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Prevalence and Risk Factors of Type II Diabetes Mellitus in Apparently Healthy Adults in Buea Health District

Kenzo Tina Tezoh[1], Berinyuy Bedes[1], Cuthbert Enyong Arrey Bessong[2], Banboye Raïssa Lemfon[3], Nwakaire Princewill[4], Ejinwa Confidence Godwin[5,*]

[1] Department of Medical Laboratory Science, Faculty of Health Sciences, University of Buea, Buea, South West Region, Cameroon

[2] Department of Business Management, Kazimieras Simonavičius University, Vilnius, Lithuania

[3] Departement of Microbiology and Parasitology, Faculty of Health Sciences, University of Buea, Buea, South West Region, Cameroon

[4] Department of Microbiology, Faculty of Biological Sciences, Imo State University, Owerri, Imo State Nigeria

[5] Department of Pharmaceutical and Medicinal Chemistry, Faculty of Pharmacy, University of Uyo, Akwa Ibom State, Nigeria

*E-mail address: ejinwacg@gmail.com

ABSTRACT

Type 2 diabetes mellitus (T2DM) is a leading public health issue associated with increasing prevalence, morbidity, and the potential for life-threatening complications if poorly controlled. Its insidious nature often leads to undiagnosed cases, which motivated this community-based cross-sectional study to ascertain the prevalence and associated risk factors of T2DM among apparently healthy adults in the Buea Health District. The study was conducted between March and May 2022 in four health areas in which a total of 384 participants aged 40 years and older were randomly selected. Diabetes was defined by fasting blood glucose (FBG) and glycated hemoglobin, and self-administered questionnaires were utilized to obtain lifestyle and body mass index (BMI) information. Statistical analysis (e.g., Chi-square, logistic regression) was performed and significance was set at $p < 0.05$. As results, we found a diabetes prevalence of 6% (23 participants) with a mean FBG of 116 ±4.7 mg/dl and a pre-diabetes prevalence of 11.46% (44 participants) with a mean FBG of 106 ±2.5 mg/dl. Similarly, marital status ($p = 0.01$) had a significant impact on FBG, where the mean value of FBG among singles

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was significantly higher (92.70 ±11.94 mg/dl) than married participants (89.13 ±12 mg/dl). Moreover, T2DM were strongly correlated with sex ($p = 0.02$), overweight and obesity ($p < 0.001$), diet ($p = 0.01$) and alcohol intake ($p = 0.03$). The study found a relatively higher prevalence of diabetes and pre-diabetes in the participant population with many those surveyed being overweight/obese and consuming alcohol.

***Keywords*:** Diabetes, Buea Health District, health education, glycated hemoglobin

1. INTRODUCTION

The word "diabetes" comes from the Greek "diabaino" or "to pass through," referring to the large amounts of urine associated with the disease (Schwartz et al., 2016; Khan et al., 2025). Diabetes mellitus (DM) is a long-lasting metabolic disease characterized by high blood glucose levels that may contribute to complications involving the heart, vasculature, eyes, kidneys, and nerves. DM accounts for >90% of all diabetes cases. It is attributed to insufficient insulin secretion by pancreatic β-cells, IR in tissues, and an inadequate compensatory response by the body (Galicia-Garcia & Benito-Vicente, 2020). Its pathogenesis is multifactorial and includes defects in insulin synthesis, secretion, and tissue response; hormonal and metabolic derangements; and systemic and genetic predispositions (Mullen et al., 2024; Rodas et al., 2022). Obesity or increased body fat, particularly abdominal fat, are common in individuals with T2DM and augment IR through mechanisms such as adipokine deregulation and chronic inflammation (Flor & Campos, 2017). Common symptoms include excessive thirst, excessive urination and unexplained weight loss, but other symptoms may be present as well, such as numbness, fatigue and slow-healing sores. The global epidemic of T2DM is mainly driven by worldwide increases in obesity, inactivity, hypercaloric diet, and ageing (Yeo et al., 2025; Manolis et al., 2025).

