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FACTORS CONTRIBUTING TO NON-ADHERENCE TO DIETARY RECOMMENDATIONS AMONG DIABETIC PATIENTS ATTENDING KAPSABET COUNTY REFERRAL HOSPITAL, KENYA

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Abstract

Diabetes is a chronic condition that requires adherence to dietary recommendations for effective management. However, studies have shown that many diabetic patients struggle to adhere to these recommendations, leading to poor health outcomes. This study presents the findings of a study conducted at Kapsabet County Referral Hospital in Kenya to explore the factors contributing to non-adherence to dietary recommendations among diabetic patients. The study was a cross-sectional analytical study which targeted type 2 diabetics attending outpatient clinic at Kapsabet County Referral Hospital. Researcher administered questionnaires to 138 selected patients for the study. The data was be coded, cleaned and analyzed using SPPS Scientific software. Permission was sought from SERC and NACOSTI (Ref no. NACOSTI/P/23/24350), County Commissioner (NC.EDU/4/3/VOL.11/ (22) and County Director of Education (NDI/CDE/RESEARCH/1/VOL.111/75). The results from the study indicates that demographic attributes of the participants played a significant role in predicting their adherence to dietary practices (B0=1.634, P<0.001). The Adherence to dietary practices was shown to be strongly impacted by age (B1=0.359). Further findings presented a positive association between the level of education and the adherence to dietary practices (B3=0.620). More importantly correlation was noted between individual's level of income and their likelihood of adhering to dietary practices (B6=0.611). There was a higher likelihood for patients with higher incomes to pursue accurate dietary information and adhere to it compared to patients with lower incomes. The results highlighted a range of factors influencing dietary adherence, including lack of knowledge, financial constraints, cultural beliefs, and social support. In conclusion, healthcare providers are expected to take these factors into consideration when developing interventions to help diabetic patients better manage their condition through diet. The results indicate that non-adherence to recommended dietary recommendation is not satisfactory hence addressing the reality of how patients with T2DM in Nandi eat in their daily lives and enhanced nutrition education would enable them adhere to medical nutrition therapy.

Key words: Diabetes Mellitus, Non-adherence, Diet, Self-management

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Introduction

Diabetes is a growing global health concern, with an estimated 463 million people affected worldwide according to IDF 2019. In Africa, about 19 million people are living with diabetes with yearly estimates of about 480,900 diabetes related mortalities according to the IDF statistics (International Diabetes Federation, 2019). This figure expected to increase by 143% by 2045 calling for an action. In Kenya, the prevalence of diabetes is also on the rise, with an estimated 2.6 million adults living with the condition this a stepwise survey of 2015.

Effective management of diabetes requires adherence to dietary recommendations, including consuming a balanced diet, monitoring carbohydrate intake, and avoiding foods high in sugar and fat. However, studies have shown that many diabetic patients struggle to adhere to these recommendations, leading to poor health outcomes such as uncontrolled blood sugar levels, cardiovascular complications, and reduced quality of life. For instance studies found out of non-adherence rates at 35-75% on recommended diet among patients with type 2 diabetes. Study done in Ethiopia reported of 55.7% non-adherence to dietary recommendation (Sharew, 2019). Another study in Nakuru County, Kenya found 59.6% adhering to the recommended diet (Mugo, 2018). 48% death due to diabetes occurs before age 70years. In Low middle income country the mortality rate is at 13% (WHO, 2019). Diabetes is a chronic disease that requires strict adherence to dietary recommendations in order to manage blood sugar levels and prevent complications.

However, many diabetic patients struggle to adhere to these recommendations, leading to poor health outcomes. One of the key factors contributing to non-adherence to dietary recommendations among diabetic patients is lack of knowledge and awareness. Many patients may not fully understand the importance of following a specific diet to manage their condition. A study by Mwangi et al. (2019) found that only 30% of diabetic patients in Kenya had adequate knowledge of dietary recommendations for diabetes management. This lack of knowledge can lead to poor dietary choices and non-adherence to recommendations. Another factor contributing to non-adherence is cultural beliefs and practices. In many African cultures, certain foods are considered to be traditional or culturally significant, and patients may find it difficult to give up these foods even if they are not recommended for diabetes management. A study by Oti et al. (2018) found that cultural beliefs and practices were a significant barrier to dietary adherence among diabetic patients in Kenya.

