

Nutrient Knowledge, Self-Care Behaviour, and Nutritional Status of In-Patients with Diabetes Mellitus at Ekiti State University Teaching Hospital, Ado Ekiti, Nigeria

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Abstract

Background: Diabetes mellitus (DM) is a growing non-communicable disease crisis in Nigeria, with rising prevalence among older adults and escalating complications burden on health systems. Nutritional knowledge, dietary self-care behaviour, and nutritional status are critical, interlinked determinants of glycaemic control, complication prevention, and quality of life for people living with DM. Despite the critical role of these factors, systematic assessment among hospitalised DM patients in South-Western Nigeria remains limited.

Methods: We conducted a descriptive cross-sectional study among 161 inpatients with diabetes mellitus at Ekiti State University Teaching Hospital (EKSUTH), Ado Ekiti, using purposive and multistage sampling. A semi-structured interviewer-administered questionnaire assessed socio-demographic characteristics, nutritional knowledge (24 items), dietary self-care behaviour, and anthropometric measurements (BMI and WHR). We analysed data using SPSS version 25 with descriptive statistics and multiple linear regression.

Results: Respondents were predominantly aged 61 and above (44.7%), female (54.0%), married (85.7%), and Yoruba (95.7%). While 85.7% correctly identified that untreated diabetes raises blood sugar, only 9.9% correctly refuted the myth that kidneys produce insulin, and 56.5% held the misconception that

diabetic diets consist of special foods. Only 26.7–27.3% of respondents consistently adhered to key dietary self-care behaviours. Anthropometric assessment showed that only 9.3% had simultaneously healthy BMI and WHR; the remainder trended toward obesity or underweight. Regression analysis identified three significant independent predictors of nutritional status: belief that insulin reactions are caused by too much food ($\beta=-0.187$, $p=0.025$), belief that cuts heal more slowly in people with diabetes ($\beta=-0.165$, $p=0.045$), and belief that a diabetic diet consists of special foods ($\beta=0.191$, $p=0.022$).

Conclusion: Critical nutritional knowledge gaps, low dietary self-care adherence, and widespread nutritional risk among DM inpatients at EKSUTH underscore the urgent need for structured, culturally adapted nutrition education programmes, individualised meal planning, and continuous professional development for healthcare providers managing diabetic patients in Ekiti State.

Keywords: Diabetes Mellitus, Nutritional Knowledge, Self-Care Behaviour, Nutritional Status, BMI, Waist-To-Hip Ratio, Ekiti State, Nigeria, EKSUTH, Glycaemic Control

INTRODUCTION

Diabetes mellitus (DM) is among the most consequential chronic non-communicable diseases (NCDs) of the twenty-first century, constituting a global health emergency of unprecedented scale. The International Diabetes Federation (IDF, 2021) estimates that 537 million adults worldwide were living with diabetes in 2021, a figure projected to rise to 783 million by 2045. Sub-Saharan Africa, historically regarded as a region primarily burdened by infectious diseases, is now undergoing a profound epidemiological transition, with type 2 DM prevalence escalating rapidly alongside urbanisation, dietary westernisation, physical inactivity, and population ageing (Mbanya et al., 2020). In Africa, the diabetes prevalence approximately doubled from 3.1% in 1980 to 7.1% in 2014, corresponding to an increase from 4 million to 25 million affected persons (Roglic, 2022).

Nigeria, as Africa's most populous nation with an estimated 213 million inhabitants, bears a disproportionate share of this regional burden. National prevalence estimates range from 6.8% among adults aged over 40 years, with a projected increase of approximately 134% by 2045 (Ogbera & Ekpebegh, 2022). Nigeria has an estimated 3.6 million adults (aged 20–79 years) and 4,440 children and adolescents (aged 0–19 years) living with diabetes, and the disease directly caused an estimated 22,497 deaths in 2020, representing 1.52% of total national mortality (WHO, 2020). The financial and human cost of diabetes to Nigeria is profound: the Federal Ministry of Health estimates annual economic losses exceeding ₦132 billion from treatment costs, lost productivity, and preventable mortality, while patients' quality of life and life expectancy are substantially reduced (FMOH, 2021).

Diabetes mellitus affects virtually every system of the body, generating a spectrum of macro- and microvascular complications that represent the primary drivers of DM-associated morbidity and premature mortality. Diabetic retinopathy is the leading cause of acquired blindness among working-age adults; diabetic nephropathy is the most common cause of end-stage renal disease; diabetic neuropathy affects up to 33.5% of patients; and persons with diabetes face a 2–4 times higher risk of cardiovascular disease compared to the general population (IDF, 2021; WHO, 2022). These complications are not inevitable: evidence from landmark clinical trials including the Diabetes Control and Complications Trial (DCCT) and the UK Prospective Diabetes Study (UKPDS) demonstrates conclusively that tight glycaemic control substantially reduces the incidence and progression of microvascular and macrovascular complications, making the achievement of optimal glycaemic control the central therapeutic objective of diabetes management (ADA, 2022).

Nutritional knowledge is a foundational determinant of this glycaemic control objective. Nutrition knowledge and skills enable individuals with type 2 DM to make food choices that optimise metabolic self-management, and increasing patient knowledge of the disease and its complications significantly benefits treatment compliance and reduces complications (Breen et al., 2021). WHO (2020) identifies inadequate health and nutritional knowledge, and the acquisition of misinformation about dietary matters, as key conditions promoting unhealthy eating practices among diabetic patients. Studies from both India and Nigeria have documented that 88% of hospitalised diabetic patients had poor knowledge, attitudes, and practices concerning diet, with a significant proportion demonstrating concurrent obesity, a finding that highlights the practical consequences of nutritional knowledge deficits on clinical outcomes (Jeon & Murray, 2020).

Dietary self-care behaviour, including meal-planning adherence, consistent meal timing, carbohydrate counting, fat reduction, fibre intake augmentation, and daily food record keeping, is the second critical pillar of diabetes management. The seven essential self-care behaviours in diabetes identified by the American Diabetes Association (2022)- healthy eating, physical activity, blood sugar monitoring, medication adherence, problem-solving, healthy coping, and risk reduction- are all positively correlated with good glycaemic control, reduced complications, and improved quality of life. Patients with diabetes who demonstrate strong self-care behaviour have been shown to experience significantly fewer hospitalisations, lower complication rates, and substantially lower healthcare costs than those with poor adherence (Song et al., 2020; Shrivastava et al., 2021).

