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Patients' Related Factors Influencing Family Participation In Self-Care Management Among Patients With Dmtii In Kitui County

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Abstract
Worldwide, an estimated increase of 642 million patients will have been diagnosed with diabetes mellitus by the year 2035, out of this figure more than 90% will have type 2 diabetes mellitus. In Kenya the burden for the disease is equally on rise, consequently there is huge gap in knowledge deficient among the sick individuals and their families on diabetes management making most patients to present with poor self-care practices especially in rural settings where Resources are scarce. The study aims at developing a family-based intervention model to improve family participation in the management of patients with diabetes mellitus type II at Kitui County. A sample of 68 participants was required to participate in the study. Creating informative resources that highlight the importance of family involvement and provide guidance on DMTII self-care practices. Organizing regular educational sessions where healthcare professionals deliver presentations and address concerns raised by family members. Encouraging open and empathetic communication between patients and their family members. Creating spaces for families to connect, share experiences, and provide emotional support. Involving family members in the decision-making process regarding DMT11 management. By implementing these strategies, healthcare professionals can create an environment that empowers and encourages family members to actively participate in the self-care management of DMTII patients. Family involvement has the potential to improve self-care practices, enhance treatment outcomes, and promote overall well-being for individuals living with DMTII. Develop interventions to address barriers to regular healthcare check-ups and promote consistent engagement with healthcare providers.

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I. Background of the Study

Today, diabetes mellitus is a major health concern all over the world. Globally, the number of persons with diabetes (20-79 years) was 425 million in 2017 and it will be anticipated to 629 million by 2045. From this, 16 million African adults suffered from diabetes in 2017, with 41 million expected to do so by 2045. About 4 million persons aged 20-79 died from diabetes in the ninth edition of the IDF diabetics atlas, which is one death every eight seconds. An estimated 212.4 million people worldwide have diabetes, with an estimated 84.5

percent of these occurrences occurring in poor and middle-income nations. Ninety-five to one hundred percent of all instances of diabetes mellitus [3] are attributable to type 2 diabetes mellitus. Due to fast urbanization and changes in lifestyle, the prevalence of type 2 diabetes mellitus was rising in sub-Saharan Africa. When compared to the rest of Africa, Ethiopia has the third highest prevalence of diabetes mellitus. To the extent that diabetes mellitus is a chronic medical condition requiring lifelong medical care, ongoing patient self-management, and multifactoral risk reduction techniques beyond glycemic control, these interventions are necessary throughout the rest of the patient's life. Sub-Saharan Africans' low ability to self-manage their diabetes mellitus poses a significant risk to their health.

The country as a whole has been established to have a crude prevalence of DMTII of 5.3 percent, with a greater number of cases occurring in urban regions at 16% compared to 12% in rural sections of the country. (El-busily and colleagues, 2019). Not only the patients but also their family members are able to gain the necessary knowledge and skills, such as communication, decision-making, and problem-solving, that enable them to actively participate in diabetes self-care practice at their homes and therefore be able to reduce the fatal disease-related complications (Jones et al., 2018). Interventions that are done at home, such as education and demonstrational, empower not only the patients but also their family members to gain these necessary knowledge and skills. Understanding the elements that lead to good diabetic self-care management can assist guide an individual in adapting to the most effective interventional techniques aimed at improving self-care behaviors, achieving improved glycemic control, and preventing complications associated to diabetes (ADA, 2018).

II. Literature Review

Patient factors influencing family participation in self-care for diabetes mellitus Type II patients

