THE IYA FOUNDATION

in collaboration with

My Kidney My Life
A David and Esther Asoh Foundation

BAMENDA

KIDNEY HEALTH CAMPAIGN

ACTIVITIES

-Screenings
-Sensitisation
-Walk and Aerobics

Theme

Kidney Health is for everyone, Even you

Screening at Cathedral Big Mankon

Screening at Bayele

Screening at Ntambesi

Walk and aerobics

600+
Participants

307
Screened

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EXECUTIVE SUMMARY

The Bamenda Kidney Health Campaign is an awareness and sensitization program initiated by *My kidney My life Foundation* and was organized by *The Iya Foundation Kidney Resource Center* with the main aim to promote kidney health and organ donation awareness. It was a one week campaign on kidney health education and community health screenings which ran from the 14th to the 17th of December 2022. We had a series of community screening and sensitization activities at the Cathedral Big Mankon, Bayele and Ntambessi and was crown with a kidney health walk and aerobics from City Chemist to Cathedral Big Mankon. The campaign was a massive success as we were able to reach-out to over 600+ participants, 400+ during screenings and sensitization with 307 successfully screened and a crowd of more than 250 people for the walk from City Chemist to Cathedral Big Mankon.

The mean age of our participants was 47.28 ± 15.13 with a minimum age of 4 and a maximum age of 84 years, 50% of our participants were normal weight with 20% overweight and 30% obese. In examining the BMI distribution amongst men and women, women had the highest percentage of obesity (38%, 77/202) as compared to men (10%, 8/83). Following analysis with respect to blood pressure, it indicated that 51% (139/270), 18% (48/270) and 31% (83/270) were hypertensive, pre-hypertensive and normal respectively. Finally our data indicated that we had a distribution of 8% (22/266) as diabetics and 12% (31/266) as pre-diabetics.

STATEMENT OF NEED

Most people in Bamenda are faced with socio-political crises and find it difficult to access good health care therefore, it is very difficult for them to go to the hospital for regular check-up for diabetes, hypertension and Kidney disease. The fact that these diseases don't present with signs and symptoms at an early stage also account for the reason most people don't consider regular screenings. The leading causes of chronic kidney disease (CKD) worldwide are diabetes and hypertension which are also chronic diseases and do not portray any symptoms at their onset. This burden is worrisome in low and middle class income countries (LMCIC) where many do not have access to proper health care and a majority of them rely on traditional medication without diagnosis or proper dosage to solve their health problems. Unlike the developed countries where they are aware of their health conditions and have a strong healthcare system with coverage, in LMCIC such as Cameroon, such facilities are limited. With an abundance of rural areas in relation to urban areas, low awareness level on CKD and its causes, few health care facilities in relation to the population, large adherence to traditional medications: many individuals develop CKD without knowing and many progress to end stage kidney disease without being conscious that they have the condition. It is in this light that we sought to carry out a large-scale awareness and screening campaign amongst the general population to sensitize the population on CKD, its causes, screen for persons in the community for chronic kidney disease. This was done in an attempt to ensure that we have more kidney health ambassadors and advocates so that, the incidence of CKD can be reduced in the population through knowledge and effort.

OBJECTIVES

To sensitize and screen 500 people in Bamenda and provide them with information about their risk status for chronic kidney disease, as well as how to prevent or delay the development of the condition.

Specific Objectives

- Screen 500 persons for the leading causes of Kidney disease (diabetes, hypertension, Obesity)
- Identify high risk persons for developing kidney disease
- Educate the population on positive lifestyle modification to prevent kidney disease

METHODOLOGY

This campaign was a cross-sectional activity carried out for four days. It was divided into two phases; screenings/sensitization from the 14th to 16th December at Cathedral Big Mankon, Catholic Church Bayele and Presbyterian Church Ntambesi respectively and a kidney health walk from City Chemist to Cathedral Big Mankon on the 17th of December where we had aerobics, refreshments and networking.

This campaign's targeted population was aged persons from 50 and above, youths, young adults from 25 and above in the city of Bamenda.