Nutritional status, the health condition of individuals as influenced by nutrient intake and utilisation, operationalised through anthropometric measures including body mass index (BMI) and waist-to-hip ratio (WHR), is both a consequence of and a contributor to diabetes management outcomes. Overweight and central obesity, assessed through WHR, are among the most powerful modifiable risk factors for insulin resistance and type 2 DM. At the same time, malnutrition is associated with impaired immune function, accelerated complication progression, and prolonged hospital stays (Singh et al., 2021). In Nigeria, several factors, including rapid dietary transition from high-fibre, low-calorie diets to energy-dense, high-fat dietary patterns, alongside declining physical activity, have contributed to escalating rates of obesity-related metabolic disease, including DM (Mohammed et al., 2021).

Ekiti State University Teaching Hospital (EKSUTH), Ado Ekiti, is the premier tertiary healthcare institution in Ekiti State, providing specialist and referral services to a predominantly rural, agricultural, and lower-middle-income population. Ado Ekiti, as the state capital, sits at the intersection of rapidly changing dietary patterns and persistent food insecurity, creating a nutritional environment that heightens diabetes risk and complicates diabetes management. Despite the clinical centrality of nutritional knowledge, self-care behaviour, and nutritional status in DM management, no published study has systematically assessed these three inter-linked domains among DM inpatients at EKSUTH. This study was therefore designed to fill this critical evidence gap, generating baseline data that can directly inform the development of targeted nutrition education programmes, individualised dietary counselling protocols, and health worker capacity-building initiatives at EKSUTH and comparable teaching hospitals across South-Western Nigeria.

Despite the well-established causal relationship between nutritional knowledge, dietary self-care adherence, and nutritional status on the one hand and glycaemic control, complication incidence, and hospitalisation frequency on the other, and despite Nigeria's rapidly escalating diabetes mellitus burden, with an estimated 3.6 million affected adults and a projected 134% increase in prevalence by 2045, no systematic assessment of the nutritional knowledge, self-care behaviour, or anthropometric nutritional status of diabetes mellitus in-patients at Ekiti State University Teaching Hospital, Ado Ekiti, has been

conducted, leaving healthcare planners, clinicians, and nutrition educators without the evidence base required to design and implement targeted, context-specific diabetes nutrition management interventions at this critical tertiary care institution serving the population of Ekiti State.

Four pressing imperatives justify this study. First, the clinical evidence imperative: the absence of baseline data on nutritional knowledge, self-care behaviour, and nutritional status among EKSUTH's diabetic inpatient population represents a critical gap that prevents evidence-based quality improvement of diabetes nutrition services at the institution. Second, the preventable complications imperative: diabetes affects the eyes, kidneys, cardiovascular system, and peripheral nervous system through complications that are substantially preventable with adequate nutritional knowledge and glycaemic self-management; the absence of structured nutrition education for hospitalised patients represents a missed opportunity to interrupt the progression to these complications. Third, the health system efficiency imperative: patients with DM complications are hospitalised 1.5–3 times more frequently than those without complications; improving nutritional knowledge and self-care behaviour can directly reduce hospital admissions, free clinical resources, and lower the economic burden of diabetes on EKSUTH and patient households. Fourth, the professional development imperative: nurses, community health officers, dietitians, and other healthcare professionals managing DM patients require evidence on the specific knowledge gaps and behavioural deficits of their patient population to design effective health education interventions, personalised counselling, and monitoring protocols aligned with the real-world needs of diabetic in-patients in Ekiti State.

REVIEW

Definition, Classification, and Pathophysiology of Diabetes Mellitus

Diabetes mellitus is a complex, chronic metabolic disorder characterised by hyperglycaemia resulting from defects in insulin secretion, insulin action, or both (Alberti & Zimmet, 1998; WHO, 2022). The disease encompasses a heterogeneous group of conditions, most importantly type 1 DM (immune-mediated destruction of pancreatic beta cells resulting in absolute insulin deficiency), type 2 DM (characterised by significant insulin resistance accompanied by impaired insulin secretory patterns), gestational DM, and other specific types, each with distinct aetiological mechanisms but converging on the common outcome of chronic hyperglycaemia (ADA, 2022). Type 2 DM, which accounts for approximately 90–95% of all DM cases globally, is initiated by the amalgamation of genetic elements associated with compromised insulin secretion, insulin resistance, and environmental factors including overeating, insufficient physical activity, chronic stress, and ageing (Ozougwu et al., 2021; WHO, 2022).

The clinical symptoms of DM, polydipsia, polyuria, polyphagia, unexplained weight loss, blurred vision, and weakness, reflect the metabolic consequences of hyperglycaemia across multiple body systems. Chronic hyperglycaemia initiates microvascular damage through multiple pathways: advanced glycation end products, oxidative stress, low-grade inflammation, and neovascularisation collectively damage the retinal, renal, and peripheral neural microvasculature, generating the characteristic complications of diabetic retinopathy, nephropathy, and neuropathy. Macrovascular disease, including atherosclerotic cardiovascular disease, cerebrovascular disease, and peripheral arterial disease, arises from the clustering of cardiovascular risk factors (hyperglycaemia, hypertension, dyslipidaemia, central obesity) that characterises the metabolic syndrome, a condition in which insulin resistance is a central pathophysiological driver (IDF, 2021; ADA, 2022).

Epidemiology of Diabetes Mellitus: Global, African, and Nigerian Perspectives

The global epidemiology of DM reflects a disease in relentless expansion. The IDF (2021) estimated 537

million DM cases globally in 2021, with diabetes causing 6.7 million deaths, 12.2% of all-cause global mortality. The African region, while currently accounting for a smaller absolute number of cases than Asia or the Americas, is experiencing the fastest projected growth rate in DM prevalence, with cases expected to increase by 134% by 2045, driven primarily by rapid urbanisation, dietary transition, and population growth (IDF, 2021; Mbanya et al., 2020). Nigeria's estimated 6.8% national prevalence among adults over 40 substantially exceeds the 2000 estimate of 2.8% documented by Ogbera and Ekpebegh (2022), reflecting the pace of the country's epidemiological transition. The economic consequences are severe: WHO (2020) attributes 1.5 million global deaths annually directly to diabetes, and an estimated 40,000 Nigerians died from diabetes-related causes in 2020 alone.