T2DM is a public health problem of concern especially in low- and middle-income countries (LMICs) which account for the majority (over 80%) of reported cases. As of 2019, an estimated 463 million adults around the world had diabetes, and that figure is expected to increase to 700 million by 2045 (El-Khatib et al., 2025). This disease has important complications such as cardiovascular disease, neuropathy, renal failure, and retinopathy, all causing high mortality and socioeconomic burden. Compared to non-diabetic individuals, patients with T2DM have a 15% increase in risk for all-cause mortality, where cardiovascular disease remains the leading cause of death (Zeng et al., 2025). Epidemiologic studies, however, show that people with diabetes have been found at a 2-fold increased risk for coronary heart disease, onset of ischemic stroke, and mortality due to vascular disease. These challenges lead to a current treatment paradox of needing to manage hyperglycaemia whilst avoiding hypoglycaemia, as well as the long-term complications of diabetes. The factors contributing to the increased incidence of T2DM in developing economies entail immediate concern, considering the rising health-related complications from the disease, especially in resource-poor settings that struggle for appropriate and efficient management of this condition (Walatara et al., 2022; Zdravkovic et al., 2025).

In Buea, no epidemiological survey has been undertaken to assess the prevalence of T2DM and its precursor condition, prediabetes, in apparently healthy adults. Such lack of knowledge limits our ability to implement community-level interventions towards reducing the diabetes burden. The understanding of these dynamics is important better knowledge of the disease purpose and risk factors can facilitate the decrease on prevalence and purpose of diabetes disease, especially in populations with low awareness on social and economic consequences of diabetes. Significant amounts of energy in the form of ATP can be extracted from acetyl-CoA by the citric acid cycle and the electron transport system (Figure 1).

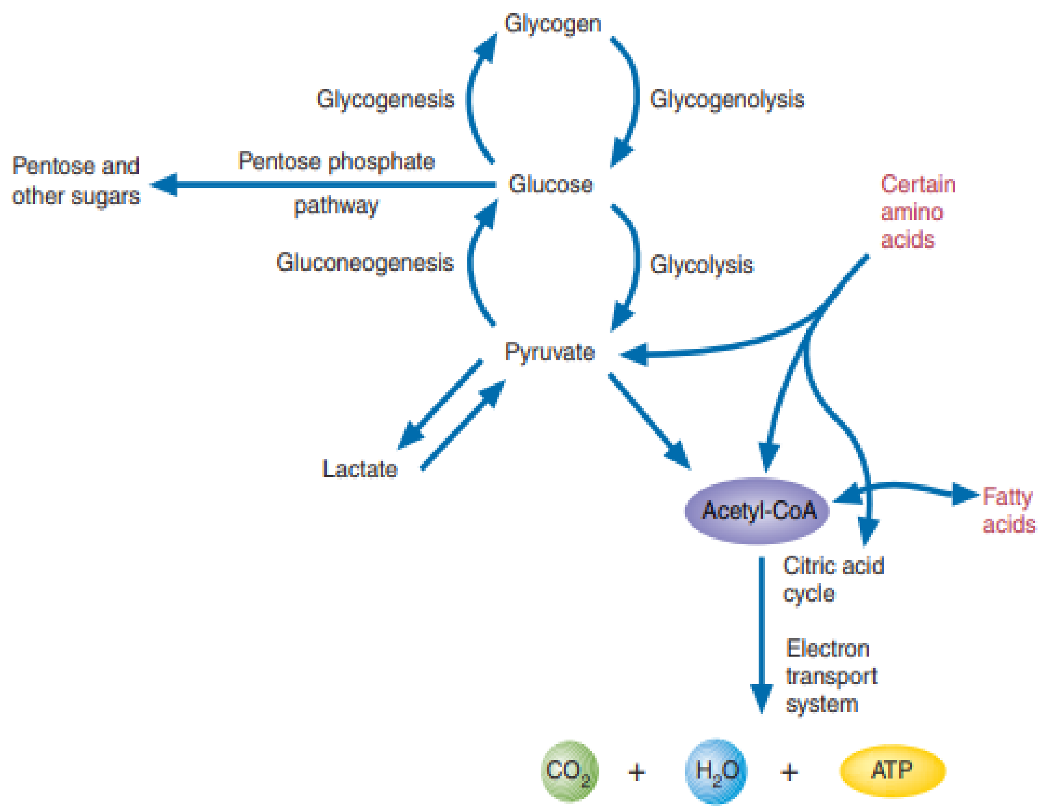

Figure 1. Major pathways in carbohydrate metabolism.