Body Mass Index, Blood Pressure Measurement, Blood Sugar Measurement and Urinalysis was taken during the screenings

- Participants were welcomed, their preliminary information recorded and then asked to sit down for 5 mins prior to testing.
- After 5 mins, the participants were then ushered to the BMI station where their weight, height were taken for their body mass index calculations.
- Participants were then directed to the blood pressure station, where they were required to sit up straight, feet flat on the floor and BP reading taking with curf at heart level to the participants.
- Upon recording their blood pressure readings, the participants were asked to move to the blood sugar station where their blood sugar readings were taken.
- Then finally, the participants moved to the Urinalysis bench for urine analysis.
- Participants who had cleared all of these stations were then sent to the medical personnel for counseling.

Instruments

Blood Pressure machine used is;

Name	Model	Ref
Omron	BP7100	HEM-7121-Z2

Procedure for Blood Pressure measurement shall be done using the Omron protocol [1]

- ➔ **Interpretation**

Following the guidelines of [2]

Blood pressure indication	Range
Normal	Less than 120/80 mmHg
Pre-Hypertensive	Between 121/80 to 139/89
Hypertensive	140/90mmHg or higher

Blood sugar machine used;

Name	SN
On Call Plus	103A306C595
Sejoy	SEJOY BS-101

➔ **Interpretation of results :** Done following the guidelines of the CDC [3]

Blood sugar test	Prediabetic	Diabetic
Fasting blood sugar (mg|dl)	100 to 125	126
Random Blood sugar (mg|dl)		200

Urinalysis

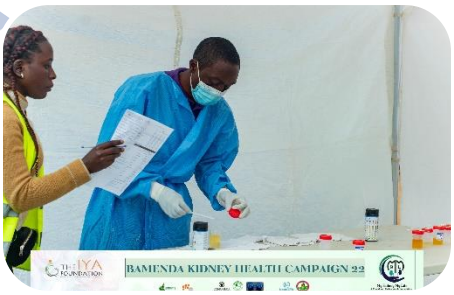
Name	Model	SN
Urine Test Strip	URIT 11V	22040264M1

Work Flow

RECEPTION

BLOOD PRESSURE

BLOOD SUGAR



URINALYSIS

COUNSELING

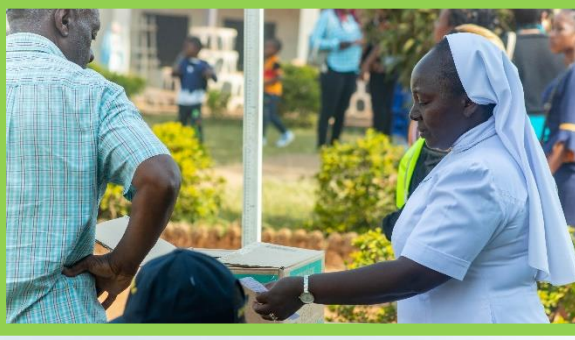
RESULTS

Number of participants at the screenings and walk

We estimate that over 600+ new kidney health advocates were inspired as a result of our screening efforts whereby we screened over 300+ people, and 250+ people participated in the Kidney Health Walk and aerobics. This provided education on kidney illness, kidney health, and kidney protection.


VOLUNTEER
$$$


Safety Box
BIOHAZARD




NEY WALK AND AEROBICS
Health Is For Everyone, Even You."
THE IYA FOUNDATION
BAMENDA KIDNEY HEALTH CAMPAIGN 22


THE IYA FOUNDATION
BAMENDA KIDNEY HEALTH CAMPAIGN 22

DESCRIPTIVE STATISTICS

1.1.1 Socio-Demographic Data

1.1.1.1 Age and Gender Distribution

The mean age of our participants was 47.28 ± 15.13 with a minimum age of 4 and a maximum age of 84 years. The age of participants were divided into different categories: 2% were Young and Adolescents (<15 years), 9% were Youths (15 to 24 years), 66% were Adults (25 to 59 years), and 23% Elderly (>60 years). Throughout the campaign, majority of our participants were Females (71%).