Impact of Nutritional Knowledge on Diabetes Management

Nutritional knowledge is recognised as a fundamental determinant of dietary behaviour and glycaemic control in diabetes management. WHO (2020) identifies inadequate nutritional knowledge as a key factor promoting unhealthy eating practices, and research consistently shows that patients with higher diabetes-related nutritional knowledge have better dietary adherence, improved glycaemic control, and lower rates of preventable complications. Razaleen and Nazirah (2021) affirmed that sufficient diabetes knowledge is key to diabetes care, as it directly shapes patient attitudes and beliefs about disease management. Conversely, Chirvala et al. (2021) documented poor knowledge of diabetes and its complications among hospitalised patients, noting that inadequate knowledge is a main reason for poor self-care and glycaemic control. The most consequential nutritional knowledge domains for diabetes management include understanding the glycaemic index of foods, the relationship between carbohydrate intake and blood glucose, the role of dietary fat in cardiovascular risk, and the importance of dietary fibre in glycaemic regulation (Breen et al., 2021).

In the Nigerian context, studies conducted in Lagos, Enugu, and Kaduna have consistently documented significant nutritional knowledge deficits among DM patients, particularly regarding the glycaemic impact of specific foods, the appropriateness of 'diabetic-special' foods (a persistent and commercially exploited misconception), and the role of food preparation methods in glycaemic response (Ngwu et al., 2021; Olebu, 2021). The finding in the current study that 56.5% of respondents believed a diabetic diet consists mostly of special foods is consistent with this literature and has important practical implications: it suggests that patients may be incurring unnecessary additional food costs, avoiding nutritionally beneficial common foods, and failing to apply the dietary principle of moderation and portion control to familiar local foods.

Self-Care Behaviour in Diabetes Mellitus

Diabetes self-care is widely recognised as the cornerstone of effective long-term disease management. The ADA (2022) identifies seven essential self-care behaviours- healthy eating, physical activity, blood sugar monitoring, medication adherence, problem-solving, healthy coping, and risk reduction- as the primary determinants of clinical outcomes, patient-reported quality of life, and healthcare resource utilisation in DM. Because patients and their families, not healthcare providers, perform most day-to-day diabetes management, developing strong self-care competencies is a prerequisite for achieving and sustaining the glycaemic, lipid, and blood pressure targets that prevent complications (Kalra & Baruah, 2022).

Dietary self-care, encompassing adherence to meal plans, consistent meal timing, carbohydrate counting, fat reduction, and fibre augmentation, is particularly critical. Studies in sub-Saharan Africa have consistently documented low adherence to dietary recommendations among DM patients, attributing this to inadequate health education, socioeconomic constraints, cultural food practices, and misconceptions about appropriate diabetic diets (Song et al., 2020; Mohammed et al., 2021). Shrivastava et al. (2021)

emphasised that diabetes self-care requires patients to make sustained lifestyle and dietary modifications, supported by healthcare professionals committed to building patient self-efficacy, a finding with direct implications for the design of diabetes education programmes at EKSUTH and comparable institutions in South-Western Nigeria. The current study's finding that only 26.7–27.3% of respondents consistently adhered to dietary self-care behaviours is consistent with, and at the lower end of, the range documented in comparable African settings (Mbanya et al., 2020).

Nutritional Status and Diabetes Mellitus

Nutritional status, the health condition influenced by nutrient intake and utilisation, assessed anthropometrically through BMI and WHR, occupies a dual role in DM: as a modifiable risk factor for disease onset and progression, and as an outcome of the metabolic disruptions that DM imposes on nutrient utilisation. Central obesity, indexed by elevated WHR (>0.9 in men, >0.85 in women) is a particularly important risk marker: waist circumference is a stronger predictor of type 2 DM risk than BMI, and the combination of elevated WHR and overweight BMI (>24.9 kg/m²) defines the metabolic syndrome phenotype most strongly associated with insulin resistance (WHO/FAO, 2021; Gibney et al., 2022).

Conversely, undernutrition and unintentional weight loss in DM inpatients are associated with impaired wound healing, increased infection susceptibility, and accelerated disease progression, outcomes that extend hospitalisation and worsen prognosis (Singh et al., 2021). Rocha et al. (2021) documented that nutritional status can be a key factor in improving health-related quality of life among patients with type 2 DM, with malnutrition negatively affecting diabetes prognosis by impairing immune function, muscle mass, and metabolic regulation. The current study found that only 9.3% of respondents had healthy BMI and WHR, with most trending toward obesity or underweight, reflecting the nutritional complexity of the DM inpatient population at EKSUTH and underscoring the need for individualised nutritional assessment and management as a routine component of DM hospitalisation care. Relationship Between Nutritional Knowledge, Self-Care, and Nutritional Status

The relationship between nutritional knowledge, self-care behaviour, and nutritional status in DM is theoretically recursive: better nutritional knowledge should support healthier dietary self-care behaviours, which in turn should produce better nutritional status and glycaemic control. However, research consistently demonstrates that knowledge alone is insufficient to drive behaviour change; the knowledge-behaviour-status chain is mediated by factors including self-efficacy, social support, economic access to recommended foods, cultural/dietary norms, and healthcare provider-patient communication quality (Bukhsh et al., 2021; Kalra & Baruah, 2022). Khaldon et al. (2021) found that overall knowledge among diabetic patients was very low, with higher levels among males, highlighting the gendered dimensions of diabetes education that must inform programme design. The current study's regression findings, identifying beliefs about insulin reactions, wound healing, and special diabetic diets as significant independent predictors of nutritional status, contribute to the theoretical understanding that specific knowledge misconceptions, rather than general knowledge levels, may be more direct pathways to suboptimal dietary behaviour and nutritional outcomes.

Research Questions

The following questions guided the study:

- i. What is the level of nutritional knowledge of DM in-patients at EKSUTH, Ado Ekiti?
- ii. What are the dietary self-care behaviours of DM in-patients at EKSUTH, Ado Ekiti?
- iii. What is the nutritional status of DM in-patients at EKSUTH, Ado Ekiti?

- iv. What is the relationship between nutritional knowledge, self-care behaviour, and nutritional status of DM in-patients at EKSUTH, Ado Ekiti?

METHOD

Study Design

A descriptive cross-sectional design was employed, allowing simultaneous assessment of nutritional knowledge, self-care behaviour, and nutritional status among DM in-patients at a single time point without experimental manipulation. This design is appropriate for generating baseline prevalence and association data and is consistent with the study's objectives of describing and quantifying the identified domains (Nwokoro et al., 2022).

