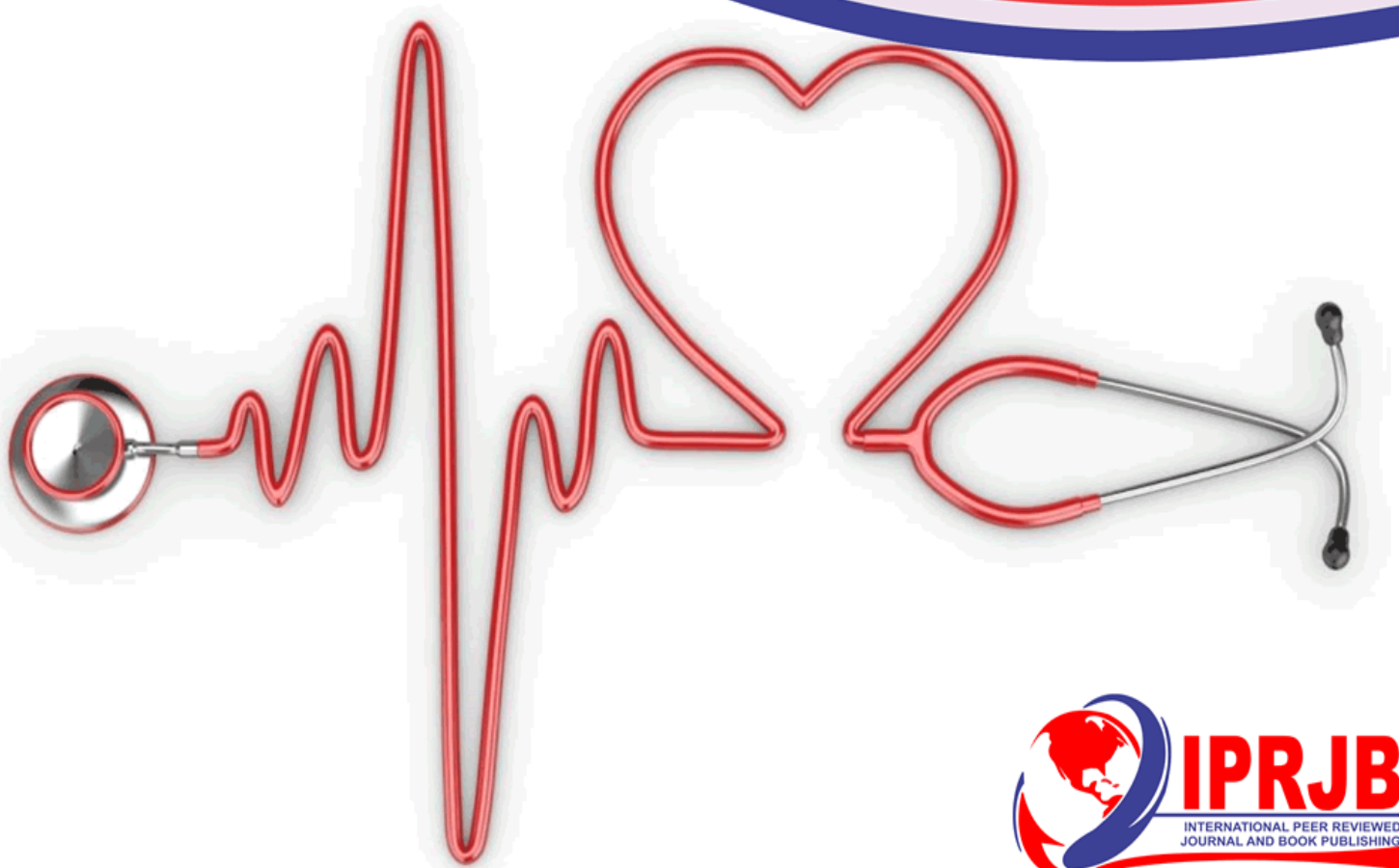


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## **SOCIAL SUPPORT RECEIVED BY DIABETES MELLITUS TYPE II PATIENTS ATTENDING A COUNTY REFERRAL HOSPITAL IN KENYA.**

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### **Abstract**

**Purpose:** Diabetes Mellitus Type II is a condition where the patients present with increased receptor resistance to adequately or normal amount of insulin production and reduced or inadequate amount of insulin produced. Worldwide the approximated burden of DM Type II is at 366 million people in 2011. The objective of the study is to determine the level of social support received by Diabetes Mellitus Type II patients attending a County Referral Hospital in Kenya.