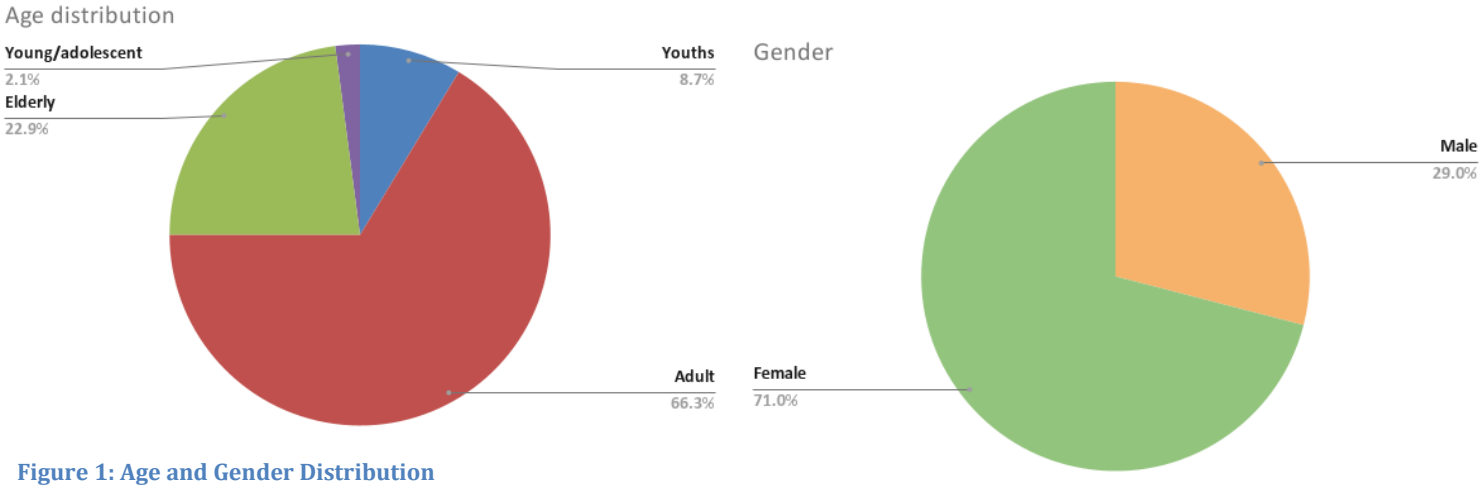


Figure 1: Age and Gender Distribution

1.1.1.2 Educational and Occupational Status

In regards to data on educational status, it was observed that most of our participants had received college/university education with a smaller minority being unable to read/write. This was represented by a frequency of 40% (119/282) and 7% (21/282) respectively. Furthermore, when looking at the occupation distribution amongst our participants, we found that persons with private business represented a good majority of our population with a frequency of 29.7% (82/276). In total, 282 and 276 participants submitted valid data for analysis of the parameters.

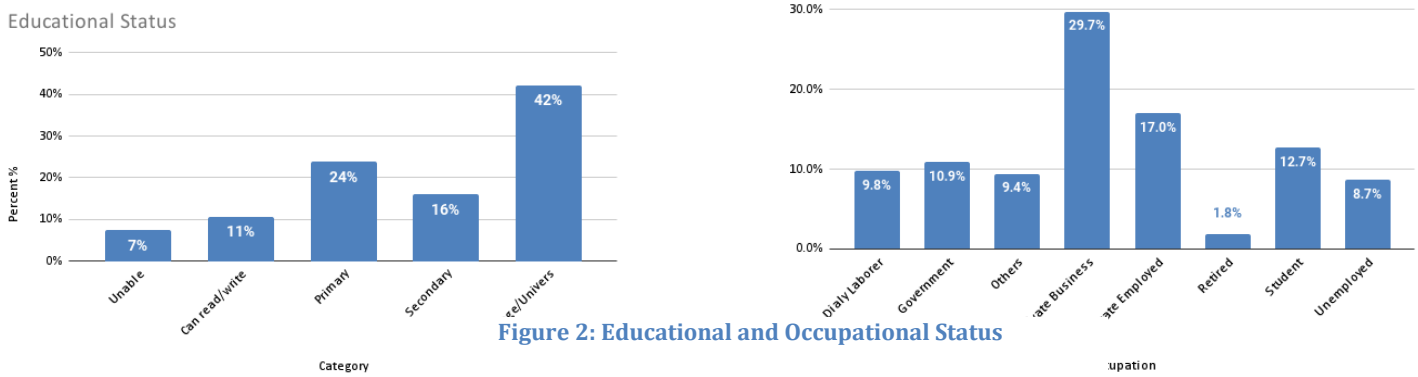


Figure 2: Educational and Occupational Status

1.1.1.3 Marital Status and Religion

About 280 and 227 participants respectively submitted valid responses for the analysis of these parameters. Of these, the proportion of marital status were spread out with a decreasing frequency in the order: married 49% (138/280), single 32% (90/280), widowed 17% (48/280) and divorced 1% (4/280). The religious beliefs practiced by these participants were illustrated with an increasing frequency. This order is demonstrated in the order: Muslim 3% (6/227), Protestant 13% (29/227), Orthodox 85% (192/227). The variable orthodox was used to depict persons going to Catholic, Presbyterian and Apostolic churches which are thought to be mainstream churches.