The overall aim of this study is to investigate the prevalence of type 2 diabetes in apparently healthy adults and the associated factors. The specific objectives include (1) To determine the prevalence of type 2 diabetes mellitus based on fasting blood glucose (FBG) (2) Assess glycemic status for participants with abnormal FBG based on glycated hemoglobin (3) To ascertain the relationship between FBG and sociodemographic factors (4) To identify the risk factors of diabetes mellitus amongst the study participants.

2. MATERIALS AND METHODS

2. 1. Study design and area

This study utilized a cross-sectional design with a community-based approach and was carried out between March and May 2023 in Buea, the capital of the Southwest Region of Cameroon. Buea (town) is made up of 85 villages in Fako Division on the lower eastern slopes of Mount Cameroon with a population of 184,601. Located about 55 kilometers from Douala and 20 kilometers from Victoria, the city is situated at an altitude of between 800 and 1,100 meters on the slopes of Mount Cameroon (Kamdem & Lemogoum, 2019). Seven health areas are delineated in Buea: Muea, Molyko, Buea-Town, Bokwaongo, Bova, Buea Road, and Tole. To this study, participants were recruited from four of these areas namely, Muea, Buea-Town, Bova and Molyko. 384 eligible participants were included in the study population based on eligibility criteria established in the study's questionnaire. Participation was voluntary, and patients were enrolled only after giving their informed consent.

2. 2. Study population

Study population Participants were adults ≥ 40 years of age and had lived in Buea for at least six months before the study; they had no apparent health complaints according to self-declaration. exclusion criteria were being diagnosed with diabetes mellitus, not fasting for blood glucose testing for at least 8 h, pregnant women, and cognitive impairment.

2. 3. Sample size determination

The minimum sample size was obtained from a prevalence (5.8%) obtained from a study which investigated the prevalence of prediabetes and diabetes amongst healthy adults residing in Cameroon carried out by bigna in 2018 [14]. Lorentz formula was used to calculate sample size.

$$n = \frac{Z^2 \times P(1-P)}{d^2} \quad n = 84 \tag{1}$$

where: **n** = minimum sample size, **Z =** 1.96, d = is the error margin **(5%)**
p = proportion of apparently healthy adults was assumed to be (0.5), because sample size obtained using 5.8% prevalence was small.

$$\text{Hence, } n = \frac{(1.96)^2 \times 0.5 \times (1-0.5)}{(0.05)^2} \tag{2}$$

n = 384 participants

Table 1. Sample size distribution in 4 health areas in BHD according to probability proportionate to size.

Health Areas (HA)	2023 estimated total pop of people 40 and above	Proportion	Sample size
MOLYKO	2087	0.20	77
BUEATOWN	1548	0.15	57
MUEA	6234	0.60	230
BOVA	560	0.054	20
TOTAL	10,429		384

2. 4. Sampling technique

The probability method of simple random sampling was used. Participant were selected proportionately to the population of the health areas chosen. By balloting, every third house from those selected from the ballot were included for sample collection. Then sample size was obtained from those who accepted to sign the consent form.

2. 5. Data collection

A questionnaire which includes assessments of sociodemographic information (Age, sex and occupation, etc), was given to the participants or their guardians. They were assisted in filling the questionnaire in a face-to -face interview, the data collected was keyed into a computer and stored.

2. 6. Specimen collection and analysis

Anthropometrical measurements such as weight, height and blood pressure were measured following standard procedures. Body weight was measured to the nearest 0.1 kg using a camery scale and height to the nearest cm using a portable stadiometer. An electronic and automatic digital BP monitor (DBP-1314 model, joytech healthcare co.ltr, Zhejiang, China) was used to assess blood pressure. A lancet was used to prick the fingers to obtain blood from each participant, which gave us values on FBG levels using a glucometer (on call Extra, China). For participants with FBG values ≥100, about 2 ml of venous blood was drawn from each participant in to an EDTA tube (blue top tubes) using disposable syringes, the blood was stored at − 80 °C in fridge for 1week before analysis (glycohemoglobina kit, Spain) based on manufacturers instruction. HBA1c will be measured by kinetic method at 415 nm using a URIT-810 spectrophotometer. Which principle is based on the passing of light of specific wavelength through the sample in the cuvette, the light amount absorbed is directly proportional to the concentration of HBA1c in each sample.

