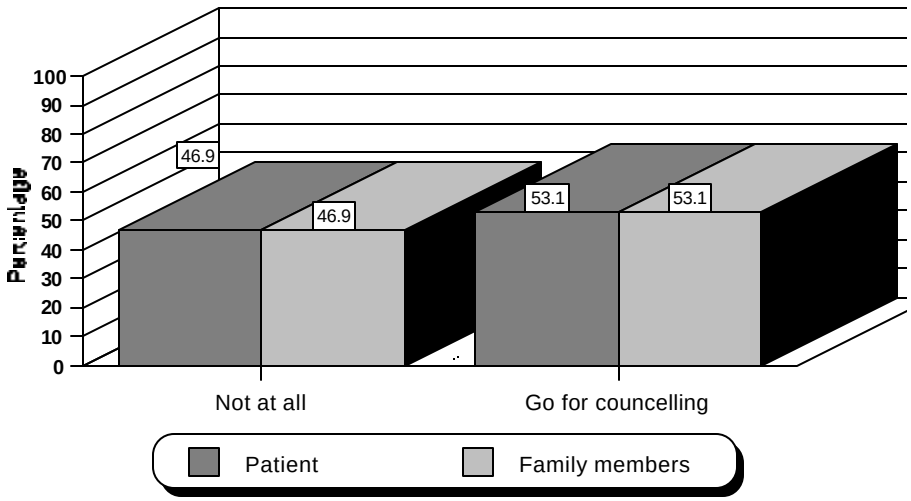

Figure 4.19

Nutrition counselling

4.4.2.17 Traditional healers know better how to treat diabetes

In response to this item 19 (59.4%) of the patients indicated that traditional healers don't know better how to treat diabetes mellitus, 11 (34.4%) were unsure and 2 (6.2%) indicated that traditional healers know better than western doctors. Among the family members 20 (62.5%) indicated that traditional healers don't know better than doctors, 10 (31.3%) were unsure and 2 (6.2%) indicated that traditional healers know better how to treat diabetes than doctors (figure 4.20). It is a known fact that patients use traditional medication before they consult medical doctors (Setswe 1999:56) but the results indicate that the majority of subjects in this study do not believe that traditional healers could provide better treatment.

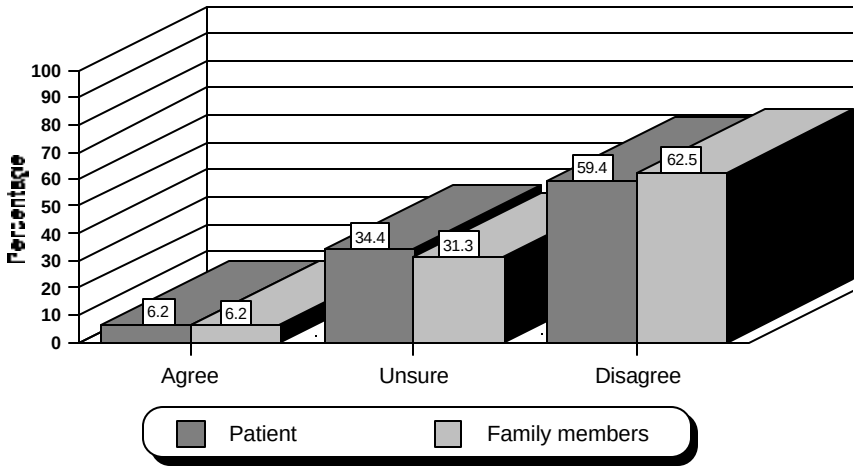

Figure 4.20

Traditional healers know how to treat diabetes

4.4.2.18 Visit to traditional healers

On average 10 (31.2%) of the patients indicated that they visited the traditional healers for treatment and 22 (68.8%) indicated that they never visited traditional healers, only 7 (21.9%) family members indicated that patients visited traditional healers and 25 (78.1%) indicated that patients never went to traditional healers for treatment (figure 4.21). Mulemfo (1995:341) indicates that men and women since the earliest ages made use of plants from which they prepared certain remedies. These first experiences showed that plants and animals effected the healing which was required of them, and as such they developed trust in that curative source. Consequently, the use of medicinal plants has been accepted universally. The responses to the two questions on traditional healers therefore indicate that the majority of subjects are following one treatment regimen, the medical one. This is a positive aspect as it can then be envisaged that the response to proper health education will be favourable.