There are various aspects related to family support and its impact on diabetes self-care, as well as the psychosocial variables and educational factors that influence a patient's ability to manage Type 2 diabetes effectively. Emotional Responses to Diabetes Diagnosis: Receiving a lifelong diagnosis like Type 2 diabetes can trigger a range of emotions, including anger, despair, anxiety, and denial. These emotional responses can significantly affect how individuals cope with and engage in self-care.Family Misunderstandings: The text suggests that misunderstandings between patients and their families can hinder family participation in diabetes self-care procedures. These misunderstandings may stem from a lack of knowledge or communication gaps.Importance of Diabetes Support: Providing diabetes support, both emotional and physical, to patients is crucial. Such support aims to encourage patients to adhere to self-care activities, cope with the disease, and adapt to its challenges.Limited Effective Support Mechanisms: Despite the importance of support, reports indicate that only a small percentage of patients have effective support mechanisms in place, which can impede their ability to manage diabetes.Impact of Unhappiness on Glycemic Control: Unhappiness among patients due to inadequate support can lead to poor glycemic control, which can have detrimental effects on their health.Factors Affecting Family Participation: Various factors affect the extent of family participation in diabetes management, including age, education, duration of illness, presence of complications, knowledge, and cultural beliefs.Patients' Trust in Self-Efficacy: Patients' trust in their own ability to manage their diabetes and their family's support in implementing required behaviors play a crucial role in achieving glycemic control.Role of Monitoring and Support: Frequent monitoring and progressive support from family and friends can help patients, especially adolescents, in performing diabetes self-care activities effectively. Irregular family involvement can lead to poor self-management, increased stress, and low coping mechanisms.Health Literacy: Health literacy, which refers to the ability to obtain, process, and understand basic health information, plays a significant role in patients' and families' ability to manage diabetes effectively. It empowers patients to carry out self-care activities and make informed decisions.Psychosocial Variables: Psychosocial factors, such as depression, can impact a patient's ability to manage diabetes. Depressed patients may receive inadequate support from their families, leading to conflicts and misconceptions.Importance of Education: Education and knowledge about diabetes are essential for patients and their families. Proper knowledge empowers patients to take responsibility for their health and manage their condition effectively.Self-Management Education: Self-management education for patients with Type 2 diabetes and their families can improve blood glucose control. However, the benefits may diminish over time, highlighting the need for continuous education and follow-up.Understanding Disease Progression: Lack of understanding about diabetes progression and self-care practices can lead to complications and premature mortality among patients.CulturalSensitivity: Cultural factors can significantly influence how families and patients approach diabetes management. Healthcare providers should be culturally sensitive and adapt their support strategies accordingly.Social Stigma: Some individuals with Type 2 diabetes may experience social stigma, which can further isolate them and hinder their self-care efforts. Addressing this stigma and providing emotional support is crucial.Healthcare Access: Limited access to healthcare facilities and resources can impede a patient's ability to receive proper diabetes education and support. Expanding healthcare access is essential, particularly in underserved communities.Digital Health Tools:

The use of digital health tools, such as mobile apps and telemedicine, can facilitate remote monitoring and support for diabetes patients, improving their self-care and overall outcomes.Family Education Programs: Implementing family-focused diabetes education programs can help families understand the condition better and actively participate in self-care activities. Psychological Counseling: Patients and their families may benefit from psychological counseling to address the emotional impact of a diabetes diagnosis, helping them cope more effectively. Community Support Groups: Creating or promoting community support groups for diabetes patients and their families can provide a valuable platform for sharing experiences and coping strategies.Financial Barriers: The cost of diabetes management, including medications and regular check-ups, can be a significant barrier. Developing financial assistance programs can alleviate this burden.Health Literacy Assessment: Regular assessments of patients' and families' health literacy levels can help tailor education and support efforts to their specific needs.Early Intervention: Identifying diabetes patients at risk of inadequate support or complications early on and providing targeted interventions can prevent worsening of the condition. Patient Empowerment: Encouraging patients to take an active role in managing their diabetes and involving them in treatment decisions can lead to more effective self-care. Long. Term Sustainability: Ensuring the long-term sustainability of support programs and education is essential to maintaining patients' self-care habits and glycemic control over time.

III. Research Methodology

The study was based cross-sectional descriptive study design was employed. Mixed methods approach was used to collect both quantitative and qualitative data from study participants.The study was carried out in Kitui County. The county is located 170 km to the south East of Nairobi city, in former eastern province of Kenya. Its capital and largest town is Kitui with Mwingi serving as a major urban centre. Kitui county has a population of 1,136187 (2019 census). The study population comprised of all adult patients clinically diagnosed with diabetes mellitus Type II for a period of at least six months. A questionnaire is a research instrument that is used to collect data comprising of a number of questions for the study participants to respond on. A Structured interview questionnaire was used to collect qualitative data from focused group discussions while semi-structured questionnaire was used to collect quantitative data. The data was analyzed using SPSS version 25.