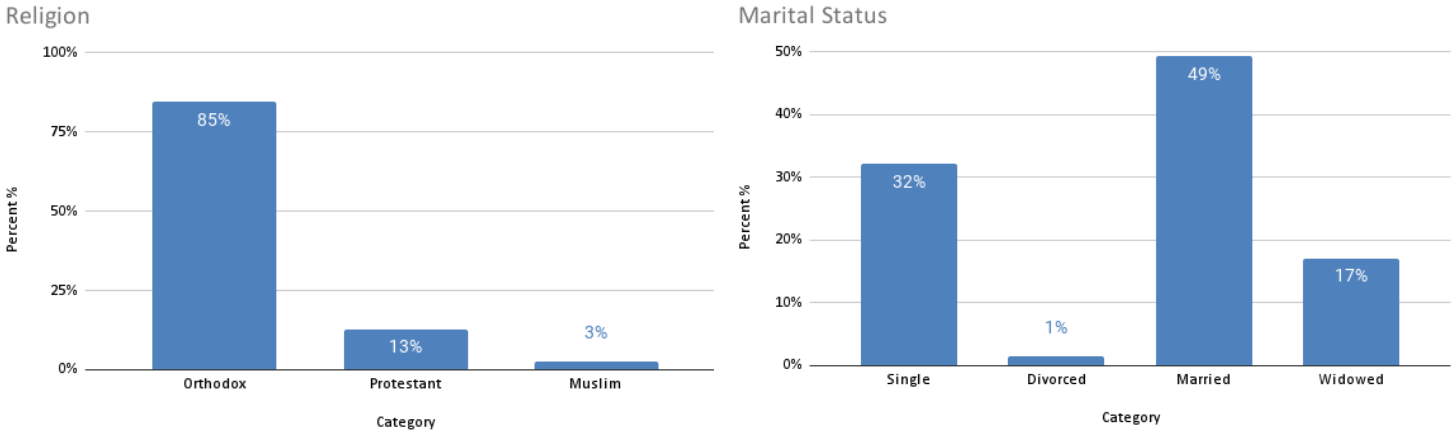


Figure 3: Religion and Marital Status

1.1.1.4 Region of Origin

To give us a better picture of the diversity of our participants we examined the different regions of the person who either reside or were in Bamenda and participated in our screening campaign. While examining this, it was found that the majority was from the Northwest region with a frequency of 86.5% (244/282).