Additionally, socioeconomic factors such as poverty and food insecurity can also contribute to non-adherence to dietary recommendations. Many diabetic patients in Kenya may struggle to afford the recommended foods or may not have access to fresh fruits and vegetables. A study by Mutisya et al. (2020) found that food insecurity was a major barrier to dietary adherence among diabetic patients in Kenya. In contrast, social support and education have been identified as factors that can improve adherence to dietary recommendations among diabetic patients. A study by Kiboi et al. (2017)

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found that patients who received education and support from healthcare providers were more likely to adhere to dietary recommendations. This highlights the importance of providing patients with the necessary information and resources to help them make healthy choices.

This study aims to explore the factors contributing to non-adherence to dietary recommendations among diabetic patients attending Kapsabet County Referral Hospital in Kenya. Understanding the factors contributing to non-adherence to dietary recommendations among diabetic patients is crucial for developing targeted interventions to improve diabetes management and reduce the burden of the disease.

Methodology

The study was conducted at Kapsabet County Referral Hospital in Kenya, which serves as a primary healthcare facility for diabetic patients in the region. A cross-sectional descriptive study. Data was collected through semi-structured interview questionnaires with diabetic patients. The interviews explored participants' knowledge of dietary recommendations and practices, as well as sociodemographic factors.

Results

The findings of this study revealed a range of factors contributing to non-adherence to dietary recommendations among diabetic patients attending Kapsabet County Referral Hospital. Lack of knowledge about diabetes and dietary requirements was identified as a key barrier to adherence, with many patients reporting confusion about what foods to eat and how to balance their meals. The findings shows that on number of meals indicated that there is a non -adherence of 58.7% and 41.3% adherence. On Fruit taking behavior, the respondents reported a 91.8% non-adherences with only 8.7% adherence. The respondents also reported 85% non-adherence in taking enough vegetable with only 25% adherence and 77% non-adherence on snacking behavior. Financial constraints were also cited as a significant barrier, with some patients struggling to afford healthy foods or medication. Findings indicated that most of the respondents had an average household income of above Kshs.10000. As evidenced by 28% of the respondents having an average household income of Ksh. 15,000 and more. 25% earned an average income of between ksh. 5,000 to ksh. 10,000 per month while 21 % of the respondents had an average household income of less than ksh. 5,000. About 19 % of respondents had an average household income of between ksh. 10,000 and ksh. 15,000. This shows that most of the respondents had an average household income of above ksh. 10,000. 7% of the respondents chose not to declare the income level. Cultural beliefs and practices, such as traditional dietary habits and beliefs about the causes of diabetes, were identified as additional barriers to adherence. Finally, lack of social support from family members and healthcare providers was highlighted as a factor contributing to non-adherence, with many patients feeling isolated and unsupported in managing their condition. Further the findings indicated that 28% of the respondents solely depended on themselves as they had no treatments supporters. 24.6% of the patients have their spouses as their treatment supporters, while 20.3% were supported by their parents.

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Healthcare providers accounted for 11.6% as treatments supporters and 8% were children. Siblings support was at 7.2% .The high number of self- caring patients may be an indication of lack of family support in the managements of the disease, and in return this would be an impending factor of dietary adherence. A study by Barasa Masaba B, Mmusi, 2021 cited lack of family support as one of the factors observed to be associated with non-adherence.