**Methodology:** This was a descriptive cross-sectional study conducted at a County Referral Hospital Outpatient Diabetic Clinic. Researcher administered questionnaires were used to collect data. Data analysis was manual for qualitative data and for quantitative data, descriptive statistics were used to analyze aided by the statistical package for social scientists (SPSS) version 22.

**Results:** Majority 67.91% of the total participants reported not to be socially supported by their family and peers in specific aspects of their self-care management of Diabetes Mellitus Type II that contributed to the sub-optimal self-care practices attributed to the participants.

**Unique contribution to theory, practice and policy:** Study found close relationship between adequate Diabetes Mellitus Type II self-care by DM Type II patients and social support. The researcher recommends in-cooperation of the patient's social circles in Diabetes Mellitus Type II self-care patients' education so as to promote understanding which will enhance social support hence optimal practice and adherence.

**Keywords:** *Diabetes Mellitus Type II, Social support, Family Support, Peer Support*

## INTRODUCTION

Self-care entails individual's initiative to take care and maintain his or her health and disease with an aim to prevent disease related complications (Orem, 2001). Diabetes Mellitus Type II is a condition where there is body receptor resistance to insulin and deficiency of insulin relatively (Gatt *et al.*, 2008). Both resistance and deficiency may be diagnosed when Diabetes Mellitus Type II becomes clinically manifested and is characterized by high blood sugar levels (Gatt *et al.*, 2008).

Diabetes Mellitus Type II rates among the leading non-communicable diseases globally in patient's mortality and morbidity (Whiting *et al.*, 2011). Burden posed by DM Type II worldwide was approximated to be 366 million in 2011 (Whiting *et al.*, 2011). The global prevalence is estimated to rise to 9.9 % with a likelihood of the number increasing to approximately five hundred and fifty-two million come 2030 (Whiting *et al.*, 2011). In Kenya, the prevalence amongst the adult population was estimated at 4.2% in 2009 with a range of between 3.5% and 7% showing urban-rural variation (Christensen *et al.*, 2009).

Diabetes Mellitus Type II in Kenya has been associated with significant morbidity (Awari *et al.*, 2007).

Diabetes Mellitus Type II presents as a serious health challenge that is of concern globally, associated with rapid cultural changes in population, changes in social practices, increasing population age, increase in development of urban centers, alterations in dieting, reduced or absent physical exercise and other mode of living and behavior trends that have been found to be unhealthy in many countries (Christensen *et al.*, 2009). Management of patients with Diabetes Mellitus Type II has raised different debates especially among the nursing professionals with a section of nurses advocating for patient's management of disease themselves (Baumann *et al.*, 2010). While others advocate for institutionalized care which they argue is the best form of management (Baumann *et al.*, 2010). Diabetes Mellitus Type II management, can be accomplished through personal health management like continuing to maintain lifestyle activities that are healthy in areas of physical activities, diet and medication (Orem, 2001).

Diet modification is among the cornerstones of Diabetes Mellitus Type II patient management, and is based on the principle of patients eating healthy in a social context, cultural and patient's psychological influence of food choices (Christensen *et al.*, 2009). Physical activity is essential in management of Diabetes Mellitus Type II (Heinrich *et al.*, 2010). Regular patient's physical activity leads to improved metabolic control, increases receptor sensitivity to insulin and helps patients loose and maintain weight as well as giving a sense of well-being (Heinrich *et al.*, 2010). The ultimate self-care practiced by Diabetes Mellitus Type II patients demands high input from patients' social members as the patient lifestyle changes drastically (Jones *et al.*, 2008). Thus self-care involves more than performing patients care activities but also taking in consideration interrelationships between patients and his or her social surrounding and implementing an appropriate change affecting regular cycle of the patient life (Jones *et al.*, 2008).