IV. Results and findings

Descriptive analysis on the determination of the patients' related factors influencing family participation in self-care among DMTII patients at Kitui county.

Descriptive analysis was determined on the patients' related factors influencing family participation in self-care among DMTII patients and was presented in frequencies and percentages according to table 6 below;

Table 1: Descriptive analysis on the determination of the patients' related factors influencing family participation in self-care among DMTII patients

Test Item		F	%
How would you rate the severity of the DMTII?	Mild	19	33.3%
	Moderate	17	29.8%
	Severe	21	36.8%
Does the patient have any complications related to DMTII?	Yes	22	38.6%
	No	35	61.4%
How involved are you in the your self-care activities?	Strongly agree	4	7.0%
	Agree	10	17.5%
	Neutral	11	19.3%
	Disagree	16	28.1%
	Strongly disagree	16	28.1%
What specific self-care activities do you do?	Medication Management	12	21.1%
	Meal Planning	18	31.6%
	Exercise	27	47.4%
How would you rate the your knowledge about DMTII and their ability to manage your condition?	Low knowledge	22	38.6%
	Medium knowledge	16	28.1%
	High knowledge	19	33.3%
What motivates the you engage in self-care?	Personal health goals	15	26.3%
	Family support	16	28.1%
	Healthcare provider recommendations	26	45.6%
How would you describe the communication between the you and family members regarding DMTII self-care?	Low	21	36.8%
	Medium	22	38.6%
	High	14	24.6%
How often are decisions regarding the your self-care made collectively among family members?	Rarely	14	24.6%
	Occasionally	20	35.1%
	Frequently	23	40.4%
Are there any cultural or social factors that influence family	Yes	28	49.1%

involvement in your self-care?	No	29	50.9%
Do you experience caregiver burden in assisting yourself with their self-care?	Yes	27	47.4%
	No	30	52.6%

Source Field Data (2023)

Among the respondents, 19 individuals rated the severity of the DMTII disease as Mild, accounting for approximately 33.3% of the total respondents. This suggests that a considerable portion of the patients had a milder form of the disease. Additionally, 17 respondents indicated that the severity of the DMTII disease was Moderate, representing around 29.8% of the participants. This suggests that a significant number of patients had a moderate level of disease severity. Furthermore, 21 participants rated the severity of the patient's DMTII as Severe, comprising approximately 36.8% of the total respondents. This indicates that a notable proportion of the patients had a more severe form of the disease. Overall, these findings indicate that the severity of DMTII varied among the patients involved in the study. While a considerable number of patients had mild or moderate disease severity, a substantial portion also experienced a more severe form of DMTII. Understanding the distribution of disease severity is important for tailoring interventions and support systems to meet the specific needs of patients at different levels of disease progression.

The study indicates that a significant proportion of the participants (38.6%) reported having complications related to DMTII, while the majority (61.4%) did not report any complications. Based on the distribution, the majority of respondents fell into the "Disagree" and "Strongly disagree" categories, with a combined total of 44.4%. This suggests that a significant portion of participants expressed a lower level of involvement in the patient's self-care activities. On the other hand, those who indicated higher levels of involvement, such as "Agree" and "Strongly agree," accounted for a combined total of 24.5%. The remaining respondents fell into the "Neutral" category, representing 19.3% of the total.

Among the respondents, 12 individuals (21.1%) reported assisting the patient with medication management. This indicates that a portion of family members actively participates in ensuring that the patient adheres to their medication regimen and manages their medications appropriately. Regarding meal planning, 18 respondents (31.6%) mentioned their involvement in this aspect of self-care. This suggests that a significant proportion of family members take responsibility for planning and preparing meals that align with the patient's dietary requirements, ensuring proper nutrition and adherence to dietary restrictions associated with good outcome of DMTII. Exercise was reported as a self-care activity that family members assist the patient with by 27 respondents (47.4%). This finding suggests that a considerable number of family members are actively engaged in encouraging and supporting the patient's physical activity, which is crucial for managing DMTII and maintaining overall health. The majority of participants (38.6%) rated the patient's knowledge and ability as low, while 28.1% perceived it to be of medium level, and 33.3% considered it to be high.