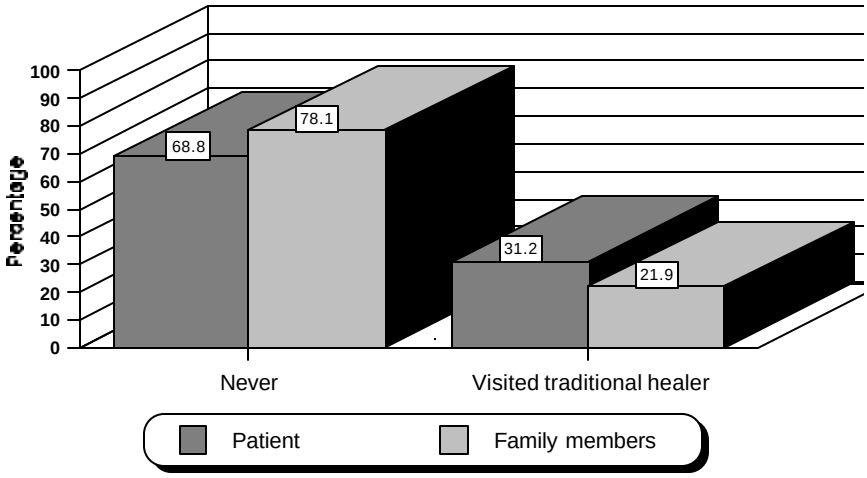

Figure 4.21

Visit to traditional healer

4.4.2.19 Visit to a spiritual healer

More than half of the patients 17 (53.1%) indicated that they visited the spiritual healer, whereas 15 (46.9%) indicated that they never visited the spiritual healer. Only 9 (28.1%) of family members indicated that patients visited the spiritual healer whereas 23 (71.9%) indicated that patients didn't visit the spiritual healer (figure 4.22). It is a known fact that patients visit spiritual healers when they are ill. Even the results of this study indicate that quite a number of the subjects visited the spiritual healers. The fact that more than half of the subjects visited a spiritual healer might indicate a need for psychological support or have expectations that their diabetes may be cured. According to Bain (2001:3) several research studies indicate that people suffering from chronic diseases, including diabetes, are more at risk of developing depression. Some research results support the theory that depression may even cause diabetes. This implies that diabetic patients might need additional moral support.

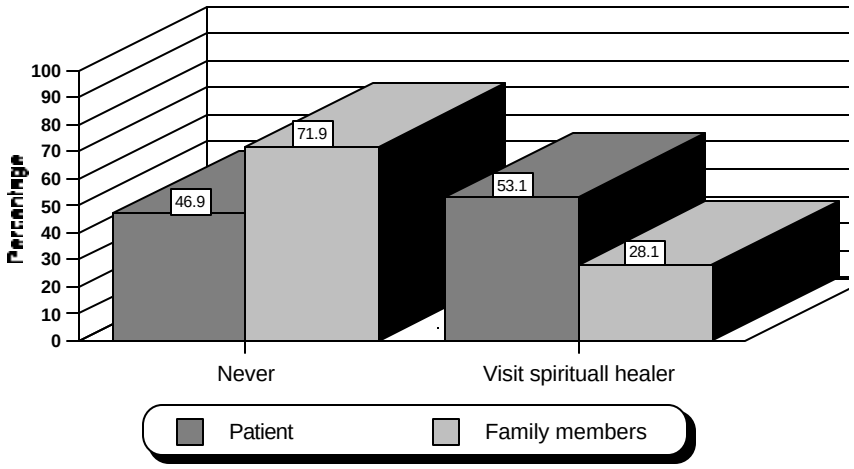

Figure 4.22

Visit to spiritual healer

4.4.2.20 Drinking boiled lemon leaves

"Drinking boiled lemon leaves helps to reduce high blood sugar" was a statement posed to patients and family members. A high percentage, 24 (75%) of the patients were unsure as to whether boiled lemon leaves reduced blood sugar or not.,3 (9.4%) indicated that boiled lemon leaves helped to reduce blood sugar, and 5 (15.6%) didn't agree with the statement. Only 1 (3.1%) family member agreed with the statement, 10 (31.3%) indicated that drinking boiled lemon leaves doesn't reduce blood sugar and 21 (65.6%) of family members were unsure. According to Helman (1994:50), dietary beliefs and practices are sometimes difficult to discard, even when they are dangerous to health. Consumption of certain food or

drink may be encouraged by defining them as sacred or medicinal such as the belief that taking lemon juice can treat “high blood”. The low percentage of subjects who believe that lemon leaves can reduce high blood sugar may be an indication that this belief is not relevant to the culture of the subjects included in this study.

4.4.2.21 Forbidden food

Subjects were requested in an open question to write down the food that diabetic patients should not eat. The majority, 30 (93.7%), indicated that the forbidden food includes sugar, fat, alcohol and cold drinks and 2 (6.3%) mentioned banana and salt. A high percentage of family members, 25 (78.1%), mentioned cakes, sugar and fat, and 7 (21.8%) did not know the food that should not be eaten by diabetic patients. The results indicate that both patients and family members know the diet which is not supposed to be taken by the patient. Smeltzer and Bare (1992:1028) described the recommended diet for diabetic patients as one with low fat, boiled vegetables and meat, and carbohydrates like brown bread and maize meal.

4.4.2.22 Exercise

Subjects were requested to indicate whether diabetic patients perform exercises daily, twice a week, once a week or not at all. Figure 4.23 shows that patients responded in the following manner: 25 (78.2%) indicated that they exercise for 30 minutes by walking and 7 (21.8%) do not exercise. Amongst those who exercise, the majority, 21 (65.6%), exercise daily, which is to their benefit. Only 2 (6.3%) indicated exercising once and twice a week respectively. The majority of family members, 15 (46.9%), affirmed that patients exercise daily whereas 5 (15.6%) indicated that they exercise twice a week with 1 (3.1%) exercising once a week. A total of 11 (34.4%) indicated that patients do not exercise. In Bain (2001:15) and Smeltzer and Bare (1992:1031) information on health promotion was reinforced such as good dietary management and physical activity or exercise. Exercise is important because of its effect of lowering blood glucose and reducing cardiovascular risk factors. Exercise lowers blood glucose by increasing the uptake of glucose by the body muscles and improving insulin utilisation.