## LITERATURE REVIEW

Diabetes Mellitus Type II can be attributed to both factors concerning one's lifestyle and inborn factors; genetics (Baumann *et al.*, 2010). There are those factors that can be controlled by individual such as diet, others cannot and include old age, female gender and genes (Baumann *et al.*, 2010). Development of DM Type II has been reported to delay if patient practice recommended nutrition and engage in recommended exercise schedule (Awari *et al.*, 2007).

Although the importance of Diabetes Mellitus Type II patient self-care is well outlined in various studies, in most cases it is not well practiced among majority of patients (Baumann *et al.*, 2010). The inability of patients to practice adequate Diabetes Mellitus Type II self-care in their management of Diabetes Mellitus Type II has been attributed to their lack of compliance to prescribed W.H.O Diabetes Mellitus Type II self-care guidelines 2012 (International Diabetes Federation, 2012). Prescribed self-care guidelines need to be made accessible to each and every DM Type II patient and every health provider should focus at achieving this standard of care (International Diabetes Federation, 2012)

In view of available resource across the world, some level of care indicates a variation of low and high resource situation (International Diabetes Federation, 2012). Nonetheless considering different variations in resource availability in the world, other types of care are prescribed which acknowledges resource situations (World Health Organization, 2012).

## METHODOLOGY

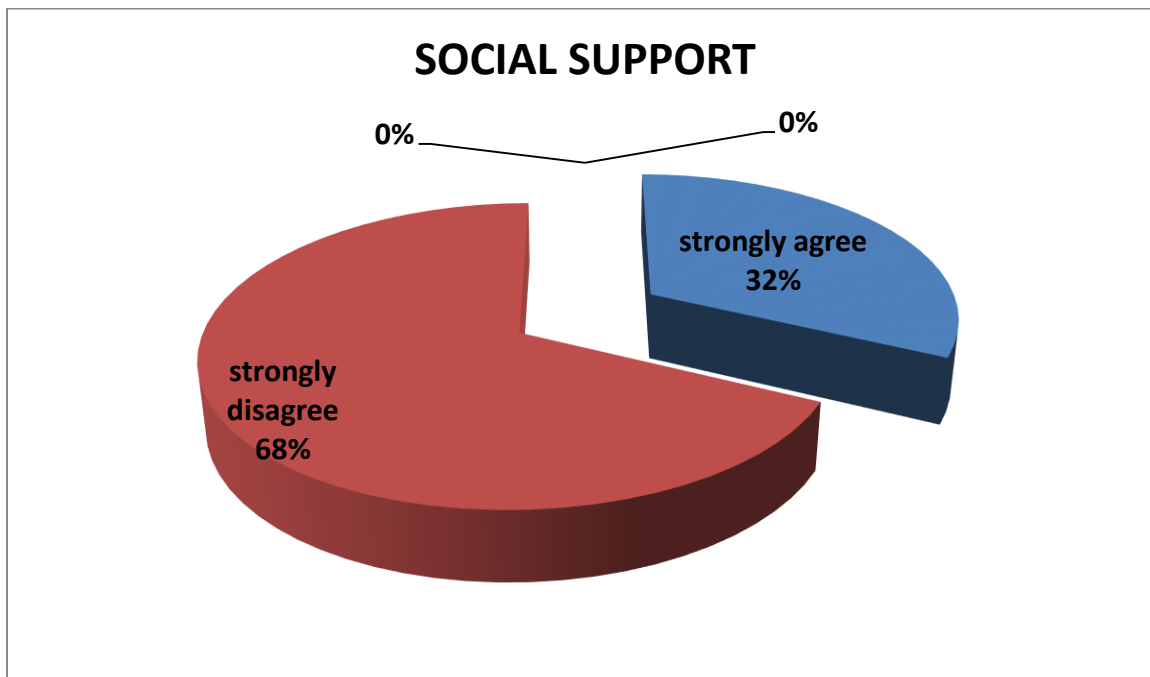
A descriptive cross-sectional study design was used to describe the relationship between social support and self-care practice by Diabetes Mellitus Type II patients at a County Referral Hospital in Kenya. Study population were patients with Diabetes Mellitus Type II; aged 18 years and above attending outpatient Diabetes Mellitus Type II clinic at the Hospital. Sample size of 168 Diabetes Mellitus Type II patients was used.