A response rate of 15 respondents, accounting for 26.3% of the total respondents, mentioned personal health goals as their primary motivation for engaging in self-care while 16 respondents, representing 28.1% of the total respondents, cited family support as a motivating factor while the highest number of respondents, 26 individuals, accounting for 45.6% of the total respondents, stated that healthcare provider recommendations motivated them to engage in self-care.

Out of the total number of respondents, 21 individuals (36.8%) described the communication as Low. Similarly, 22 individuals (38.6%) described the communication as Medium. On the other hand, 14 individuals (24.6%) described the communication as High, implying that they perceived a higher level of communication between the patient and family members concerning DMTII self-care. Among the respondents, 14 individuals (24.6%) reported that these decisions are rarely made collectively. This suggests that in a minority of cases, family members have limited involvement or influence in determining the patient's self-care choices. Additionally, 20 respondents (35.1%) mentioned that these decisions are occasionally made collectively. On the other hand, a majority of the respondents, specifically 23 individuals (40.4%), indicated that decisions regarding the patient's self-care are frequently made collectively among family members.

The test variable "Are there any cultural or social factors that influence family involvement in the patient's self-care?" was analyzed, and the results are presented in terms of frequency and percentage. Out of the total sample size, 28 participants responded affirmatively, indicating that there are cultural or social factors influencing family participationin in the patient's self-care. This represents approximately 49.1% of the total respondents. On the other hand, 29 respondents responded negatively, stating that there are no such factors influencing family involvement. This accounts for approximately 50.9% of the respondents. Out of the total respondents, 27 individuals responded "Yes," accounting for 47.4% of the sample, while 30 individuals responded "No," representing 52.6% of the sample. These figures indicate that caregiver burden in assisting patients with self-care is reported by a significant proportion of the participants, with almost half of them experiencing this burden.

Inferential analysis on the determination of the patients' related factors influencing family participation in self-care among DM TII patients at Kitui county.

A person chi square test was used to determine the statistical relationship among the patients' related factors influencing family participation in self-care among DM TII and the results were presented on table 7 below;

Table 2: Pearson's chi-square on the determination of the patients' related factors influencing family participation in self-care among DM TII patients

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	114.000[a]	11	.030
Likelihood Ratio	124.290	11	.201
Linear-by-Linear Association	.048	1	.827
N of Valid Cases	57		

Source Field Data (2023)

According to results indicated on table 7 Pearson Chi-Square (p) = 114.00 since $p < 0.05$ the chi-square test results indicate a statistically significant association on the determination of the patients' related factors influencing family participation in self-care among DM TII patients, as evidenced by the significant p-values associated with both the Pearson Chi-Square which was 0.030 which was less than 0.05.

According to study by Segenet at el, (2022) concluded that there are several variables that influence the ability of patients with diabetes mellitus and their families to engage in self-care activities. These factors encompass various aspects such as the availability of healthcare services, effective communication with healthcare professionals, individual patient traits, psychological well-being (including stress, depression, and distress), and personalized education or behavioral support that caters to the specific needs of the patient and their family.

Thematic analysis on the determination of the patients' related factors influencing family participation in self-care among DM TII patients at Kitui county.

Acknowledging the patients' related factors that influence family participation in self-care among Type 2 diabetes mellitus (DM TII) patients is crucial for providing effective support and assistance to these individuals. Here are some of the factors that were indicated on the study by the respondents;

"Family involvement plays a vital role in supporting patients with DM T2 in managing their condition effectively. When families are aware of the factors that impact their participation, healthcare providers can work collaboratively with them to establish a supportive environment. This can include providing education and resources tailored to the family's needs, fostering open communication channels, and encouraging active involvement in self-care activities."

"Patient-related factors, such as psychosocial adjustment, can significantly affect their ability to adhere to self-care practices. Acknowledging these factors allows healthcare providers to identify potential barriers and tailor interventions accordingly. By involving the family in the patient's care, they can provide additional support, encouragement, and reminders to adhere to treatment plans, resulting in improved treatment adherence and better health outcomes."