Discussion

Table 4.1. ***Relationship between Demographic characteristics and Dietary practices***

Model	Unstandardized Coefficients		Standardized Coefficients	Sig.
	B	Std. Error	Beta	
(Constant)	1.634	.219		<.001
Age of Respondents	.359	.028	.133	.001
Marital Status	-.031	.061	-.074	.147
Level of Education	.620	.030	.046	.001
Duration with diabetes	-.342	.058	.103	.016
Occupation	.295	.021	.634	.001
Income Level	.611	.041	.534	.002
Treatment supporter	-.031	.006	.056	.132
Treatment Regimen	-.009	.022	.089	.162

The findings in table 4.6 above indicate that the demographic attributes of the participants played a significant role in predicting their adherence to dietary practices (B_0=1.634, P<0.001). The Adherence to dietary practices was shown to be strongly impacted by age (B_1=0.359). There was a higher likelihood of older patients adhering to dietary treatment compared to their younger counterparts. The findings were consistent with previous research

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that observed a positive correlation between ages and the non -adherence to diabetes dietary recommendation.

According to further findings the data presented a positive association that was seen between the level of education and the adherence to dietary practices (B_3=0.620). Furthermore, an important correlation was noted between individual's level of income and their likelihood of adhering to dietary practices (B_6=0.611). There was a higher likelihood for patients with higher incomes to pursue accurate dietary information and adhere to it compared to patients with lower incomes. These findings agree with those by the report of WHO (2019) which assert that income and financial status was crucial in matters health. A study by Mutisya et al. (2020) found that food insecurity was a major barrier to dietary adherence among diabetic patients in Kenya. These studies have shown some significant associations between income, financial stability and better self-rated health. Financial strain was linked with less adherence and lower self-rated health outcome.

The findings of the study indicate an important association between the occupation of the participants and their likelihood of adhering and able to afford food (B_5=0.295). There was also shown a significant inverse association between the duration one has lived with diabetes with the adherence to dietary practices. This show that those patients who have lived with diabetes longer, tend to be more adhering than those who had just been diagnosed.

The findings also indicate a significant relationship between Dietary practices adherence and treatment regimen (B_8=0.319). These findings are in line with that by Barasa Masaba B, Mmusi, (2021) who in their study found that rrespondents' on OGLA's and insulin regimen were less likely to be non-adherent than the clients on single OGLA's and the patients on insulin only were less likely to be non-adherent compared to the patients om single OGLA's.

Nevertheless, the research revealed no significant correlation between the adherence to dietary practices and marital status (B_2=-0.03) and Treatment supporter (B_7=-0.031). In contrast, social support and education have been identified as factors that can improve adherence to dietary recommendations among diabetic patients. A study by Kiboi et al. (2017) found that patients who received education and support from healthcare providers were more likely to adhere to dietary recommendations. This highlights the importance of providing patients with the necessary information and resources to help them make healthy choices

Table 4.2.*Dietary practice Non Adherence*

Dietary practice	Adherence	Non-Adherence
Meals per Day	41.3	58.7
Taking Fruits	8.7	91.8
Taking Vegetables	15	85
Eating source	71	29
Choice of meals	64	36
Snacking behavior	23	77

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The findings in table 4.6 above shows that on Number of meals per day, there is a non - adherence of 58.7% with 41.3% adherence. On Fruit taking behavior, the respondents reported 91.8% non-adherences with only 8.7% adherence. There was reported 85% non - adherence in taking enough vegetable with only 25% adherence. On snacking behavior, there was a 77% non- adherence with only 23% adherence.

In general, the adherence and non-adherence to dietary practices was as shown in figure 4.4.8 below.