2. 7. Laboratory procedures

2. 7. 1. Measurement of glycated hemoglobin (HBA1c)

Glycated hemoglobin (HbA1c) was measured by the ion exchange resin method with a glycohemoglobin kit (Marchio Limited, Spain). This method is based on the principle that the net charge at a certain pH retains the HbAo fraction on the ion exchange resin, while the glycosylated HbA1 fraction is contained in the supernatant. This allows the determination of the percentage of HbA1 in relation to total hemoglobin, by rapidly separating the supernatant from the resin by centrifugation. After mixing 500 µl of lysing agent with blood sample and incubating for 5 minutes (A2), the lysing agent was dispensed into test tubes. Then, 300 µl of resin reagent was distributed into tubes, and 100 µl of hemolyzed blood was collected and mixed for 5 minutes. The supernatants were obtained after centrifuging the mixture for 10 minutes (Abs1). Finally, 20 µl A2 and 50 µl deionized water were vigorously mixed, and the absorbance was measured (AbsT).

$$C_{sample} = Absl/AbsT \quad (3)$$

$$C_{standard} = Absl/AbsT \quad (4)$$

$$HbAl\ sample[\%] = \frac{C_{sample}}{CsT}\ x\ HbAIST[\%] \quad (5)$$

Measurement of HBA1C

This method is based on the concentration of glucose in red blood cells and consist of two stages; one which is quick and reversible in which aldimines are formed, and a slow and relatively irreversible stage in which stable glycohemoglobin (ketoamine) is formed which will last through out the lifespan of cell.

$$Glucose + Hemoglobin \leftrightarrow aldimine \rightarrow glycol\ hemoglobim\ (HBAI)$$

the spectrophotometer was turned on and allowed to warm, the desired wavelength of 415 nm was chosen then distilled water (blank) was filled in a cuvette which was aspirated by the machine. then the spectrophotometer was zeroed.

Fasting blood glucose measurement

FBG was assessed two times with a two-week gap using OnCall Extra glucometer produced by Bioland Technology Limited, China. Participants were pricked on the finger with a lancet, and blood samples were collected, then FBG values were noted. For each new strip vial, a code number sticker was entered into the glucometer, and the performances of the meter and sensor test strips were validated using high and low glucose solutions (lot no.: co9k05c2).

Table 2. Classification of body mass index.

Range	Interpretation
<18.5	Underweight
18.5-24.9	Normal
25-29.9	Overweight
30.0 and above	Obesity

Table 3. Classification of blood pressure readings.

Blood pressure category	Systolic(mmHg)	Diastolic (mmHg)
Normal	<120	<80
Pre- hypertension	120-139	80-89
Stage 1	140-159	90-99
Stage 2	160 or higher	100 or higher

The strips worked based on the glucose oxidase enzyme, which combines with blood glucose to generate gluconic acid. This acid then reacts with ferricyanide on the strip to form ferrocyanide, causing a temporary electrical current. Based on this current, the glucometer determines the glucose concentration. Normal levels of fasting blood glucose were defined as 70-100 mg/dL (3.9-5.6 mmol/L), and values of 100-125 mg/dL (5.6-6.9 mmol/L) as impaired fasting glucose (prediabetes). When FBG was ≥ 126 mg/dL (7 mmol/L), the confirmatory test of diabetes was glycated hemoglobin (HbA1c). According to WHO classification, HbA1c 6-8.3% were classified into non-diabetes, and the HbA1c exceeding 10% was identified as poor glycemic control.

2. 8. Data analysis

Codes were assigned to each participant. Each resulted collected was registered into a logbook and Microsoft EXCEL where the participant's age, sex, time, date of sample collection, and other info was recorded and cross-checked for completeness and correct filling of information before storage. Statistical Analysis was performed SPSS version 26 statistical software, frequency distribution and cross tabulation were used to describe data, paying attention to how the variables relate with some socio-demographic aspects of the population like age, sex, marital status and level of education. Chi-square test for categorical data with their respective 95% confidence level (CL) calculated. logistic regression test for finding the association risk factors and T2DM. Test probability levels less than 0.05 will be considered statistically significant.

2. 9. Ethical considerations

Ethical clearance was obtained from the Institutional Review Board of the Faculty of Health Sciences, the University of Buea prior to conducting this study and the study conformed to the principles outlined in the Declaration of Helsinki. Authorization for the study was obtained from the delegation of public health and community chiefs. Participants were informed about the study, its merits and demerits and given the free will to withdraw from the study without any sanction. The use of sterile materials on participants and appropriate procedure to reduce risk was strictly implemented. Confidentiality of participants information was rigidly maintained.