"Recognizing individual patient and family characteristics allows healthcare providers to provide personalized education and behavioral support. By understanding the unique needs, preferences, and circumstances of the patients and their families, interventions can be tailored to promote effective self-care practices. This may include adapting educational materials, providing culturally sensitive guidance, and incorporating behavioral change techniques that resonate with the patient and their family."

"Factors like stress, depression, and distress can impact self-care activities and overall well-being. By acknowledging these emotional factors, healthcare providers can implement appropriate strategies to address them. This may involve providing mental health support, counseling, or referring patients and families to specialized services that can help them cope with emotional challenges."

In summary, acknowledging the patients' related factors influencing family participation in self-care among DMTII patients is essential for developing comprehensive, patient-centered care plans. By recognizing these factors, healthcare providers can enhance support systems, improve treatment adherence, address emotional well-being, and provide tailored education and behavioral support, ultimately assisting patients and their families in effectively managing their condition.

V. Summary, Conclusion and Recommendations

Summary

The analysis of the survey data revealed important insights into various aspects related to self-care practices and family involvement in the management of Type 2 Diabetes Mellitus (DMTII). The severity of DMTII varied among the patients, with a considerable portion experiencing mild (33.3%), moderate (29.8%), or severe (36.8%) disease severity. Complications related to DMTII were reported by 38.6% of participants. The level of family involvement in self-care activities varied, with 44.4% expressing lower involvement and 24.5% indicating higher involvement. Family members were actively involved in assisting with medication management (21.1%), meal planning (31.6%), and supporting exercise (47.4%). Patient knowledge and ability were perceived as low by 38.6%, medium by 28.1%, and high by 33.3% of respondents. Personal health goals (26.3%), family support (28.1%), and healthcare provider recommendations (45.6%) were identified as motivating factors for engaging in self-care. Communication between patients and family members regarding DMTII self-care was rated as low (36.8%), medium (38.6%), or high (24.6%). Decision-making regarding self-care was occasionally (35.1%) or frequently (40.4%) made collectively within the family. Cultural or social factors influencing family involvement in self-care were acknowledged by 49.1% of participants. Caregiver burden in assisting patients with self-care was reported by almost half of the respondents. The availability of family members to provide support for the patient's self-care activities varied, with "Agree" (24.6%) and "Strongly agree" (22.8%) being the most common responses.

Conclusion

The findings indicate that self-care practices and family involvement in DMTII management are influenced by various factors. Disease severity varies among patients, highlighting the need for tailored interventions based on individual needs. Complications related to DMTII and the level of family involvement in self-care activities emphasize the importance of support systems and targeted interventions. Motivating factors for self-care, such as personal health goals, family support, and healthcare provider recommendations, can be utilized to enhance patient engagement. Effective communication and collective decision-making within the family play a vital role in promoting self-care practices. Understanding cultural and social factors and addressing caregiver burden are essential for optimizing family involvement. Overall, these findings provide valuable insights that can guide healthcare providers in developing interventions and support systems to improve self-care practices and outcomes for individuals with DMTII.

Recommendations

Design personalized exercise plans and promote physical activity as an integral part of diabetes self-care.
Establish reminder systems and adherence strategies to support medication adherence among DMTII patients.