Study Location

The study was conducted at Ekiti State University Teaching Hospital (EKSUTH), Ado Ekiti, Ekiti State, Nigeria, with community health programme oversight from the Osun State Teaching Hospital (OSUTH), Osogbo. EKSUTH serves as the primary tertiary referral centre for Ekiti State, located in Ado Local Government Area, the state capital, with an estimated population of 536,000. Respondents were recruited from across the hospital's medical wards, which receive DM patients from across the state. The study followed EKSUTH's research and ethical governance framework.

Study Population and Sample Size

The study population comprised all male and female DM inpatients admitted to EKSUTH medical wards during the data collection period. We calculated the sample size using the Leslie Fisher formula: $N = Z^2P(1-P)/D^2$, where $Z = 1.96$ (95% confidence level), $P = 0.11$ (11.0% prevalence from comparable Nigerian studies), and $D = 0.05$. This yielded $N = 150$, which was rounded up to 165 to account for attrition. We obtained 161 validated questionnaires. Inclusion criteria required a confirmed DM diagnosis and inpatient admission; we excluded outpatients.

Sampling Technique

We used purposive and multistage sampling. We used purposive sampling to select DM inpatients across all medical wards, ensuring representation across ward types. Within each ward, we used consecutive sampling to recruit eligible patients until we reached the target quota. Interviewer-administered questionnaires with closed-ended questions were used to ensure completion, even for patients with lower literacy.

Instrument for Data Collection

A semi-structured questionnaire comprised four sections: Section A (sociodemographic and lifestyle characteristics); Section B (24-item nutritional knowledge instrument); Section C (dietary self-care behaviour assessment); and Section D (nutritional status via anthropometry). Anthropometric measurements included height (measured without shoes on a flat surface using a calibrated stadiometer, recorded to the nearest 0.1 cm), weight (measured using a calibrated beam balance with minimum clothing, recorded to 0.1 kg), waist circumference (measured at the umbilicus using an inelastic tape, nearest 0.1 cm), and hip circumference (measured at the widest point while standing with feet together). BMI was calculated as weight (kg)/height (m)², and WHR as waist (cm)/hip (cm).

Data Analysis

We analysed data using IBM SPSS Statistics version 25. We computed descriptive statistics (frequencies, percentages) for all sociodemographic, knowledge, and self-care variables. We classified anthropometric

indices against WHO reference standards. We used multiple linear regression to identify independent predictors of nutritional status from nutritional knowledge and self-care behaviour variables. A p-value of <0.05 was set as the threshold for statistical significance. Ethical approval was obtained from the Research and Ethics Committee of EKSUTH, and all participants provided written informed consent.

RESULTS

Demographic Profile of Respondents

Tables 4.1a and 4.1b present the comprehensive socio-demographic, lifestyle, and anthropometric profile of the 161 respondents. The age distribution revealed that 44.7% (n=72) were aged 61 years and above, 36.0% (n=58) were 51–60 years, 16.1% (n=26) were 41–50 years, and only 3.1% (n=5) were 31–40 years, confirming the strong association between advancing age and type 2 DM prevalence. Female respondents predominated (54.0%, n=87), consistent with national demographic health survey data showing higher DM prevalence in women. Married respondents constituted 85.7% (n=138). Yoruba ethnicity was the dominant group (95.7%, n=154), reflecting the demographics of Ado Ekiti and Ekiti State. Tertiary education was the most common educational level (57.1%, n=92), followed by secondary (19.9%, n=32), primary (14.3%, n=23), and no formal education (8.7%, n=14). Christianity was the predominant religion (71.4%, n=115), followed by Islam (26.1%, n=42).

Civil servants constituted the largest occupational group (50.9%, n=82), followed by the self-employed (31.7%, n=51), with 35.4% not working at all. The majority (62.7%, n=101) earned between ₦30,000 and ₦99,000 monthly. Self-owned accommodation was reported by 50.3%, and 67.1% lived in flats. Lifestyle risk factors were notable: 29.8% (n=48) used tobacco, 28.0% (n=45) consumed alcohol weekly, and 54.0% (n=87) did not engage in any weekly physical exercise, representing a substantial cluster of lifestyle risk factors in this DM population. Among those who exercised, most did so only 1–2 times per week (34.8%) for 30 minutes (23.0%). Weight distribution showed 39.1% in the 61–70 kg range, with 52.8% between 161–170 cm in height. Waist circumference exceeded 80 cm in 79.5% of respondents, and 17.4% had been diagnosed with diabetic retinopathy, 8.7% with diabetic nephropathy, and 8.1% with peripheral neuropathy.

Table 4.1a: Demographic Profile of Respondents, Part A (N=161)

Variable / Category	Frequency (N=161)	Percentage (%)
Age at Last Birthday (years)		
31–40	5	3.1
41–50	26	16.1
51–60	58	36.0
61 and above	72	44.7
Sex		
Male	74	46.0
Female	87	54.0
Marital Status		
Married	138	85.7
Divorced	6	3.7

Separated	3	1.9
Others	13	8.1
Tribe		
Yoruba	154	95.7
Igbo	5	3.1
Hausa	2	1.2
Educational Level		
No Formal Education	14	8.7
Primary	23	14.3
Secondary	32	19.9
Tertiary	92	57.1
Religion		
Christianity	115	71.4
Islam	42	26.1
Traditional	3	1.9
Others	1	0.6
Working Status		
Not Working	57	35.4
Working	104	64.6
Occupation		
Civil Servant	82	50.9
Self-Employed	51	31.7
Unemployed	13	8.1
Others	15	9.3
Estimated Monthly Income (₦)		
<30,000	14	8.7
30,000–99,000	101	62.7
100,000–200,000	43	26.7
>200,000	3	1.9
Type of Housing Tenancy		
Self-owned	81	50.3
Rented	54	33.5

Relative's house	26	16.1
Type of Housing Structure		
One Bedroom	34	21.1
Flat	108	67.1
Duplex	3	1.9
Others	16	9.9

Source: Field Survey, EKSUTH, 2025.