3. RESULTS AND DISCUSSION

3. 1. Socio-demographics of study participants

In total, 384 inhabitants of Buea participated in the study with ages ranging from 40 to 81 years. More than three quarters of the participants (n=306 ;80%) were between 40 and 50 years of age while only 16(4.2%) participants were above 70 years old. The mean age recorded was 46±8.68 years.

Males represented 45% of the sample size (172). Very few people [43(11.2%)] reported completing education at the tertiary level while most of them [221(57.6%)] had ended school at the primary level. Almost all the study population reported having some form of employment unlike the 30(9%) participants who were unemployed. Socio-demographics on all participants is shown in Table 4.

Table 4. Socio-demographic of participants.

Characteristic	Category	Frequency (%)
Sex	Male	172 (45%)
	Female	212 (55%)
Age(years)	40-50	306(80%)
	60-70	62(16.0%)
	>70	16(4.0%)
Level of education	Primary	21(57.6%)
	Secondary	120(31.3%)
	Tertiary	43(11.1%)
Employment	Employed	69(18%)
	Self employed	285(74.2%)
	Unemployed	30(7.8%)
Marital status	Married	306(79.7%)
	Single	78(20.3%)

3. 2. Prevalence of diabetes and pre-diabetes

3. 2. 1. Prevalence of diabetes and pre-diabetes participants

Using the confirmatory FBG measurements, the study population was classified according to their glycemic status where those with FBS <100 mg/dL were classified as healthy, those with FBS>100 mg/dL were classified as diabetic and those with FBS within 100 and 110 mg/dL were termed pre-diabetic (impaired glucose tolerance). A total of 23(6%) participants were confirmed to be diabetic with the mean FBG amongst diabetics being 116±4.7 mg/dl. More than one-tenth of participants (44 ;11.46%) were diagnosed pre-diabetic with a mean FBS of 106±2.5 mg/dl.

Figure 2 shows proportions of pre-diabetics and diabetics in the study population. This is slightly higher when compared to the prevalence of 4.6% obtained from a study done by Echuoffo-Tcheungiui et al. (2012), which aimed at finding the prevalence of undiagnosed diabetes in an urban sub-Saharan population and the prevalence of 5.8% obtained from a study done by bigna et al. (2018) which was aimed at finding the prevalence of pre-diabetes and diabetes amongst adults residing in Cameroon.

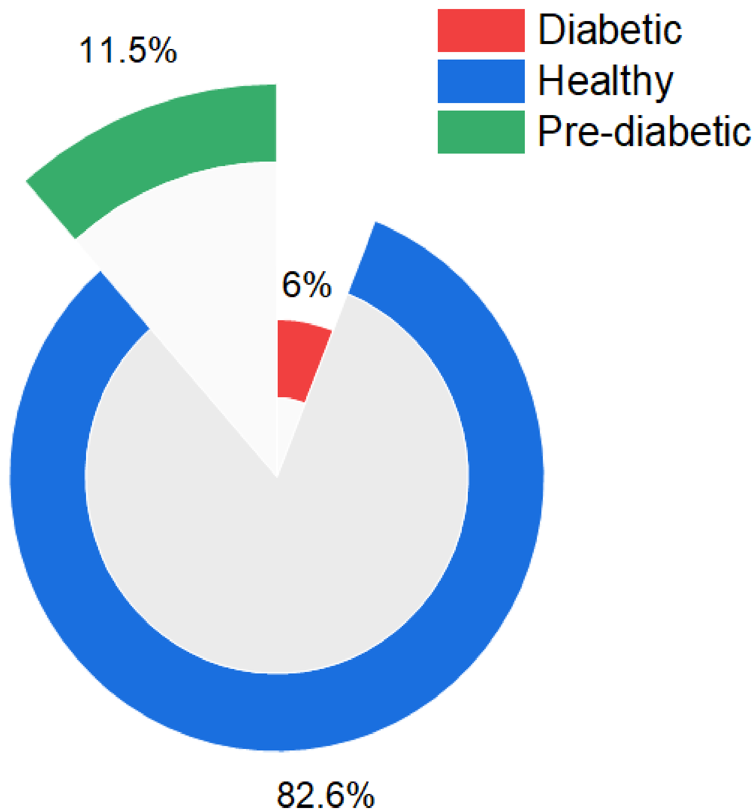

Figure 2. Prevalence of diabetes in participants from 40 and above in Buea.