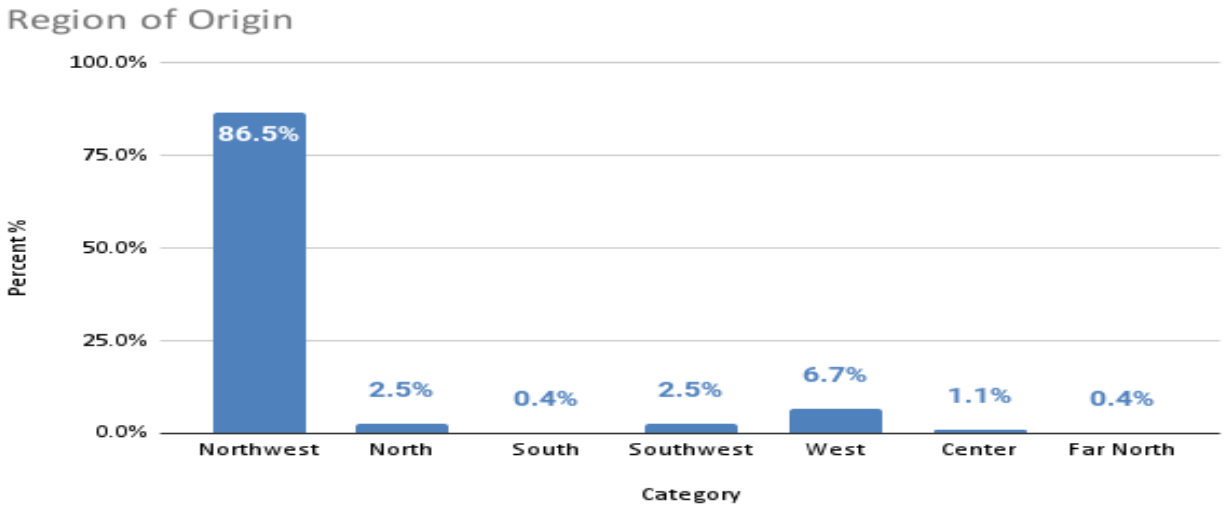


Figure 4: Region of Origin

1.1.1.5 Awareness of Participants about their risk status

Findings about the participant's knowledge on their health status showed that, 24% of our participants knew they were hypertensive and 76% stating they were unaffected by the aliment. Added to that, there was a similar percentage to represent the proportion of our participants with family history. Recorded analysis shows 23 to 24% of our participants had a history of diabetes and hypertension respectively.

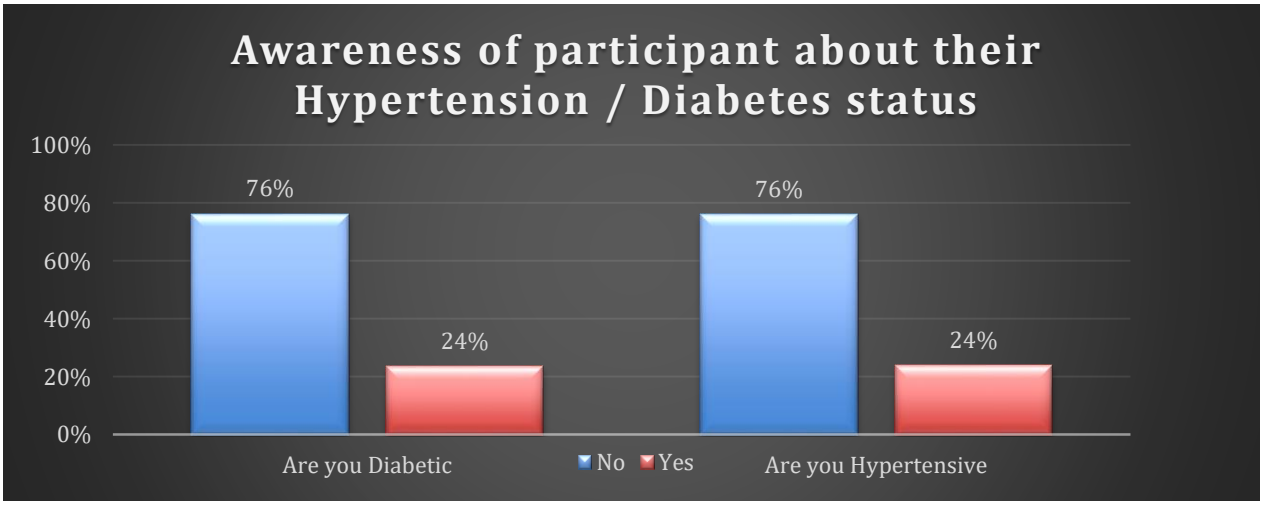


Figure 5: Awareness on their risk status

1.1.2 Knowledge on Chronic Kidney Disease

The second part of our questionnaire examined the knowledge of our participants with 15 questions that cut across knowledge on what CKD is, its risk factors, diagnosis, treatment and prevention. 67% (188/281) of our participants said they had heard of CKD and 33% (93/281) had never heard of it. While evaluating the knowledge of the participants on what kidney disease actually is, it was observed that 13% percent of the population had never heard of CKD but, had the correct answer to what CKD was about as such, this response was removed and counted as "guess work." Instinctively, 64.1% (175/273) of our participants had the right idea about what kidney is. Factoring in the number of persons who had the right answer due to "guess work" giving an adjusted frequency of correct response as; 58.8% (140/238) with 0.4% (1/238) said it doesn't exist.