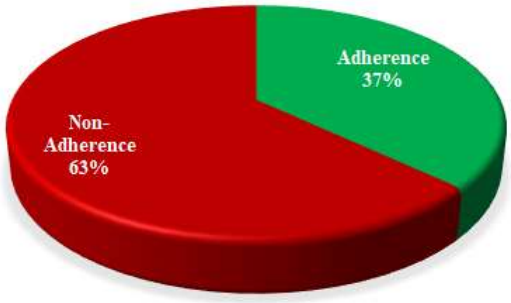

Table 4.3. ***Level of knowledge on Diabetes***

How would you rate your understanding of Diabetes?	N	Mean	Std
Overall diabetes care	136	2.93	.826
How to test and interpret the results	136	1.21	1.043
Prevention and treatment of hyperglycemia	134	2.25	.904
Prevention and treatment of hypoglycemic episodes	136	2.37	.797
Diet plan for glycemic control	134	1.41	1.068
How diet, exercise, and medicines affect blood sugar levels	136	2.91	1.921
Current prescribed treatment regimen	136	3.11	.079
Benefits of improving blood sugar control	138	2.87	.868
Prevention of long –term diabetes complication	132	2.36	.892
Stress management	136	1.19	.793
Clinic appointments	136	3.43	.239
Exercise and its importance in diabetes management	138	3.95	.035
Foot care	136	1.93	1.156
Overall	**136**	**2.647**	**0.817**

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From the findings in table 4.8 above, it is depicted that the patients had excellent knowledge on the importance of exercise and its importance in diabetes management (mean=3.95), clinic appointments (mean=3.43), good knowledge on the current prescribed treatment regimen (mean=3.11), overall diabetes care (mean=2.93), how diet, exercise, and medicines affect blood sugar levels (mean=2.91) and benefits of improving blood sugar control (mean=2.87).

On average, the respondents also had awareness on Prevention and treatment of hypoglycemic episodes (mean=2.37), Prevention of long-term diabetes complication (mean=2.36). The patients however had very minimal awareness on how to test and interpret the results (mean=1.21), Diet plan for glycemic control (mean=1.41) and Stress management (mean=1.19). In general, the respondents have good knowledge on diabetes and the dietary practices (mean=2.647). The findings are in line with those by Divas et al (2023) who found diabetic patients well knowledgeable about the disease and its management.

4.5.1. Level of knowledge and Adherence to Dietary Practices

The study sought to determine whether there existed any relationship between level of knowledge the patients have about the disease and the dietary practices and adherence to the dietary practices. Pearson's correlation coefficient was carried out and the results were s shown in table 4.9 below.

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4. *Relationship between Level of Knowledge and Adherence to dietary practices*

		Level of knowledge on diabetes	**Adherence to Dietary practices**
Level of knowledge on diabetes	Pearson Correlation	1	.571**
	Sig. (2-tailed)		.021
	N	**136**	**136**
Adherence to Dietary practices	Pearson Correlation	.571**	1
	Sig. (2-tailed)	.021	
	N	**136**	**136**

**. Correlation is significant at the 0.05 level (2-tailed).

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The findings show a significant positive relationship between Level of knowledge on diabetes and dietary practices with Adherence to dietary practices (N=136, r=.571, p=.021, 0.05). The findings by Mwangi et al. (2019) contrasted as it found that only 30% of diabetic patients in Kenya had adequate knowledge of dietary recommendations for diabetes management. Hence the findings of this study have important implications for diabetes management in Kenya. Effective interventions to improve dietary adherence among diabetic patients must address the multiple factors influencing non-adherence, including lack of knowledge, financial constraints, cultural beliefs, and social support. Healthcare providers play a crucial role in educating patients about the importance of dietary recommendations and providing support to help them overcome barriers to adherence. In addition, community-based interventions that involve family members and promote healthy eating habits are essential for long-term success in managing diabetes. By addressing these factors, healthcare providers can help diabetic patients in Kenya achieve better health outcomes and improve their quality of life.

Conclusion

In conclusion, this study has shed light on the factors contributing to non-adherence to dietary recommendations among diabetic patients attending Kapsabet County Referral Hospital in Kenya. There is need for comprehensive education at the health facility emphasis being put on meal frequencies, snacking and importance of vegetables. There is also a need to review and educate patients on regular basis by a qualified nutritionist in order to reinforce and individualize care to promote adherence. To policy makers both at national and county governments to sit and come up with written instructions and IEC materials.

Data Availability

Data supporting the findings of the study are available from the corresponding authors upon request.

Conflict of Interest

The authors declare that they have no competing interests

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