3. 2. 2. Prevalence of diabetes in apparently healthy adults

Groups observed to have the greatest number of diabetics were males, married participants, those who had ended their education at a primary level, those between 40 and 50 years of age and lastly the self-employed.

Table 5. Prevalence of Diabetes according to social group of Participants from 40 years and above.

Characteristics	Category	Number enrolled	Diabetics n	Prevalence	P value
Sex	Male Female	172 212	16 7	9.3 3.3	0.48
	Total	384	23		
Age(years)	40-50 60-70 >70	306 62 16	15 6 2	5 9.68 12.5	0.205
	Total	384	23		

Level of education	Primary Secondary Tertiary	221 120 43	14 9 0	6.33 7.5 0	0.18
	Total	384	23		
Employment	Employed self employed Unemployed	69 285 30	2 19 2	2.90 6,67 6.67	0.116
	Total	384	23		
Marital status	Single Married	306 78	21 2	6.86 2.56	<0.001
	Total	384	23		

However, tests of association revealed only Marital status ($p < 0.001$) to be significantly associated with diabetic status. Table 5 presents the data of these findings.

3. 2. 3. Prevalence of pre-diabetes in apparently healthy adults in Buea

The greatest number of pre-diabetics were females, married participants, those who had ended their education at a primary level, those between 40 and 50 years of age and self-employed participants. However, tests of association revealed only Marital status ($p < 0.001$) and Level of education ($p = 0.01$) to be significantly associated with pre-diabetic status. Unlike with diabetes, pre-diabetic status was observed more in females (25; 11%) than males (19; 11%) and was evenly distributed amongst married and single participants (22 each). Table 6 presents prevalence and frequencies of these findings.

Table 6. Prevalence of pre-diabetes according to social group of participants from 40 years and above.

Characteristics	Category	Number enrolled	Pre-diabetics	prevalence	P value
Sex	Male Female	172 212	19 25	11.04 11.80	0.82
Age(years)	40-50 60-70 >70	306 62 16	35 9 0	11.44 14.52 0	0.27
Level of education	Primary Secondary Tertiary	221 120 43	21 12 11	9.5 10 25.6	0.01
Employment	Employed self employed Unemployed	69 285 30	12 32 0	17.4 11.23 0	0.43
Marital status	Single Married	306 78	22 22	7.2 28.21	<0.001

3. 2. 4. Prevalence of risk factors of diabetes amongst healthy and diabetics

The greatest number of diabetics were observed in people who either consumed alcohol (19 ;7.5%), had a pre-hypertensive BP (10 ;17.5%) or were overweight (11 ;7.6%). Table 7 shows differences in distribution of risk factors between the normal and the diabetics. Significant association ($p<0.05$) was found only in BMI status ($p = 0.04$), with those who were overweight (11,7.6%) being the most affected.

This finding aligns with prior research showing a strong correlation between obesity and diabetes, where excess adipose tissue promotes insulin resistance through inflammatory pathways (Sun et al., 2022).

Table 7. Prevalence of risk factors amongst normal and diabetics.

Group	Category		Healthy (%)	Diabetics (%)	P-Value
Smokers	Yes		12(70.6)	5(30)	0.43
	No		349(95.1)	18(5)	
	Total		361	23	
Physical activity	Active		277(94.9)	15(5.14)	0.16
	Heavily active		49(86.0)	8(14.04)	
	Sedentary		35(100)	0	
	Total		361	23	
Blood pressure	Healthy		93(93.0)	7(2.4)	0.54
	Pre hypertensive		149(93.7)	10(17.54)	
	Stage 1		67(92.0)	6(17.14)	
	Stage 2		52(100)	0	
	Total		361	23	
Diet	Animal fat	once in 2 weeks	358(94.0)	23(6.04)	0.86
		Once daily	3(100)	0	
	Vegetables	Once weekly	271(95.0)	15((11.45)	0.37
		Once in 2 weeks	80(93.0)	6(7.0)	
		Once in 3 weeks	10(83.3)	2(16.67)	
	Total	361	23	Total	

Alcohol consumption	Yes	235(92.5)	19(7.5)	0.13
	No	126(97.0)	4(3.08)	
	Total	361	23	
BMI status	Healthy	100 (95.2)	5(4.7)	0.04
	Underweight	4(100)	0	
	Overweight	134(92.4)	11(7.6)	
	Obese	122(93.8)	8(6.15)	
	Total	361	23	

Of the 260 participants who were either obese or overweight 19(7%) were diabetic unlike the 5(4.7%) out of 105 participants who had healthy BMI. Those participants who consumed alcohol had a total diabetic prevalence of 7.5% unlike the 3% seen in those who did not consume alcohol. Distribution of BMI status between diabetic, pre-diabetic and healthy participants is shown in Figure 3.