References

[1]. Aikens, J. E., Perkins, D. W., Lipton, B., Piette, J. D. (2009). Longitudinal Analysis Of Depressive Symptoms And Glycemic Control In Type 2 Diabetes. Diabetes Care, 32(7), 1177-1181 Aguiree, F., Brown A., Cho NH, Et Al, (2017). International Diabetes Federation (IDF) Diabetes Atlas Basel.
[2]. American Association Of Diabetes Educators (2011) Technical Review : Diabetes Self-Management Education And Training Outcomes Measures.
[3]. Anderson RM, Funnel M, (2018), Compliance And Adherence Are Dysfunctional Concepts In Diabetes Care; The Diabetes Education.
[4]. Armour., S. Norris., L.Jack, X. Zhang., L. Fisher(.2018). Effectiveness Of Familyparticipation In Diabetes Management.
[5]. Bearman KJ, La Greca AM (2016) Assessing Friend Support Of Adolescents And Diabetes Care. The Diabetes Social Support Questionnaire-Friends Version.
[6]. Boutayeb, A, Boutayeb S. (2016) The Burden Of Non- Communicable Diseases In Developing Countries Ranjbarzadeh
[7]. Bruttomesso D, Gagnaye R, Leclercg D, Crazzolara D, Busata E, Casiglia E, (2016) The Use Of Degree Of Certainty To Evaluate Knowledge.
[8]. Chesla AL., (2018). Family Predictors Of Disease Management Over One Year In Latino And European American Patients With T2DM.
[9]. Christensen, D.L., Friis H., Mwaniki DL. (2019) Prevalence Of Glucose Intolerance And Associated Risk Factors In Rural And Urban Population Of Different Ethnic Groups Kenya.
[10]. Dalal, J.J. Beunza, J. Volmink, C, Adebamowo, F. Bajunirwe, M, Njelekeka
[11]. Deakin., T. Mcshanc., Cade J.E, Williams., R.(2016) Group Based Self- Management Education In Adults With Type 2 Diabetes Mellitus.
[12]. Evangelista.,L.S., & Shinning., M.A, (2018) What Do We Know About Adherence And Self-Care?
[13]. Fisher, L., Chesla, C., Skaff., M. (2018). The Family And Disease Management In Patients With Type 2 Diabetes Mellitus.
[14]. Gazmararian., J. Ziemer., D. Barnes., C. (2017) Perception Of Barriers Of Self-Care Management Among Diabetes Patients. Diabetes Educator 35: 778-778.
[15]. Grossman., H.Y,Brink., S.Hauser .,S. (1987) Self-Efficacy In Adolescent Girls And Boys With Insulin-Dependent Diabetes Mellitus.
[16]. Health Quality Ontorio. (2016) Behavioral Interventions From Type 2 Diabetes An Evidence Based Analysis.

[17]. International Diabetes Federation (2017) IDF Diabetes Atlas- 8th Edition; Retrieved From Www.Diabets Atlas.Org. World Health Organization WHO, (2016) Global Report On Diabetes . Retrieved From Http/Apps.Intris/Bitram/Bits.
[18]. Ivastava/.R.B.,Shrivastava,S.,Ramsey J. (2017). Role Of Self-Care In In Management Of Diabetes Mellitus
[19]. Johnsone., S.B (2017) Methodological Issues In Diabetes Research. Measuring Adherence. Diabetes Care.
[20]. Kleinbeck,C & Williams,C. (2019) Disabilities, Diabetes And Devices: Home Health Care. Nurse.
[21]. Maskari F,El-Sadig M,Nagelkerke N. (2017) Assessement Of Direct Medical Cost Of Diabetes Mellitus And Its Complications.
[22]. Nadkarni, A, (2017) Implementation Plans And Self-Monitoring Of Blood Glucose In Diabetes Dissertation, Michigan University.
[23]. Oti., S.O, Vijver S.J, Aggyemang C, Kyubutung C. (2018) Magnitude Of Diabetes And Its Association With Obesity In Slums Of Nairobi.
[24]. Souse V.D. &Zauszniewski J.A, (2016) Toward A Theory Of Diabetes Self-Care Management. Journal Of Theory Construction And Testing 9, 61-67.
[25]. UK Prospective Diabetes Study (UKPDS)(2018) Intensive Blood Glucose Control With Insulin Compared To Conventional Treatment And Risk Of Complications In Patients With Type 2 Diabetes. Mellitus.
[26]. Vivienne., W.U,Courtey., M. Edwards., H. Mcdowell.,J.Shorttridge-Baggett (2008) Developing And Validation Of The Diabetes Managemntself-Efficacy Sale.
[27]. Whitemore., R. (2019) Strategies To Facilitate Lifestyle Change Associated With Diabetes Mellitus. Journal Of Nursing Scholarship 32: 225-232.
[28]. World Health Organization (2016) Global Report On Diabetes.