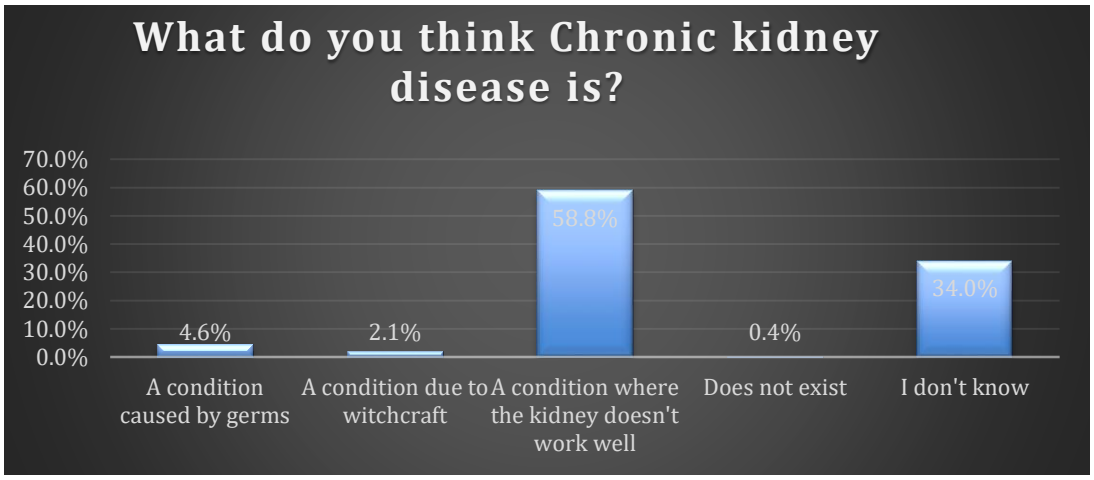


Figure 6: What do you think chronic kidney disease is?

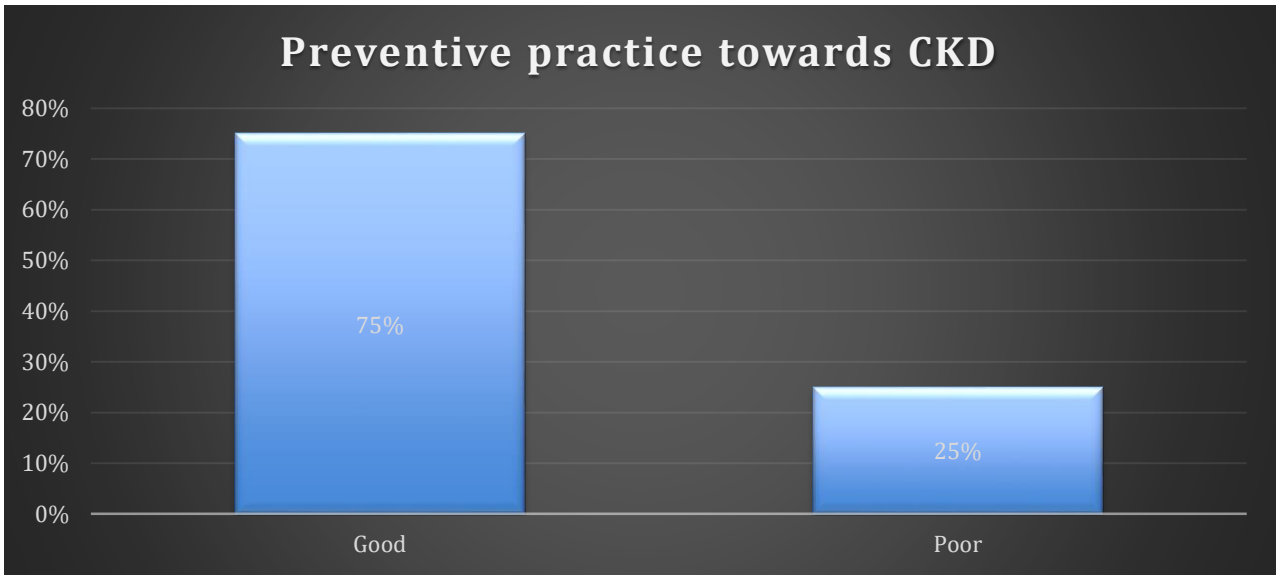
In order to develop the grading system of participants knowledge, where correct responses were considered as 1, incorrect recorded as -1 and persons with no idea considered as 0. In total there were 3 questions assessing knowledge on risk factors, diagnosis and treatment of CKD. Each of the sections was then put to have an overall score. Analysis reveals that a greater part of the population had a poor knowledge on CKD risk factors (55%), Diagnosis (62%) and Treatment (60%). The reverse was seen when knowledge on prevention of CKD was assessed with a frequency of 60% representing participants with basic knowledge on prevention.