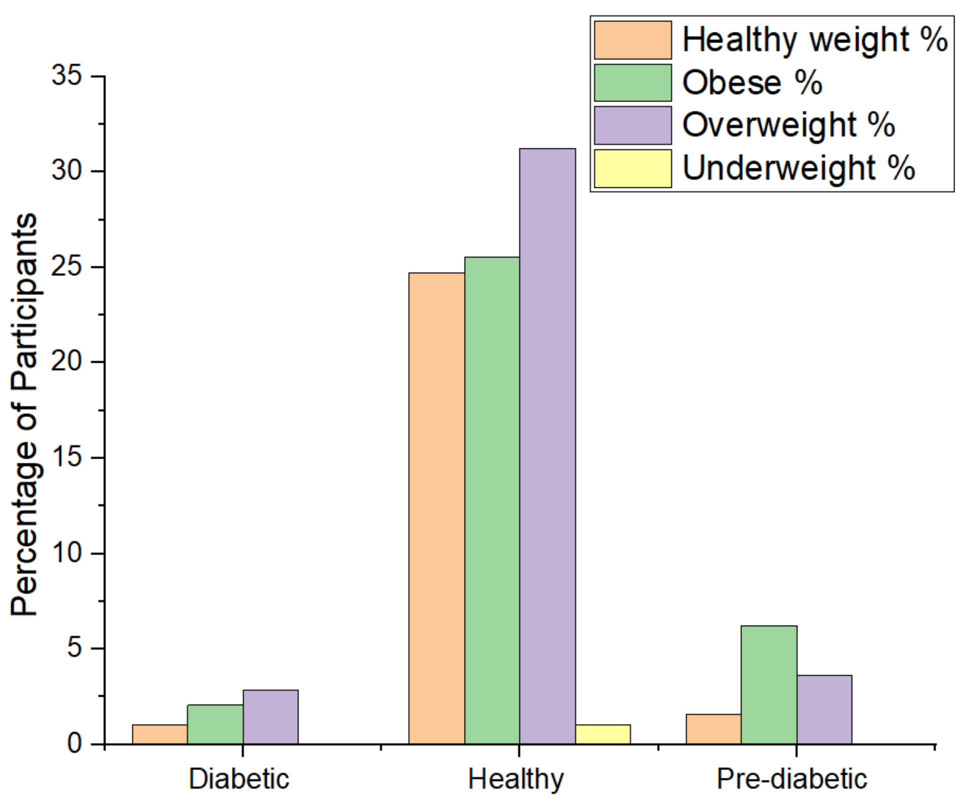

Figure 3. Distribution of BMI status between diabetics, pre-diabetics and healthy participants.

3. 3. Relationship between FBG and sociodemographic factors

ANOVA test was performed to assess the relationship between FBG and sociodemographic factors. It revealed a significant relationship between mean FBG and Marital status ($p = 0.01$). The mean ±SD of married and single participant were 89.13 ±12 mg/dl and 92.70 ±11.94 mg/dl respectively as shown in Table 8. Mean FBG levels were higher in male (91.25 ±12.70 mg/dl), those within the age group of 50-70 (93.13 ±13.35 mg/dl), unemployed (92.18 ±8.36 mg/dl) and in those who did secondary education (91.53 ±11.59 mg/dl). Married people have the advantage of controlling their income, controlling unhealthy habits and adopting favorable lifestyles unlike single people. There are increased levels of certain hormones such as cortisol during stress which affects insulin action and causes insulin. this was supported by a previous study in the Brazilian population conducted by flor et al. (2017).

Table 8. Relationship between FBG and sociodemographic.