Collection of data started after receiving approval from relevant authorities. Participants were selected using the systematic sampling where every 2<sup>nd</sup> Diabetes Mellitus Type II patients was chosen, consent sort, assessed for inclusion criteria and given the questionnaires to fill. The research assistant guided the participants to fill the Diabetes Mellitus Type II self-care guideline questionnaire and clarified the questions to ensure simplicity and validity. This was repeatedly done till the required sample size of 168 Diabetes Mellitus Type II was attained. Validity and reliability of collected data was verified. The questionnaires were sorted, checked for correctness, labeled and data entered in tables on a daily basis.

Qualitative data was analyzed manually by first summarizing the information gathered, followed by categorization and coding into emerging themes. The results were presented regarding percentages, frequencies and in figures and tables and a brief explanation of each given. Quantitative data was organized, coded, and standardized then descriptive statistics were used to analyze aided by the Statistical Package for Social Scientists (SPSS) version 22. Descriptive analysis was carried out to provide simple summaries about the sample and the measures. Tables were used to present the data.

## RESULTS

The tool assessed the support the participants receive from both family and friends in their management of their Diabetes Mellitus Type II. Majority 67.91% (113.92) on average of the participants strongly disagreed receiving support from their friends and family in their Diabetes Mellitus Type II self-care with only 32.09% (53.83) on average having received support in several aspects of Diabetes Mellitus Type II self-care management.



### Level of self-care practice by Diabetes Mellitus Type II patients

This was assessed using 4 Point Morisky Adherence Scale to medication as a component of self-care and a Summary of Diabetes Self-Care Activities (SDSCA).

Majority of the participants 87.5% (147) reported to forget taking medicines with only 12.5% (21) taking their medication as required. Of the 168 participants 76.19% (128) of the participants had Problem remembering to take medicine while only 23.81% (40) had no problem. Majority of the participants 61.31% (103) reported to stop using medicine when feeling better while only 38.69% (65) used medicine as prescribed. 51.79% (87) stopped using medicine whenever they had bad feeling after using the medicine while only 48.21% (81) did not as shown in figure 4.8 page 64.