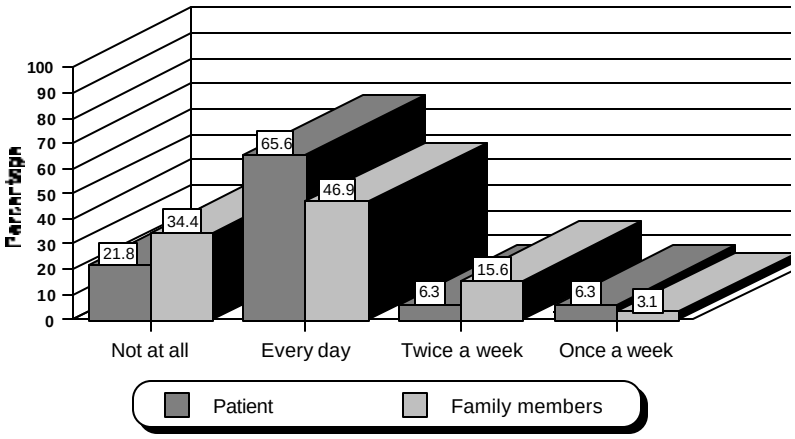

Figure 4.23

Walking for exercise

4.4.2.23 Experiencing sexual problems

In response to this question 16 (50%) patients indicated that they experience sexual problems, 12 (38%) didn't experience sexual problems and 4 (12%) were unsure. A small percentage of family members, 12 (37.5%), indicated that patients experience sexual problems, 5 (15.6%) indicated that patients didn't experience sexual problems and 15 (46.9%) were unsure as to whether diabetic patients experience sexual problems or not (figure 4.24). According to Smeltzer and Bare (1992:1062), diabetic patients suffer from autonomic neuropathy, and the main effects of autonomic neuropathy include urinary and sexual dysfunction. According to The Viagra Boom (1998:22), this can be alleviated by hot baths, rubbing in some ointments which the author did not give examples of, and intra-penile injection therapy.

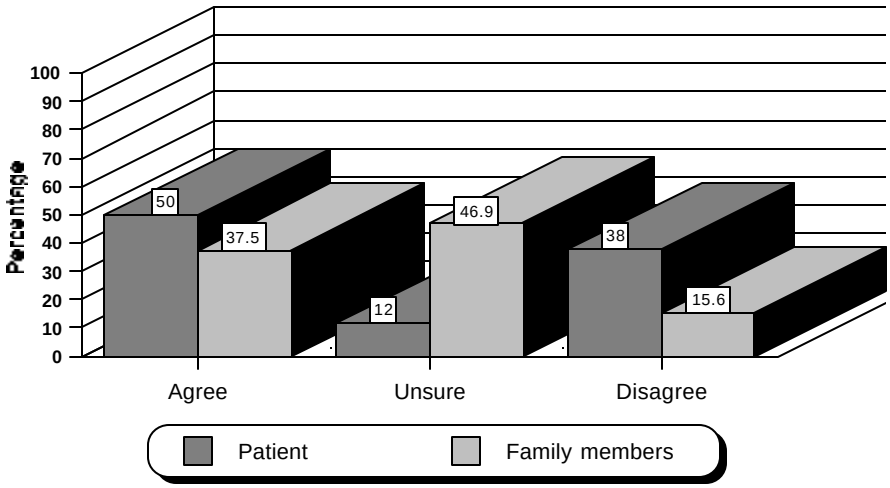

Figure 4.24

Experiencing sexual problems

4.4.2.24 Examples of sexual problems experienced

Half of the total number of patients, 16 (50%), indicated that they experience lack of sex urge (libido) and the penis doesn't erect. The remaining 16 (50%) indicated that they don't experience sexual problems. For the family members, 12 (38%) mentioned that diabetic patients experienced lack of sex urge (libido) and 20 (62%) didn't know whether patients experience sexual problems or not. Smeltzer and Bare (1992) indicate that diabetic patients suffer from autonomic neuropathy and the main effects of this neuropathy includes sexual and urinary dysfunction such as lack of sex urge and incontinence, for example, impotence (inability of the penis to become rigid and sustain an erection) and retrograde ejaculation (normal erection and orgasm occurs but no ejaculation as the seminal fluid is propelled backwards through the posterior urethra and into the urinary bladder).

4.4.2.25 Sexual educational programmes

"Information on sexual problems should be included in the educational programmes" was a statement posed to both the patients and family members. The majority of the patients, 29 (90.6%), agreed that information on sexual problems should be included in the educational programmes, 1 (3.1%) disagreed with the statement and 2 (6.3%) were not sure as to whether information on sexual problems should be included or not. Of family members, 24 (75%) indicated that information on sexual problems should be included in the educational programs, 1 (3.1%) disagreed with the statement and 7 (21.9%) were not sure (figure 4.25). According to Boyle and Andrews (1989), diabetic patients and their family members should be educated about sexual dysfunction and its management. Education on sexual problems appears to be an important aspect of health education to be given to diabetics as indicated by both patients and family members.