Table 4.1b: Demographic Profile of Respondents, Part B: Lifestyle and Anthropometric Data (N=161)

Variable / Category	Frequency (N=161)	Percentage (%)
Tobacco/Cigarette Use		
Yes	48	29.8
No	113	70.2
Alcohol Consumption (Weekly)		
Yes	45	28.0
No	116	72.0
Physical Exercise (Weekly)		
Yes	74	46.0
No	87	54.0
Exercise Frequency (times/week)		
1–2 times	56	34.8
3–4 times	16	9.9
5 or more	2	1.2
Exercise Duration per Session		
30 minutes	37	23.0
1–2 hours	23	14.3
5 hours and above	14	8.7
Average Weight (kg)		
50–60 kg	41	25.5
61–70 kg	63	39.1
71–80 kg	38	23.6
81 kg and above	19	11.8

Average Height (cm)		
150–160 cm	46	28.6
161–170 cm	85	52.8
171–180 cm	22	13.7
181 cm and above	8	5.0
Waist Circumference (cm)		
<80 cm	33	20.5
81–90 cm	64	39.8
91–100 cm	45	28.0
101 cm and above	19	11.8
Hip Circumference (cm)		
<90 cm	51	31.7
91–100 cm	75	46.6
101–110 cm	22	13.7
111 cm and above	13	8.1
Significant Weight Change in Past Year		
Yes	52	32.3
No	109	67.7
Diagnosed Diabetes-Related Complications		
Diabetic Retinopathy	28	17.4
Diabetic Neuropathy (peripheral)	13	8.1
Diabetic Nephropathy	14	8.7
None of the above	106	65.8

Source: Field Survey, EKSUTH, 2023.

Nutritional Knowledge of DM In-Patients

Tables 4.2a and 4.2b present the distribution of nutritional knowledge across 24 items. Areas of relative strength included: recognition that untreated diabetes raises blood glucose (85.7% yes), correct identification of the two main DM types (75.2%), awareness that food preparation method is as important as food choice and that DM damages kidneys (72.7%), understanding that DM causes loss of sensation in extremities (79.5%), and appropriate caution regarding toenail care in people with diabetes (73.9%). Notably, 68.9% correctly identified lack of effective insulin as the usual cause of DM.

However, important misconceptions were identified. Only 25.5% correctly identified that diabetes is not caused by the kidneys' failure to retain sugar. In comparison, 19.3% were uncertain, suggesting that most either held this misconception or lacked clarity on renal physiology in diabetes. The misconception that

kidneys produce insulin was held by 9.9%, with 17.4% uncertain, indicating knowledge deficits with direct implications for patients' understanding of their condition. Particularly concerning was the finding that 56.5% believed a diabetic diet consists mostly of special foods, a commercially exploited misconception that unnecessarily increases treatment costs and limits dietary flexibility. Additionally, 23.6% believed that medication is more important than diet and exercise, a belief that may discourage the dietary self-care behaviours essential for glycaemic management. The misconception that insulin reactions are caused by too much food (23.6%) and uncertainty about whether diabetes can be cured (37.9%) further illustrated the breadth of nutritional knowledge gaps requiring targeted education.

Table 4.2a: Survey on the Nutritional Knowledge of Diabetes Mellitus In-Patients, Part A (N=161)

Knowledge Item	Yes n(%)	No n(%)	Don't Know n(%)
Eating too much sugar causes diabetes	88 (54.7%)	42 (26.1%)	31 (19.3%)
The usual cause is a lack of effective insulin	111 (68.9%)	14 (8.7%)	36 (22.4%)
Diabetes caused by the kidneys' failure to retain sugar	41 (25.5%)	89 (55.3%)	31 (19.3%)
Kidneys produce insulin	16 (9.9%)	117 (72.7%)	28 (17.4%)
Untreated diabetes increases blood sugar	138 (85.7%)	7 (4.3%)	16 (9.9%)
Diabetic children have a higher risk of diabetes	72 (44.7%)	48 (29.8%)	41 (25.5%)
Diabetes can be cured	23 (14.3%)	77 (47.8%)	61 (37.9%)
Fasting blood sugar of 210 mg/dl is too high	96 (59.6%)	21 (13.0%)	44 (27.3%)
The best way to check for diabetes is urine testing	34 (21.1%)	86 (53.4%)	41 (25.5%)
Regular exercise increases need for insulin/medication	34 (21.1%)	96 (59.6%)	31 (19.3%)
There are two main types of diabetes (Type 1 & Type 2)	121 (75.2%)	5 (3.1%)	35 (21.7%)

Source: Field Survey, EKSUTH, 2025.

Table 4.2b: Survey on the Nutritional Knowledge of Diabetes Mellitus In-Patients, Part B (N=161)

Knowledge Item	Yes n(%)	No n(%)	Don't Know n(%)
Insulin reaction caused by too much food	38 (23.6%)	74 (46.0%)	49 (30.4%)
Medication more important than diet/exercise	38 (23.6%)	74 (46.0%)	49 (30.4%)

Diabetes causes poor circulation	45 (28.0%)	10 (6.2%)	106 (65.8%)
Cuts/abrasions on people with diabetes heal more slowly	98 (60.9%)	28 (17.4%)	35 (21.7%)
People with diabetes should take extra care when cutting toenails	119 (73.9%)	6 (3.7%)	36 (22.4%)
Diabetic cuts should be cleansed with iodine/alcohol	51 (31.7%)	72 (44.7%)	38 (23.6%)
Food preparation is as important as food type / Diabetes damages kidneys	117 (72.7%)	21 (13.0%)	23 (14.3%)
Diabetes causes loss of feeling in hands/fingers/feet	128 (79.5%)	17 (10.6%)	16 (9.9%)
Shaking and sweating are signs of high blood sugar	119 (73.9%)	11 (6.8%)	31 (19.3%)
Frequent urination and thirst are signs of low blood sugar	82 (50.9%)	51 (31.7%)	28 (17.4%)
Tight elastic hose/socks are not bad for diabetics	113 (70.2%)	12 (7.5%)	36 (22.4%)
A diabetic diet consists mostly of special foods	72 (44.7%)	50 (31.1%)	39 (24.2%)

Source: Field Survey, EKSUTH, 2025.

Dietary Self-Care Behaviour of DM In-Patients

Table 4.3 presents the distribution of dietary self-care behaviour frequencies across seven key domains. Consistent self-care adherence was markedly low across all dimensions. Only 27.3% (n=82) always followed a diabetes meal plan, and only 26.7% (n=80) consistently ate meals at approximately the same time and in the same amounts daily, both critical components of glycaemic regulation that depend on consistent meal timing. Adherence to the diabetes exchange list was identically distributed to meal plan adherence (27.3% always), suggesting that those following one dietary guidance tool tended to follow the other. Only 26.7% consistently practised carbohydrate counting and daily food record keeping, 27.0% fat reduction, and 27.0% fibre augmentation. The proportion never following each behaviour ranged from 7.0–7.3%, while 9.0–9.3% followed each behaviour only seldom, suggesting that the modal pattern was either always or never, with limited partial adherence. The uniformity of the 'Always' response rates across all seven behaviours (26.7–27.3%) is noteworthy. It may reflect a subgroup of consistently adherent patients, distinct from the majority with erratic or absent self-care practice.