Table 1: Knowledge on Chronic Kidney disease

Knowledge on Chronic Kidney disease			
	Categories	**Frequency**	**Percentage**
Knowledge on Risk Factor	Good	130	45%
	Poor	158	55%
	Total	288	100%
Knowledge on Diagnosis	Good	109	38%
	Poor	179	62%
	Total	288	100%
Knowledge on Treatment	Good	115	40%
	Poor	173	60%
	Total	288	100%
Knowledge on Prevention	Good	172	60%
	Poor	116	40%
	Total	288	100%

1.1.3 Practice towards preventing Chronic Kidney disease

A series of 12 questions were used to evaluate the practice of our test population in protecting their kidney. These test were done using a likert scale; Not at all (0), Sometime (1), Often (2) and Always (3). Based on the responses of the participants, their responses were summed up and only participants with scores greater than or equal to 18/36 were considered to have good practice. Using these guidelines, Majority (75%, 216/288), had good preventive practice.

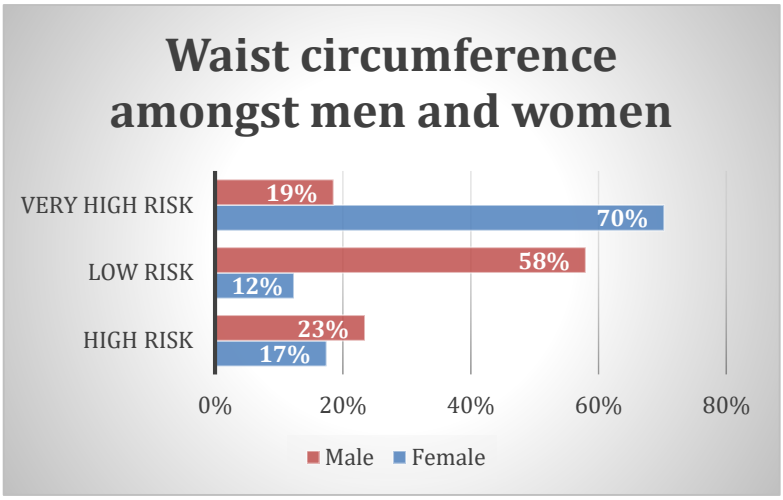


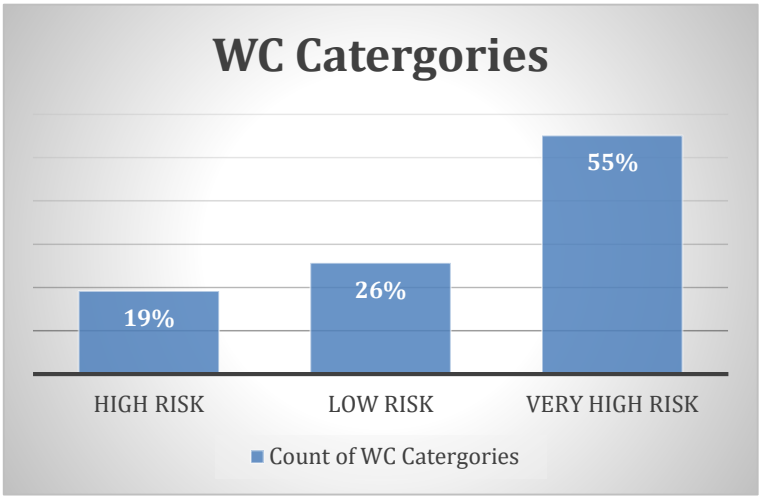
Questions	Always	Not at all	Often	Sometimes
I eat a balance diet	77 (33%)	18 (8%)	39 (17%)	99 (42%)
Do you exercise regularly	51 (22%)	44 (19%)	40 (17%)	97 (42%)
Do you control your alcohol intake	135 (58%)	24 (10%)	29 (12%)	46 (20%)
Do you watch and control your weight	69 (30%)	54 (23%)	33 (14%)	75 (32%)
Do you regularly check your Blood Pressure	56 (24%)	68 (29%)	26 (11%)	83 (36%)
Do you take traditional medication without Doctor's recommendation when ill	64 (27%)	53 (23%)	23 (10%)	93 (40%)
Do you follow your treatments as prescribed by the Doctor	151 (66%)	12 (5%)	41 (18%)	26 (11%)
Do you avoid the meals/items the Doctor advised you to	119 (52%)	21 (9%)	29 (13%)	58 (26%)
Do you respect and go for follow up rendezvous that Doctors give you	135 (59%)	19 (8%)	27 (12%)	49 (21%)
Do you regularly check your blood sugar	41 (17%)	85 (34%)	23 (9%)	98 (40%)
Do you smoke	5 (2%)	218 (95%)	3 (1%)	4 (2%)
When I have a headache or fever, I take paracetamol(NSAIDS) without the Doctors consent	87 (38%)	43 (18%)	24 (10%)	78 (34%