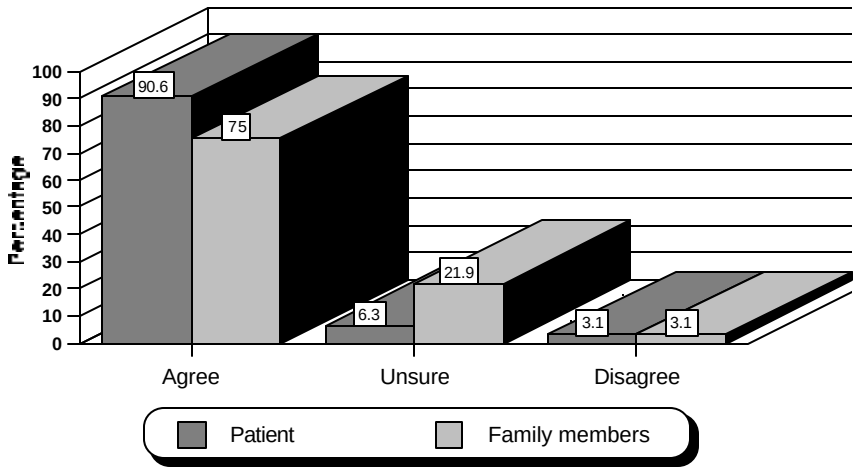

Figure 4.25

Need for education on sexual problems

4.4.2.26 Feet examination

Only 19 (59.4%) patients said they examine their feet whereas 13 (40.6%) said they don't. A high percentage of family members, 30 (93.7%), indicated that diabetic patients examine their feet and 2 (6.3%) of them indicated that diabetic patients do not examine their feet (figure 4.26). In Long-term Complications ([sa]:36), New Fast-acting Insulin (1997:50) and Recognition and Management… ([sa]:34), patients and their family members are advised on foot care, and patients further advised to inspect their feet daily for redness, blisters, calluses or ulceration as they won't experience pain and pressure sensation due to sensory neuropathy. Early detection may result in wound healing, although in patients with peripheral vascular disease, foot ulcers may not heal because of the decreased ability of oxygen, nutrients and antibiotics to reach the injured tissue (Smeltzer & Bare 1996:1061).

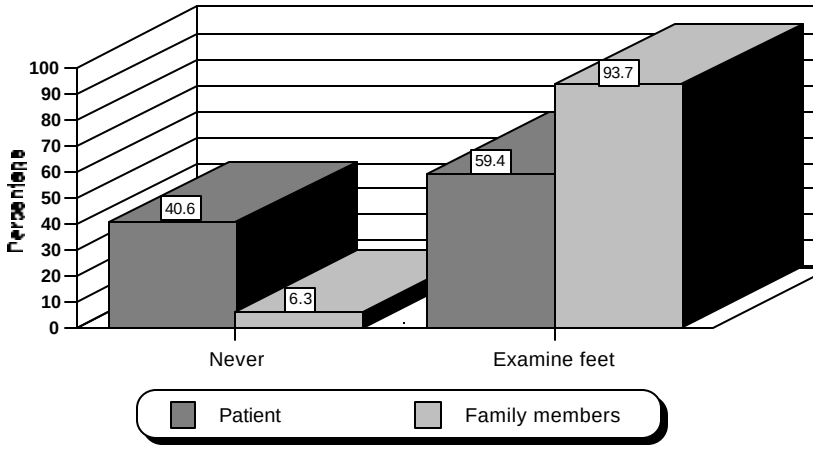

Figure 4.26

Feet examination

4.4.2.27 Visit to the podiatrist

The majority of patients, 30 (93.8%), reported that they never visited the podiatrist for examination of their feet and 2 (6.2%) did visit the podiatrist. This concurs with the high number of family members, 27 (84.4%), who mentioned that patients never visited the podiatrist and 5 (15.6%) mentioned that they do visit the podiatrist (figure 4.27). According to New Fast-acting Insulin (1997:50), Sanders (1995:10) and Smeltzer and Bare (1992:1062, 1063, 1068), diabetic patients should be advised on foot care to prevent some of the infections and to have their feet examined at least every six weeks by a podiatrist. It is necessary to prevent gangrene or foot ulcers as they may not heal in patients with peripheral vascular disease because of the decreased supply of oxygen, nutrients and antibiotics to the injured tissue.

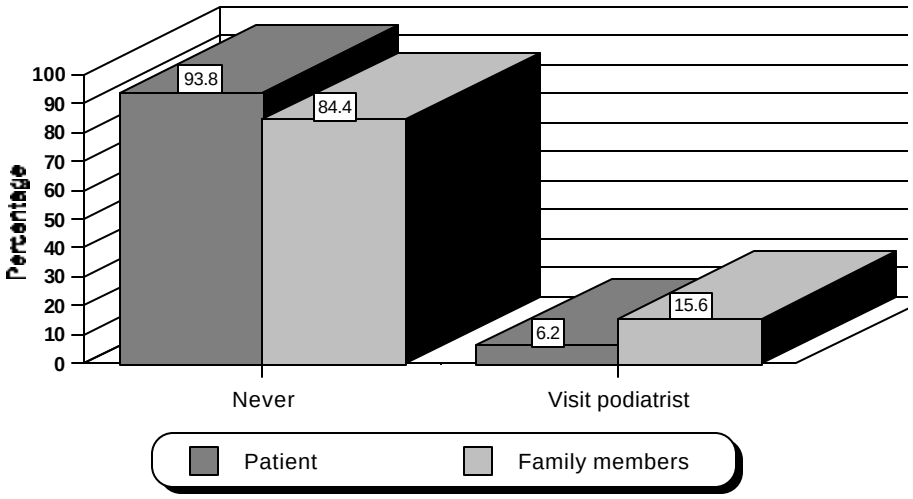

Figure 4.27

Visit to the podiatrist

4.4.2.28 Shoe type

A total of 19 (58.4%) of the patients mentioned that they should wear any shoes, including open shoes (sandals), whereas 13 (41.6%) said they should wear loose fitting leather shoes. The majority of family members, 20 (62.5%), mentioned that tight shoes, black sandals, and any shoe that fits the patient could be worn whereas 12 (37.5%) indicated well fitting leather shoes as the correct shoes.

In Diabetes Education (1998::22), Long-term Complications ([sa]:36), New Fast-acting Insulin (1997:50), Recognition and Management … ([sa]:34) and Sanders (1995:10), diabetic patients and family members have been advised on foot care and wearing well fitting closed-toe shoes. The percentage of patients and family members who do not know what type of shoes should be worn by diabetics is alarming.