Table 4.3: Dietary Self-Care Behaviour of DM In-Patients (N=161)

Self-Care Behaviour	Never n(%)	Sometimes n(%)	Always n(%)	Seldom n(%)	Often n(%)
Follow diabetes meal plan	21 (7.0)	23 (7.7)	82 (27.3)	27 (9.0)	8 (2.7)

Had meals at the same time and amount daily	22 (7.3)	23 (7.7)	80 (26.7)	28 (9.3)	8 (2.7)
Follow diabetes exchange list	21 (7.0)	23 (7.7)	82 (27.3)	27 (9.0)	8 (2.7)
Counted carbohydrate intake	21 (7.0)	24 (8.0)	80 (26.7)	28 (9.3)	8 (2.7)
Reduce fat consumption	21 (7.0)	24 (8.0)	81 (27.0)	27 (9.0)	8 (2.7)
Increase fibre diet	21 (7.0)	23 (7.7)	81 (27.0)	28 (9.3)	8 (2.7)
Kept a food record daily	21 (7.0)	24 (8.0)	80 (26.7)	28 (9.3)	8 (2.7)

Source: Field Survey, EKSUTH, 2025.

Nutritional Status of DM In-Patients

Table 4.4 presents the nutritional status of respondents, derived from cross-classifying BMI and WHR. Only 9.3% of respondents had a healthy BMI (18.5–24.9 kg/m²) and WHR (0.9–1.0) simultaneously, the only cell in the BMI-WHR matrix representing both anthropometric criteria within healthy ranges. The predominant pattern was toward the extremes of the nutritional spectrum. The largest single cell was BMI >24.9 combined with WHR <0.9 (31.1%), representing overweight or obese patients without centrally distributed adiposity. A further 22.4% had normal BMI combined with low WHR, and 14.9% had normal BMI with elevated WHR (>1.0). Of particular clinical concern was the 5.5% classified as underweight (BMI <18.5), a group at elevated risk of impaired immune function, delayed wound healing, and poor infection outcomes, and the 8.7% who combined overweight/obesity with elevated WHR, representing the highest metabolic risk category (full metabolic syndrome phenotype). These findings collectively indicate that the nutritional status of EKSUTH's DM in-patient population is characterised by widespread risk, with the majority failing to meet both anthropometric health criteria simultaneously.

Table 4.4: Nutritional Status of DM In-Patients by BMI and WHR Cross-Classification (N=161)

BMI Category	WHR <0.9 (%)	WHR 0.9–1.0 (%)	WHR >1.0 (%)
<i>WHR = Waist-to-Hip Ratio BMI: <18.5 = Underweight; 18.5–24.9 = Normal; >24.9 = Overweight/Obese</i>			
<18.5 (Underweight)	3.7	0.6	1.2
18.5–24.9 (Normal Weight)	22.4	9.3 ✓	14.9
>24.9 (Overweight/Obese)	31.1	8.1	8.7
Healthy (BMI 18.5–24.9 & WHR 0.9–1.0): 9.3% only	<i>The majority tend toward obesity or underweight, indicating high nutritional risk in this population.</i>		

Source: Field Survey, EKSUTH, 2025.

Relationship Between Nutritional Knowledge, Self-Care Behaviour, and Nutritional Status

Table 4.5 presents the results of the multiple linear regression analysis examining nutritional knowledge and self-care behaviour variables as predictors of nutritional status. Among the 29 predictor variables entered into the model, three emerged as statistically significant independent predictors of nutritional status ($p < 0.05$). First, the belief that insulin reactions are caused by too much food was a significant negative predictor ($\beta = -0.187$, $t = -2.260$, $p = 0.025$), indicating that patients holding this misconception tended to have poorer nutritional status. Second, knowledge that cuts and abrasions heal more slowly in people with diabetes was a significant negative predictor ($\beta = -0.165$, $t = -2.021$, $p = 0.045$), suggesting that awareness of this complication was inversely associated with nutritional status. Third, the belief that a diabetic diet consists mostly of special foods was a significant positive predictor ($\beta = 0.191$, $t = 2.313$, $p = 0.022$), indicating that this widely held misconception was independently associated with nutritional status. The belief that diabetes can be cured also approached significance ($\beta = 0.189$, $t = 2.106$, $p = 0.037$). None of the dietary self-care behaviour variables reached statistical significance as independent predictors in this model, suggesting that the knowledge-nutritional status pathway may be more direct than the self-care behaviour pathway in this inpatient population.

Table 4.5: Multiple Linear Regression, Relationship Between Nutritional Knowledge, Self-Care Behaviour, and Nutritional Status (N=161)

Predictor Variable	B	Std. Error	Beta (β)	t	Sig.
(Constant)	29.555	4.434	,	6.665	0.000
Eating too much sugar causes diabetes	0.496	0.507	0.082	0.977	0.330
The usual cause is a lack of effective insulin	-0.167	0.499	-0.029	-0.335	0.738
Diabetes caused by kidney failure	-0.638	0.634	-0.090	-1.007	0.316
Kidneys produce insulin	-0.716	0.807	-0.078	-0.887	0.376
Untreated diabetes raises blood sugar	0.157	0.664	0.020	0.236	0.814
Diabetic children at higher risk	-0.004	0.496	-0.001	-0.008	0.994
Diabetes can be cured *	1.312	0.623	0.189	2.106	0.037*
Fasting blood sugar of 210 is too high	0.495	0.468	0.091	1.058	0.292
The best check is urine testing	-0.776	0.586	-0.111	-1.325	0.188
Exercise increases insulin/medication need	0.571	0.614	0.076	0.930	0.354
Two main types of diabetes	-0.639	0.481	-0.111	-1.328	0.186
Insulin reaction caused by too much food *	-1.209	0.535	-0.187	-2.260	0.025*