Characteristic	Category	Mean ± SD (mg/dl)	F statistic	P value
Sex	Male	91.25 ± 12.70	4.12	0.41
	Female	88.72 ± 11.41		
Age(years)	40-50	89.38 ± 11.58	3.26	0.40
	60-70	93.13 ± 13.35		
	>70	86.33± 13.85		
Level of education	Primary	89.06 ± 12.24	1.70	0.18
	Secondary	91.53 ± 11.59		
	Tertiary	89.28 ±12.13		
Employment	Employed	87.27 ± 12.78	2.31	0.10
	Self employed	90.24 ± 12.14		
	Unemployed	92.18± 8.36		
Marital status	Married	89.13 ± 12	5.50	0.01
	Single	92.70± 11.94		

3. 4. Relationship between FBG and risk factors of diabetes

The relationship of fasting blood glucose (FBG) levels with the different risk factors of diabetic status was evaluated using ANOVA test. As shown in Table 9, blood pressure ($p > 0.05$). Nourishment hobbies like ingesting oat grain, creature fats, and vegetables are not really impact on FBG levels (p > 0.05) Table 10. However, the results of the current coverage do indicate the effect of some lifestyle risk factors, such as physical activity and alcohol consumption, on FBG level, thus emphasizing how lifestyle modification could be an effective intervention in improving glucose homeostasis. These findings are in line with earlier studies showing that alcohol intake and lower levels of physical activity worsen glycemic control (Chatterjee et al., 2017; Saeedi et al., 2020). A good understanding of these relationships is important to implementation of effective diabetes prevention strategies.

Table 9. Relationship between FBG and Risk Factors.

Characteristic		Category	Mean ± SD (mg/dl)	F statistic	P value
Blood Pressure Status		Healthy BP	87.45 ± 13.13	4.45	<0.01
		Pre-Hypertensive BP	11.90 ± 1		
		Stage 1 Hypertensive BP	93.77 ± 11.27		
		Stage 2 Hypertensive BP	88.01 ±1.40		
Smoking		Yes	92.73 ± 18.19	1.05	0.30
		No	88.67 ± 11.68		
Alcohol	Consumption	Yes	89.67 ± 12.93	0.20	0.66
		No	89.81 ± 10.29		
	Frequency of drinking	4-6 times weekly	87.73 ± 14.41	2.74	0.02
		2-3 times weekly	90.41± 12.97		
		1-3 times monthly	86.19 ± 11.19		
		2-3 times monthly	97.4 ± 5.52		
		Less than or equal to once a month	91.23 ± 6.47		
		Once weekly	90.90 ±13.69		
		Daily	110.50 ± 13.54		

Physical activity	Active	89.41 ± 12.41	3.95	0.02
	Heavily Active	95.64 ± 12.82		
	Sedentary	87.73 ± 10.68		

Table 10. Relationship between FBG and Risk Factors.

Characteristic		Category	Mean ± SD (mg/dl)	F statistic	P value
Diet	Animal Fat	Once in two weeks	90 ± 12.02	3.46	0.06
		Once daily	77 ± 0.02		
	Cereals and whole grains	Once daily	77 ± 0.02	3.46	0.06
		Once weekly	90 ±12.04		
	Vegetables	Once weekly	90 ± 11.27	0.58	0.56
		Once in 2 weeks	90 ± 13.70		
		Once in 3 weeks	86.17 ± 16.61		
BMI status		Healthy	7.46 ± 12.32	2.40	0.06
		Underweight	83.75 ± 9.52		
		Overweight	90.75 ± 11.21		
		Obese	91 ± 12.58		

4. CONCLUSIONS

This community-based study revealed a diabetes prevalence of 6% and a prediabetes prevalence of 11.5% among 384 participants, highlighting the growing burden of diabetes in Buea. Single marital status was associated with higher fasting blood glucose levels in apparently healthy adults, emphasizing the influence of social factors on diabetes risk.

Key risk factors identified in the community included male sex, unhealthy diets, physical inactivity, obesity, and alcohol consumption, underscoring the need for targeted interventions to address these modifiable risk factors and curb the rising prevalence of diabetes in the region.

4. 1. Recommendations and projection for future studies

Findings from this study suggest that it is important to monitor glucose levels in communities and suggest the need for a health plan with a strategy based on screening and early diagnosis, aiming to avoid the social and economic burden of this disease. Towards this the is needed to support promotion towards the prevention of diabetes amongst those at risk including those less than 40 years and those with raised blood pressures. Also, good glycemic control should be encouraged in individuals experiencing prediabetes with the help of health and fitness programs. lastly targeting the control and prevention strategies to such modifiable risk factors associated with diabetes may contribute to the reduction of the prevalence and complications of T2DM.

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