4.4.2.29 Reasons for wearing the above shoes

With reference to the reason for supporting the above answers, 14 (44.8%) of the patients said the reason for wearing well fitting shoes was prevention of trauma, to avoid hindering circulation and to prevent infection, and 18 (55.2%) said they don't know the reason for wearing such shoes. A small number of family members, 8 (25.6%), mentioned prevention of trauma as their reason, and 24 (74.4%) indicated that they don't know the reason for wearing such shoes. It is apparent that the majority of patients and family members do not know the reasons for wearing specific shoes. This implies that they have not received adequate health education.

4.4.2.30 Low salt diet

Subjects were asked if a low salt diet reduces high blood pressure to which 16 (50%) of the patients agreed that low salt diet reduces high blood pressure and 16 (50%) disagreed. The majority of 21 (65.6%) of the family members agreed that low salt diet reduces high blood pressure and 11 (34.4%) disagreed. According to Smeltzer and Bare (1992:1028), the recommended diet for a diabetic patient comprises of herbs and special salt for hypertensive patients as these reduce the accumulation of fluids in the body caused by the intake of general salt. According to the results, patients and family members know that a low salt diet reduces high blood pressure. It appears that all the patients and family members are not adequately informed about the role of salt in the diet.

4.4.2.31 Visit to ophthalmologist

The subjects had to indicate how often the diabetic patients visit the ophthalmologist. Responses to this question are summarised in figure 4.28. Half of the patients, 16 (50%), reported that they never visited the ophthalmologist and 16 (50%) did. The majority of family members, 22 (68.8%), indicated that diabetic patients never visited the ophthalmologist and 10 (31,2%) indicated that the patients did. It is indicated in Campbell et al (1997:69), Long-term Complications [sa]:36 and Smeltzer and Bare (1992:1059) that diabetic retinopathy is caused by damage to the sensitive blood vessels in the eyes, and that annual eye examinations should be done on all diabetic patients and they should be referred to an optometrist or ophthalmologist. According to Kritzinger (1990) in Coates (1994:268), regular monitoring of diabetic patients' vision for signs of retinopathy is essential as they will not benefit fully from treatment once they already experience loss of vision. It is alarming to realise that such a large proportion of the subjects included in the study do not visit the ophthalmologist. The reason for this needs to be clarified, whether it is lack of knowledge or lack of money.

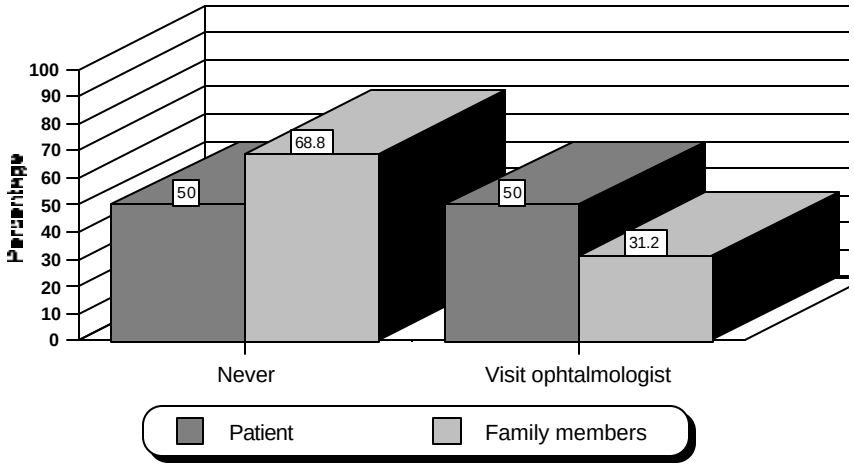

Figure 4.28

Visit to the ophthalmologist

4.4.2.32 Diabetic patients lose jobs and status

"People affected by diabetes mellitus should lose their jobs and status" was the statement directed to patients and family members. Responses to this question were summarised in figure 4.29 where 2 (6.3%) of the patients were unsure as to whether they should lose their jobs and status or not. The majority, 30 (93.8%), disagreed with the statement. The majority of family members, 29 (90.6%), disagreed that the patients should lose their jobs and status, whereas 2 (6.3%) were unsure and 1 (3.1%) agreed that they should lose their jobs. It is apparent that neither the patients nor the family members regard diabetes mellitus as a disabling disease.

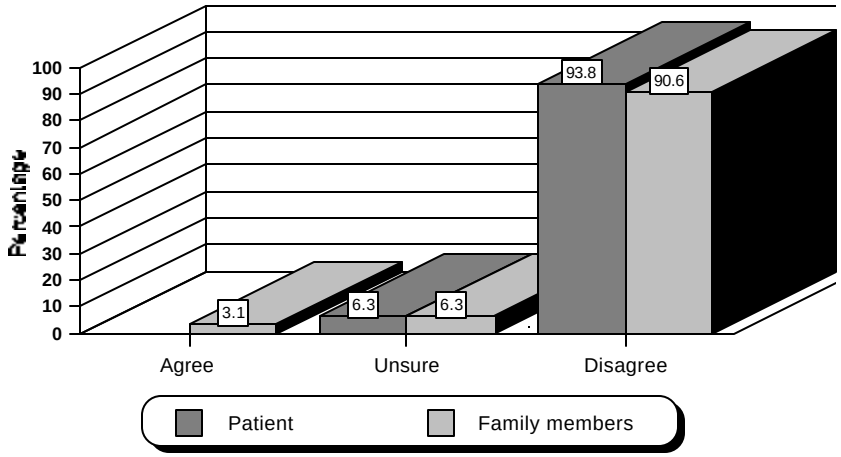

Figure 4.29

Loosing jobs and status

4.4.2.33 Reasons for losing or not losing your job

Subjects were requested to give the reasons why they think that diabetic patients should lose their jobs and status or why they think they shouldn't. Almost aal of the patients, 29 (90,6%) indicated that they mustn't lose their jobs as they won't have money to buy food. They also indicated that they must work in order to get money for better treatment, and 3 (9.4%) indicated that they must be treated but not expelled from work. A total of 21 (65.6%) of family members supported the sentiment that patients must not lose their jobs and the reasons given were, 'they must be able to buy food, won't have money to support their families if expelled', whereas 11 (36%) indicated that they must not lose their jobs as diabetes can be controlled. Others said it depends on the employer whether to expel the employee or not and lastly they indicated that patients can fall while working due to poor eyesight. It appears that money is needed for food and better treatment, that patients realise that treatment is essential, and therefore if they don't have a job they will not be able to afford treatment.