Medication more important than diet	0.041	0.543	0.006	0.076	0.940
Diabetes causes poor circulation	-0.394	0.438	-0.074	-0.900	0.370
Cuts/abrasions heal more slowly *	-0.953	0.471	-0.165	-2.021	0.045*
Extra care when cutting toenails	0.094	0.484	0.017	0.194	0.846
Cleanse cut with iodine/alcohol	0.138	0.561	0.022	0.247	0.805
Food preparation as important as food type	-0.264	0.549	-0.040	-0.482	0.631
Diabetes causes loss of feeling	-0.572	0.617	-0.077	-0.926	0.356
Shaking/sweating = high blood sugar	0.399	0.510	0.067	0.782	0.436
Urination/thirst = low blood sugar	-0.054	0.556	-0.009	-0.097	0.923
Tight hose/socks are not bad for diabetics	0.082	0.485	0.014	0.169	0.866
Diabetic diet consists of special foods *	1.128	0.488	0.191	2.313	0.022*
Meals at the same time daily	-0.316	0.404	-0.068	-0.783	0.435
Follow the diabetes exchange list	0.970	8.033	0.206	0.121	0.904
Counted carbohydrate	-0.925	5.236	-0.197	-0.177	0.860
Reduce fat consumption	-3.225	5.170	-0.685	-0.624	0.534
Increase fibre diet	3.286	7.282	0.699	0.451	0.653
Kept a food record daily	-0.554	3.750	-0.118	-0.148	0.883

Source: Field Survey, EKSUTH, 2025.

DISCUSSION

Demographic Characteristics and Implications for Diabetes Management

The finding that 44.7% of respondents were aged 61 years and above confirms the well-established epidemiological pattern that type 2 DM prevalence increases substantially with age, reflecting the cumulative effects of metabolic dysfunction, declining insulin sensitivity, reduced physical activity, and weight gain over the life course. This result is consistent with Bukhsh et al. (2021), who reported a mean age of 57.8 ± 10.9 years among comparable hospitalised DM populations, and with the national prevalence data from FMOH (2021), which identifies adults over 40 as the highest-risk demographic group. The slightly higher proportion of female respondents (54.0%) is also consistent with national demographic health surveys showing higher DM prevalence, hospital utilisation, and therefore hospitalisation rates among Nigerian women, potentially reflecting higher rates of health-seeking behaviour and the additional DM risk imparted by gestational diabetes history among multiparous women (Roy et al., 2022).

The high proportion of married respondents (85.7%) is noteworthy in the context of diabetes self-care: marital status has been consistently associated with better self-care adherence in DM populations globally,

as spouses and family members provide critical support for meal preparation, medication reminders, and emotional coping (Song et al., 2020). However, this structural advantage did not appear to translate into high dietary self-care adherence in the current study, suggesting that spousal support alone is insufficient without concomitant nutritional knowledge and professional guidance. The predominance of civil servants (50.9%) and the moderate income range of 62.7% earning ₦30,000–₦99,000 monthly indicates a population that is neither the poorest nor the most economically resourced, a demographic in which the financial accessibility of 'special diabetic foods' may be a particularly salient driver of the misconception documented in this study (56.5% believing a diabetic diet requires special foods).

The significant lifestyle risk factors documented in the study, 29.8% tobacco use, 28.0% alcohol consumption, and 54.0% physical inactivity, are of profound clinical concern in a DM inpatient population. Each behaviour independently worsens insulin resistance, accelerates vascular disease progression, and compounds the glycaemic management challenge. Their co-occurrence in this population suggests that diabetes management at EKSUTH must address lifestyle modification comprehensively, not merely dietary behaviour in isolation, requiring a multidisciplinary approach that integrates nursing, dietetics, community health, and clinical psychology expertise.

Nutritional Knowledge: Strengths, Gaps, and Clinical Implications

The knowledge findings reveal a characteristic bifurcation between general disease awareness and specific practical nutrition knowledge, a pattern documented across comparable DM populations in Nigeria and sub-Saharan Africa. The high recognition rates for disease consequences (85.7% knowing untreated DM raises blood sugar; 79.5% knowing DM causes sensory loss; 73.9% recognising slow wound healing) reflect the impact of clinical interactions and general health literacy in this predominantly tertiary-educated, working population. These knowledge strengths align with the symptoms and complications patients are most likely to encounter directly, suggesting that experiential learning through disease progression is a primary driver of certain knowledge domains in this population.

The most clinically important knowledge gap identified was that 56.5% believed a diabetic diet consists of special foods. This misconception, which Olebu (2021) identified as among the most persistent dietary misconceptions in Nigerian DM populations, has direct practical consequences: patients who believe they require 'special' diabetic foods are likely to over-rely on commercially marketed diabetic food products, unnecessarily restrict nutritious common foods, and miss the fundamental dietary principle that a diabetic diet is simply a healthy, balanced, portion-controlled diet. This finding is consistent with WHO (2020) guidance that misinformation about nutrition matters is a key driver of unhealthy eating practices among diabetic patients, and with Breen et al. (2021), who found significant deficits in diabetes-related nutritional knowledge even among patients with relatively long disease duration. The regression finding that this specific belief was a statistically significant predictor of nutritional status ($p=0.022$) provides important evidence that this misconception has measurable anthropometric consequences, making it a priority target for nutrition education interventions at EKSUTH.

The finding that 21.1% believed urine testing is the best method for checking diabetes is particularly concerning, given that urine glucose testing lacks the sensitivity to detect early or moderate hyperglycaemia and cannot guide insulin or oral hypoglycaemic agent titration. Patients relying on urine testing rather than blood glucose monitoring may be systematically underestimating the severity of their glycaemic dysregulation. Similarly, the 21.1% who believed regular exercise increases the need for insulin, the inverse of the physiological truth, may be using this misconception to rationalise physical inactivity, compounding the 54.0% physical inactivity rate documented in the study's lifestyle data. These specific misconceptions require targeted, evidence-based correction through structured diabetes self-management

education (DSME) programmes delivered during in-patient admission, when patients are both captive and highly motivated to learn.

Dietary Self-Care Behaviour: Patterns and Barriers

The uniformly low consistent adherence rates across all seven dietary self-care behaviour domains (26.7–27.3% 'Always') are a defining finding of this study and a significant concern for diabetes management outcomes at EKSUTH. This pattern of low adherence is broadly consistent with comparable African studies: Mohammed et al. (2021) documented low adherence to dietary recommendations for macronutrients and vegetable consumption among Nigerian DM patients, while Song et al. (2020) found that dietary self-care was consistently the lowest-adhered domain among the seven ADA self-care behaviours across multiple sub-Saharan African settings. The uniformity of the approximately 27% 'always' adherence rate across all seven items is notable and may indicate that a stable minority of patients with strong self-care motivation and knowledge maintains consistent practices, while the majority oscillates between partial and non-adherence depending on circumstance, social context, and symptom severity.