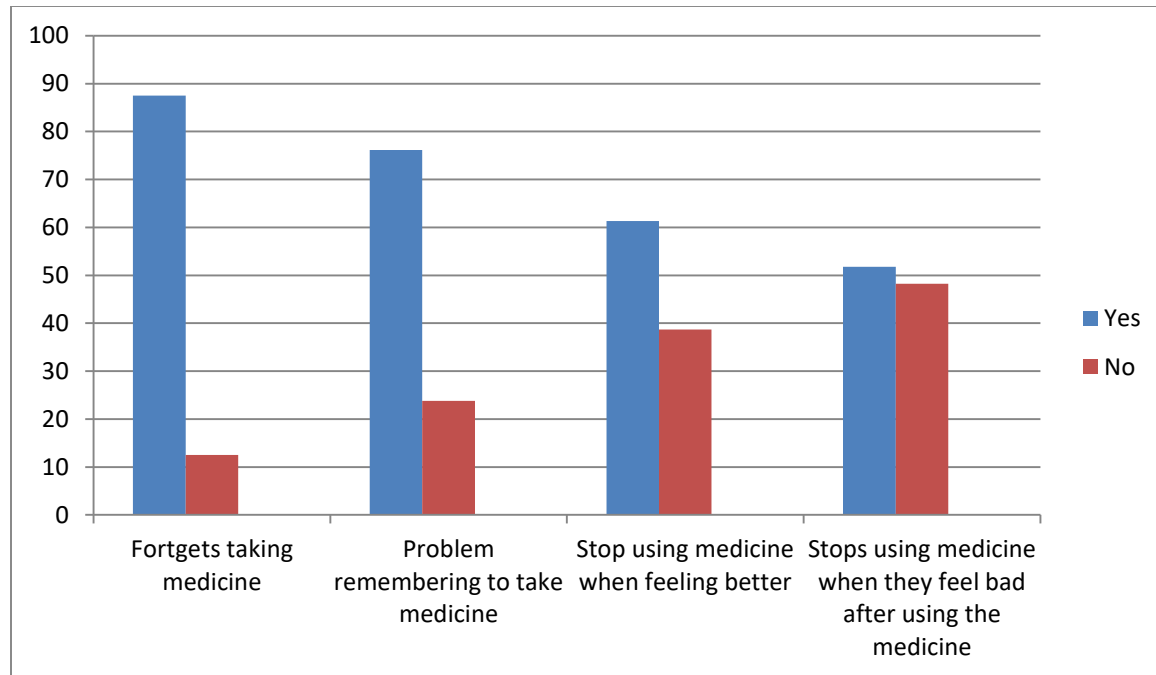


Figure 4.8: 4 Point Morisky Adherence Scale

#### 4.1.1 The Summary of Diabetes Self- Care Activities (SDSCA) based on W.H.O guidelines 2012.

The scale assessed the days the participants had performed the basic DM Type II self-care tasks; dieting, physical exercise, glycaemic monitoring and foot management from 0 days to 14 days based on W.H.O guidelines 2012. On average 62.03% (103) participants had 0 score and 21.42% (35) scored 14 days on average hence majority of the participants did not perform Diabetes Mellitus Type II self-care activities based on W.H.O guidelines 2012 in the preceding two weeks before the assessment. As illustrated in the Table 4.4 on page 65;

**Table 4.4 Summary of Diabetes Self- Care Activities (SDSCA)**

<b>Number of days</b>	<b>Total Number Of respondents who performed self-care activity. (n)</b>	<b>Average of respondent who performed self-care activity. (n/11)</b>	<b>Percentage of respondent who performed self-care activity. (n/167.2 (100%))</b>
<b>0</b>	<b>1141</b>	<b>103.72</b>	<b>62.03</b>
<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>2</b>	<b>23</b>	<b>2.09</b>	<b>1.25</b>
<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>4</b>	<b>111</b>	<b>10.09</b>	<b>6.03</b>
<b>5</b>	<b>6</b>	<b>0.5</b>	<b>0.3</b>
<b>6</b>	<b>55</b>	<b>5</b>	<b>3</b>
<b>7</b>	<b>30</b>	<b>2.72</b>	<b>1.63</b>
<b>8</b>	<b>12</b>	<b>1.09</b>	<b>0.65</b>
<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>10</b>	<b>6</b>	<b>0.54</b>	<b>0.32</b>
<b>11</b>	<b>36</b>	<b>3.27</b>	<b>1.96</b>
<b>12</b>	<b>26</b>	<b>2.36</b>	<b>1.41</b>
<b>13</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>14</b>	<b>394</b>	<b>35.82</b>	<b>21.42</b>
		<b>167.2</b>	<b>100%</b>

## CONCLUSION

There is a significant relationship between social support and self-care management of chronic disease hence individuals with Diabetes Mellitus Type II who receive more social support would likely adhere to self-care than those who feel neglected (Boulton et al., 2006). A research conducted by Awari *et al.* (2007) unveiled that family social support did not directly affect Diabetes Mellitus Type II self-care behavior. However, family support affects self-efficacy and beliefs, which sequentially influences self-care practices by Diabetes Mellitus Type II (Awari *et al.*, 2007). In this study an average majority (67.91%) of the participants had no family and peers support in specific aspects of their self-care management of Diabetes Mellitus Type II. The study found close relationship between adequate Diabetes Mellitus Type II self-care by DM Type II patients and social support.

The study found out majority of the patients with DM Type II attending the Diabetic Out-Patient Clinic at Kakamega County Referral Hospital not to engage in Diabetes self- management behaviors as recommended by the W.H.O DM Type II self-care guidelines 2012. Lifestyle modification is the cornerstone in health management of individuals with DM Type II, behaviors which include self-medication, diet restriction, physical exercise; blood sugar checking and foot care are prescribed (Nwasuraba et al., 2007).



In particular, the self-rated self-care activities fourteen days prior to the study by the participants included; dieting, such as following eating schedule, eating 5 or more fruits and vegetable servings and eating foods highly rich in fats. Exercise such as participating in a minimum of 30 minutes of physical exercises or participating in an exercise session other than routine walking. Testing of blood sugar at least the required times according to the guidelines and foot care such as regular checking of feet and inspecting the inside of shoes.