4.4.2.34 Emotional experience

Subjects were requested to describe their reaction when they first heard that they have diabetes. Only 4 (12.5%) of the patients accepted their condition whereas the majority 28 (87.5%) denied it, felt tired, were hurt, were depressed, and some were shocked. This corresponds with the response of family members where only a small percentage indicated that patients accepted it at once, and 18 (56.2%) reported that patients acted in various ways such as 'didn't accept', 'felt tired', 'were not happy', 'were hurt', 'didn't tell anybody'. A small percentage, 6 (18.7%), reported that they don't remember how the patients reacted when they were informed that they have diabetes mellitus.

Generally, people don't accept that they have chronic, life-threatening diseases but instead they develop depression. The reason why patients visit spiritual healers may be because they need psychological support. Bain (2001:3) also indicates that 21-24% of diabetics had one episode of depression before their diagnosis of diabetes mellitus, and patients who are depressed are less likely to control their blood sugar level.

4.4.2.35 Fear

Subjects were asked what their greatest fear about diabetes was. Only 6 (18.8%) of the patients indicated that they don't have fear whereas 26 (81.2%) indicated that they fear death; becoming blind; falling and getting injured; that blood sugar will be low and it will be difficult to raise it; and divorce. Of family members 12 (37.5%) indicated that they don't have fear and 18 (56.2%) said they fear death of their relative, that the

patient can lose a limb and also fear hyper- or hypoglycaemia. The remaining 2 (6.3%) responded by saying that they don't know what their greatest fear is. The majority of patients indicating fear depict emotional turmoil and uncertainty. It also relates to the previous question about emotional experiences which indicate negative emotions such as unhappiness and depression. The responses from the majority of the family members indicating fear imply that family members and also in need of psychological support when caring for diabetic patients.

4.4.2.36 Effects of living with and management of diabetes

Patients and family members were asked to describe the effects of living with and treating diabetes. The majority of patients indicated that it was stressful to live with diabetes, because of the responsibility to take medication on time, the inability to satisfy their partners' sexual needs and lastly the special diet they have to adhere to. The majority of the family members responded by saying that it is difficult to live with a diabetic patient as he does not eat everything, it is difficult when there is no money to pay doctors, the patient can die any time, and it is traumatic as you don't satisfy your partner's sexual needs and this causes stress.

Only a few of the family members indicated that there is no difference between living with a diabetic patient and a non-diabetic patient.

4.4.2.37 Money interferes with diabetes control

"Lack of money interferes with the control of diabetes" was a statement posed to patients and family members. A total of 24 (75%) patients agreed that a lack of money does interfere with the control of diabetes whereas 8 (25%) were unsure. The majority of family members, 23 (71.9%), also indicated that a lack of money interferes with the control of diabetes and 8 (25%) disagreed with the statement whereas 1 (3.1%) was unsure (figure 4.30). According to Baumann et al (2002:191), the morbidity from diabetics is more severe in low income groups, and less than half of adults with type II diabetes in their study achieved a blood glucose level of less than 7mmol/L. This indicates the negative effects of lack of control of diabetes, which may be due to lack of money.

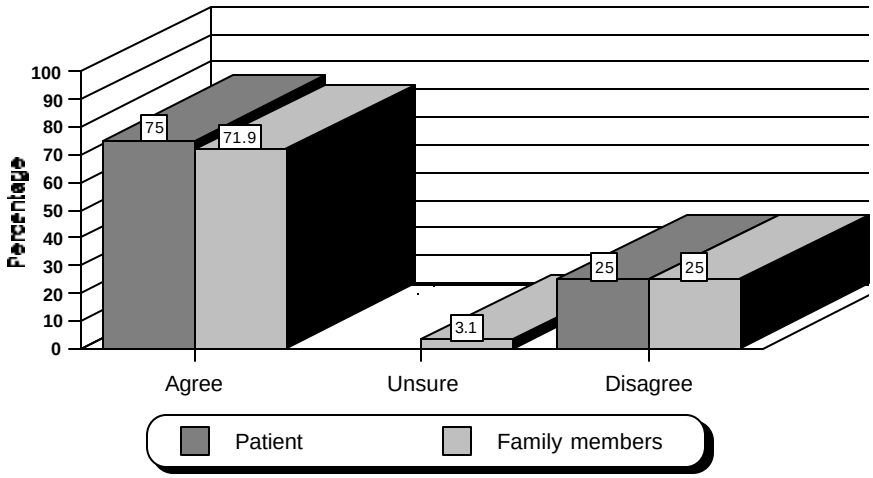

Figure 4.30

Lack of money interferes with diabetes control

4.4.2.38 Reason to support the above statement

A high percentage of patients 25 (78.1%) indicated that they won't be able to reach the clinic or hospital for a check up, and won't have money to buy food, whereas 7 (21.9%) responded by saying that lack of money does not interfere with the control of blood sugar. The response of family members was that 24 (75%) said patients won't be able to reach the clinic if they don't have money and that they won't be able to buy food and only 7 (21.9%) indicated that lack of money does not interfere with the control whereas 1 (3.1%) indicated that he/she doesn't know whether lack of money interferes with the control or not.