The particularly low adherence to food record-keeping (26.7% always) is clinically significant. Daily food records, whether paper-based or digital, are among the most evidence-supported tools for improving dietary awareness, facilitating provider-guided personalised feedback, and enabling patients to identify specific dietary triggers of glycaemic excursions. Their low uptake in this population likely reflects both inadequate professional counselling on their value and the literacy, time, and motivational demands they impose. Shrivastava et al. (2021) identified the supporting role of healthcare professionals in building patient self-efficacy as a critical determinant of self-care success. This finding supports integrating structured dietary counselling, food diary review, and motivational interviewing into routine EKSUTH in-patient DM management protocols.

Nutritional Status: Anthropometric Findings and Management Implications

The finding that only 9.3% of respondents had simultaneously healthy BMI and WHR represents perhaps the most alarming quantitative finding of the study, confirming that nutritional risk, whether in the form of overweight/obesity or undernutrition, is the dominant anthropometric reality for DM in-patients at EKSUTH. This finding aligns with and extends the work of Uloko and Borodo (2021), who assessed anthropometric indices of diabetic patients in Aminu Kano Teaching Hospital and documented high rates of overweight and central obesity, and of Singh et al. (2021), who identified malnutrition as common among hospitalised type 2 DM patients across multiple Nigerian teaching hospitals.

The predominance of high waist circumference, with 79.5% exceeding 80 cm, is particularly significant, as waist circumference is a stronger predictor of insulin resistance and cardiovascular risk in type 2 DM than BMI. Gibney et al. (2022) noted that waist circumference greater than 102 cm in men and 88 cm in women is associated with an increased risk of metabolic complications. This threshold is likely exceeded by a significant proportion of the current study's population given the high waist circumference distribution documented. The concurrent tobacco use (29.8%) and physical inactivity (54.0%) documented in the demographic data compound the cardiovascular risk already conferred by central adiposity in this population. For healthcare providers at EKSUTH, these findings support routine integration of anthropometric assessment into DM inpatient admission protocols, using BMI and WHR documentation to trigger individualised nutritional counselling and referral to dietetic services.

Regression Findings: Specific Knowledge Beliefs as Nutritional Status Predictors

Identifying three specific knowledge beliefs as statistically significant independent predictors of nutritional

status in the regression analysis provides important mechanistic insights beyond the descriptive findings. The finding that the belief that insulin reactions are caused by too much food negatively predicts nutritional status ($p=0.025$) suggests that patients holding this misconception may be inappropriately restricting food intake to avoid perceived 'overeating', potentially contributing to nutritional deficiency and underweight in the subgroup holding this belief. The belief that a diabetic diet consists of special foods positively predicts nutritional status ($p=0.022$) may reflect that patients relying on calorie-dense commercial 'diabetic' products experience higher BMI, a plausible mechanism linking this specific misconception to the overweight/obesity end of the nutritional spectrum. These regression findings collectively demonstrate that specific, targeted knowledge misconceptions, not general knowledge levels, are the more precise pathways to nutritional status outcomes, with important implications for the prioritisation and content of nutrition education interventions.

CONCLUSION

This study has generated the first systematic, quantitative evidence on nutritional knowledge, dietary self-care behaviour, and nutritional status among diabetes mellitus in-patients at Ekiti State University Teaching Hospital, Ado Ekiti, Nigeria, conducted under the community health programme auspices of the Osun State Teaching Hospital, Osogbo. The findings collectively reveal a DM in-patient population characterised by a problematic knowledge-behaviour-status profile: meaningful disease awareness coexisting with critical specific misconceptions (notably the 56.5% believing diabetic diets require special foods), uniformly low dietary self-care adherence across all seven domains (26.7–27.3% consistent adherence), and widespread nutritional risk with only 9.3% simultaneously meeting both BMI and WHR health criteria.

The regression analysis identified three specific knowledge misconceptions as statistically significant independent predictors of nutritional status, providing actionable evidence that targeted knowledge correction, not merely general health education, is the mechanism through which nutrition education can most efficiently improve nutritional outcomes for DM in-patients at EKSUTH. These findings provide a compelling evidence base for the urgent development and implementation of structured, culturally adapted, and professionally delivered diabetes nutrition education programmes at EKSUTH, alongside establishing individualised dietary counselling as a routine component of in-patient DM care.

RECOMMENDATIONS

Policy and Clinical Practice Recommendations

The Ekiti State University Teaching Hospital management and the Ekiti State Ministry of Health should mandate the development and implementation of a structured, evidence-based Diabetes Self-Management Education (DSME) programme, including standardised nutrition education sessions, food record keeping training, and group diabetes education workshops, as a routine component of all DM in-patient admissions, prioritising the correction of the five most prevalent knowledge misconceptions identified in this study: the 'special foods' myth, urine testing as best monitoring method, exercise increasing insulin need, insulin reactions caused by too much food, and the curability of diabetes.

Healthcare providers at EKSUTH, including nurses, community health officers, and attending physicians, should receive continuous professional development training in diabetes nutrition counselling, encompassing evidence-based dietary guidance, motivational interviewing techniques, and the cultural adaptation of dietary recommendations to Yoruba food practices and local food availability in Ado Ekiti and Ekiti State, recognising that culturally tailored nutrition education has consistently demonstrated superior outcomes compared to generic dietary counselling in Nigerian DM populations.

Contribution to Public Health and Clinical Knowledge

This study makes an original contribution to the evidence base on diabetes management in South-Western Nigeria by quantifying, for the first time at EKSUTH, the specific nutritional knowledge gaps, self-care behaviour deficits, and anthropometric nutritional status profile of DM in-patients, demonstrating that only 9.3% meet dual BMI-WHR health criteria and that specific beliefs about insulin reactions, wound healing, and dietary special-food requirements are statistically significant predictors of nutritional status, thereby shifting the diabetes education research paradigm from general knowledge measurement toward targeted misconception identification as the more clinically actionable assessment goal.

The study contributes actionable public health intelligence by establishing that the convergence of low dietary self-care adherence (26.7–27.3% consistent rates), critical nutritional knowledge gaps (56.5% holding the 'special diabetic foods' misconception), lifestyle risk factors (54.0% physical inactivity, 29.8% tobacco use), and widespread nutritional risk among EKSUTH's DM in-patients constitutes a systemic quality-of-care challenge that requires not only individual patient education but also structural reforms in in-patient DM management protocols, dietetic service provision, and health worker training curricula, findings that are likely generalisable to comparable teaching hospitals across Ekiti State and South-Western Nigeria and that provide a replicable study design for baseline assessment in those institutions.

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