Although the study participants had substantial Diabetes Mellitus Type II self-care education from health professionals at (99%) there were significant gaps in their self-care practices especially in areas where they had knowledge deficits. Based on the tool used a large percentage of participants, (62.03%) on average scored 0 days in performance of self-care activities over a period of fourteen days, with an average percentage of (21.42%) being able to perform the basic self-care activities over a period of 14 days. This may be due to the usual assumption by patients at the same time it may be due to the inability to afford the prescribed diet hence have to abide by the available family diet (Awari *et al.*, 2007).

Research done by Nwasuruba *et al.* (2007) DM Type II patients, majority being old may not have an understanding of how physical activity or self-checking of blood sugar mitigates high blood sugars. This may also be a reflection of the cultural norm where extra recreation in form of jogging or running has not been embraced by our society (Nwasuruba *et al.*, 2007)

There is also a shortage of amenities to facilitate physical activity within rural areas in Developing countries (Moodley *et al.*, 2007) Financial limitation in affording to pay for frequent blood glucose reading or purchasing self-blood sugar monitoring machine (glucometers) maybe the potential reason for infrequent self-checking of blood glucose as only a minority of patients with DM Type II own glucometers and are able to do self-checking of blood sugar at home (American Diabetes Association, 2013)

Majority (87.5%) of the participants reported to forget taking their medicine, (61.31%) reported stopping to use medicine when they felt better with (51.79%) reporting noncompliance due to side effects associated with the medicine, hence the compliance was low in this cohort.

The level of practice of self-care by Diabetes Mellitus Type II patients at Kakamega County Referral Hospital was found to be suboptimal particularly in areas where knowledge deficits were present. Patients had poor adherence to prescribed physical exercise and frequency of self-checking of blood sugars. Based on the tool used, a large percentage of participants' performance of self-care activities over a period of fourteen days was poor, with only few being able to perform the basic self-care activities over a period of 14 days.



## REFERENCES

- Christensen, D.I., Friis, H., and Mwaniki, D.I. (2009) "Prevalence of glucose intolerance and associated risk factors in rural and urban populations of different ethnic groups in Kenya," *Diabetes Res Clinical Practice*, 84: 303-310.
- Baumann, L., Ellison, S., Olson, L., Opi, C. and Otim, M. (2010) 'Self-care beliefs and behaviors in Ugandan adults with type 2 diabetes', *The Diabetes Educator*, 36 (2), pp. 293 -300.
- Heinrich, E., Schaper, NC.andVries, NK. (2010)'Self-management interventions for type 2 diabetes', A systematic review, *EDN*.7, 2.
- Jones, R., Alexander, G., Blankenship, J., Hinton, I., Moore, C. and Steeves, R. (2008) 'Family interactions among African Americans diagnosed with type 2 diabetes' *The DiabetesEducator*,34(2), pp.318-326.
- Orem, D.E. (2001). *Nursing: Concepts of practice* (6<sup>th</sup>ed.). St. Louis, MO: Mosby.
- Boulton, A. J. M., & Armstrong, D. G. (2006) The diabetic foot. In R. A. De Fronzo, E. Ferrannini, H. Keen, & P. O. Zimmet (Eds.), *International Textbook of Diabetes Mellitus*, (3<sup>rd</sup>ed.,pp. 179-195). Hoboken, N. J.: Wiley.
- Awari, K. (2007) Lower limb amputations at the Kenyatta National Hospital, Nairobi: *East African Medical Journal*. 84(3), 121–6.
- Whiting, D.R., Guariguata, L., Weil, C., and Shaw, J. (2011) Global estimates of the prevalence of diabetes for 2011 and 2030; *Diabetes Research and Clinical Practice* 94 (3):311–21.
- Gatt, S., &Sammut, R. (2008). 'An exploratory study of predictors of self-carebehavior in persons with type 2 diabetes'.*International Journal of NursingStudies*, 45, 1525-1533.Harding, Jamie. 2013. *Qualitative Data Analysis from Start to Finish* London, SAGE Publishers
- Nwasuruba, C., Khan, M., &Egede, L. E. (2007). Racial/ethnic differences in multiple self-care behaviors in adults with diabetes. *Journal in General Internal Medicine*, 22(1), 115-120. doi:10.1007/s11606-007-0120-9
- Moodley, L. (2007) An assessment of the level of knowledge about diabetes mellitus among diabetic patients in a primary healthcare setting; *SA FamPract* 49(10)16a - d.45