The responses to these two questions are alarming in the sense that external factors such as financial restraints can interfere with diabetes control, and could therefore lead to complications setting in, in spite of sufficient knowledge and willingness to adhere to the treatment regime.

4.4.2.39 Diabetes mellitus is a punishment

"People suffering from diabetes mellitus are being punished by God" was a statement posed to patients and family members. A minority, 5 (15.6%) of the patients agreed that suffering from diabetes mellitus is a punishment from God and 9 (28.1%) were unsure, whereas 18 (56.3%) disagreed with the statement. Only 3 (9.4%) of the family members agreed that suffering from diabetes mellitus is a punishment from God, 6

(18.8%) were unsure and 23 (71.9%) disagreed. It appears that diabetes mellitus is not a disease which is generally associated with religious beliefs and viewed as some form of punishment.

4.4.2.40 Diabetic patient is a burden

"A person with diabetes mellitus is a burden to his/her family." The responses to this statement included 11 (34.4%) of the patients who regarded a diabetic patient as a burden to his/her family, 4 (12.5%) were unsure and 17 (53.1%) disagreed. Only 6 (18.8%) of family members agreed that diabetic patients are a burden to their families, 5 (15.6%) were unsure and 21 (65.6%) disagreed (figure 4.31). Donohoe et al (2000:582) and Ruth (1999:419) indicate that the chronic complications of diabetes place an enormous burden on health care resources, with foot ulceration representing a major cause of bed occupancy for people with diabetes who undergo non-traumatic lower limb amputation. If it places a burden on health care resources, it places a burden on society and therefore on individuals. According to the above results the patients tend to regard themselves as a burden to the family to a greater extent than the family members who are less inclined to consider them as a burden.

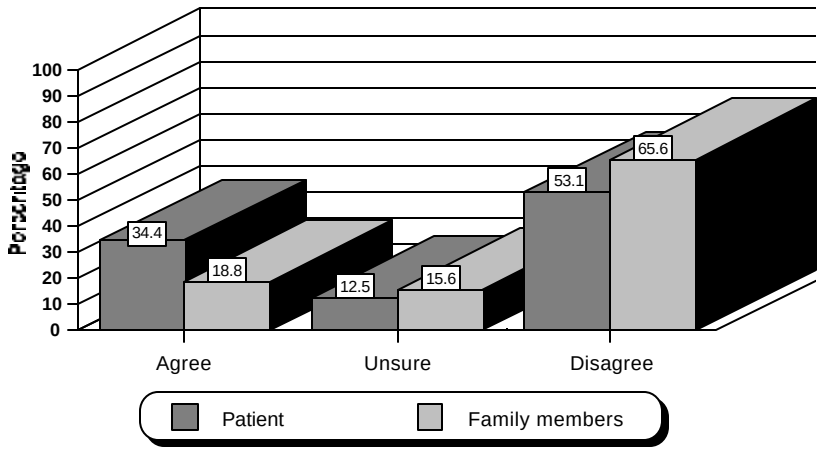

Figure 4.31

A diabetic is a burden to the family

4.4.2.41 Reasons for diabetic patients being a burden to the family

A total of 17 (53.1%) patients indicated that a diabetic patient is not a burden because he/she can do everything for him/herself and diabetes is like other diseases. The reasons given by the 11 (35.2%) patients who said they are a burden included that they need care and a special diet and family members are not happy with them. The 4 (12.8%) patients who were unsure whether they are a burden or not did not give

reasons. The majority, 23 (71.9%) family members said the diabetic patient is not a burden because they can do everything for themselves and only 6 (18.8%) said they are a burden the reasons being that money is needed to transport them for treatment and for buying food. The 3 (9.4%) who indicated that they were unsure whether the patient is a burden or not did not give reasons. From the responses it appears that while the patient can still care for himself/herself both the patient and family members do not regard the diabetic as a burden. However, the need for a special diet and regular visits to the clinic/hospital have financial implications which result in the patient being regarded as a burden.

4.4.2.42 Distance from the nearest clinic/hospital

"How far is the nearest clinic/hospital where treatment is collected?" was the question posed to subjects. Almost half, 15 (46.9%), of the patients said they walk less than 5 km from where they stay, 10 (31.3%) indicated less than 10 km, 4 (12.5%) said less than 20 km and only 3 (9.3%) live further than 20 km from the clinic. Family members' responses included 13 (40.6%) who reported that patients live less than 5 km from the clinic, 10 (31.3%) said less than 10 km, 6 (18.8%) indicated less than 20 km and 3 (9.3%) indicated 20 km and more (figure 4.32). Therefore the health services appear to be accessible to most individuals.

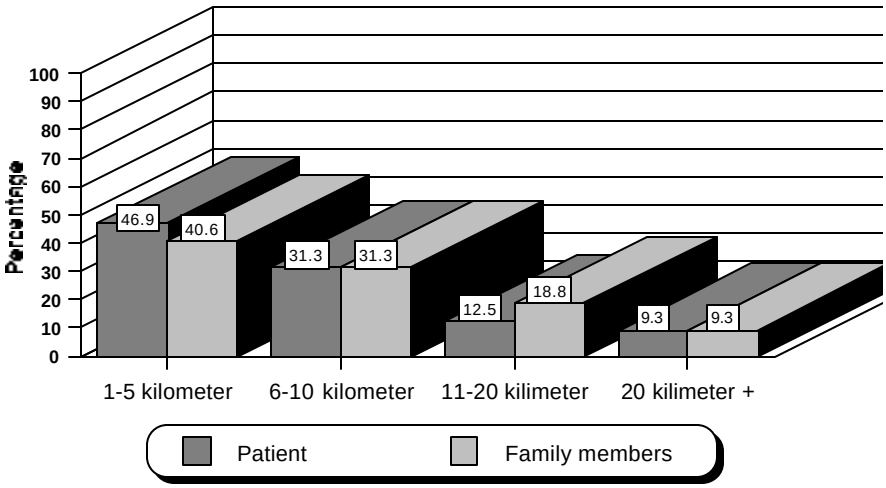

Figure 4.32

Distance to the nearest clinic/hospital

4.4.2.43 Transport used

Patients and family members were asked about the mode of transport they used to reach the clinic/hospital. The findings showed that the majority of patients used some form of transport as 13 (40.6%) patients reported that they use a bus, 8 (25%) use cars, and 1 (3.1%) said he/she uses a bicycle. The remaining 10 (31.3%) indicated that they walk to reach the clinic or hospital (figure 4.33). The family members' responses included 10 (31.2%) who use a bus, 9 (28.1%) use a car, 1 (3.1%) uses a bicycle and 12 (37.5%) walk to the clinic or hospital.

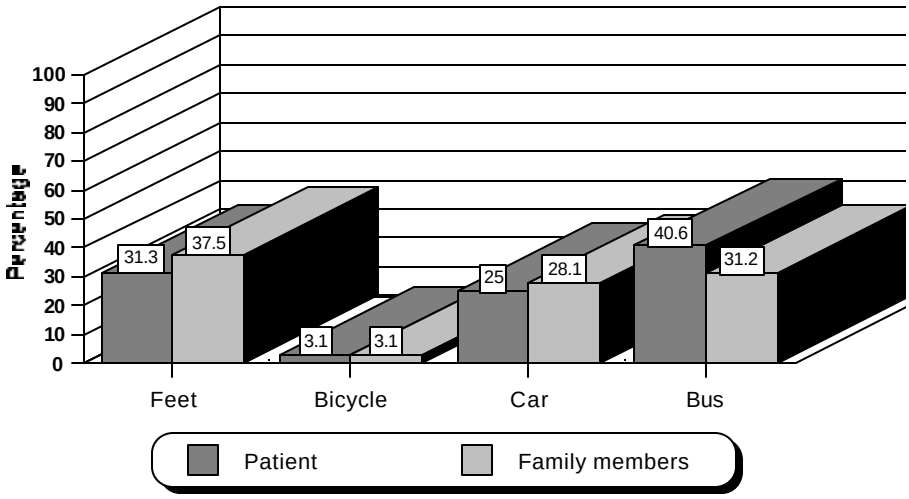

Figure 4.33

Type of transport used

4.4.2.44 With whom does the patient stay at home

In response to this question 3 (9.4%) patients reported that they stay alone, 21 (65.6%) stay with their spouses, 5 (15.6%) with their parents and 3 (9.4%) with their relatives. The family members' responses included 2 (6.3%) who reported that diabetic patients stay alone and 21 (65.6%) indicated that they stay with their spouses, 7 (21.8%) reported that they stay with their parents and 2 (6.3%) stay with their relatives (figure 4.34). This indicates that the majority of diabetic patients in the sample as reported by patients and family members do not stay alone and therefore have a support system available. According to findings of Chen-Yen W and Fenske (1996), Gowers et al (1995) and Keller in Cleaver and Pallourios (1994), patients whose families are supportive follow the recommended diet or a diabetic regimen.

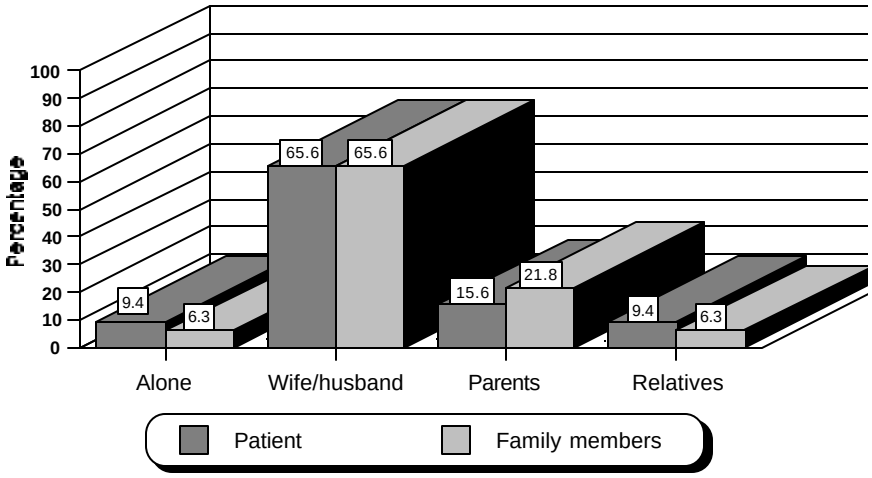

Figure 4.34

Persons with whom diabetics stay at home

4.5 CONCLUSION

In this chapter the researcher presented the data systematically and chronologically according to the items in the questionnaires. The purpose of the study was laid out together with the research objectives. Data was analysed using a computer program called SPSS. Descriptive statistics in terms of percentages were used and pie diagrams and bar graphs were added to summarise the results. The results were supported by references to the literature where applicable. In the next chapter, a summary of the findings, conclusions and recommendations will be discussed.