1.1.4 Waist Circumference

We had a minimum and maximum value of 44 and 177 respectively, with a mean of 47.28 ± 15.13 cm. Waist circumference below was considered as ‘low risk’, ‘high risk’, ‘very high’ for men with values as 94cm (37in), 94–102cm (37-40in) more than 102cm (40in). As for women, waist circumference of values below 80cm (31.5in), between 80–88cm (31.5-34.6in) and more than 88cm (34.6in) were considered as low risk, high risk and very high risk. Following these guidelines, our data revealed that the most men fell under

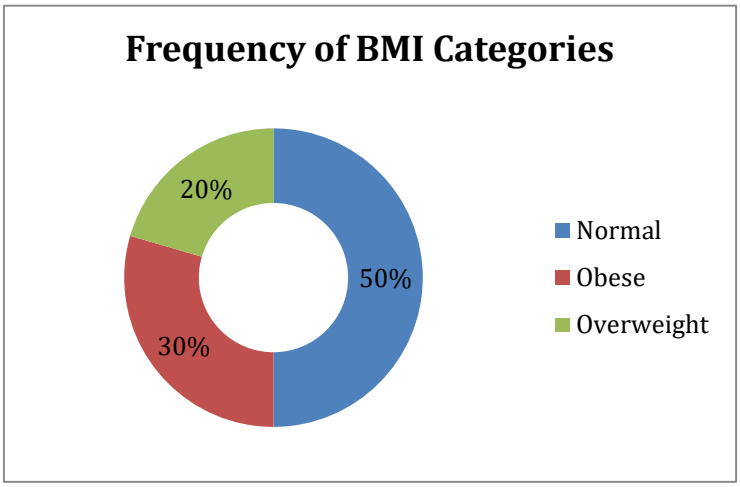
the category of low risk (58%, 47/81) while majority of the women were under the category of very high risk (70%, 137/195).

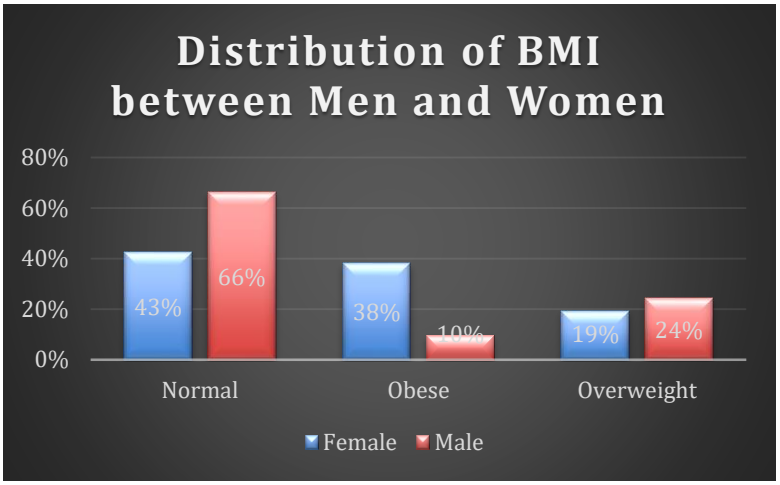




1.1.5 Body Mass Index

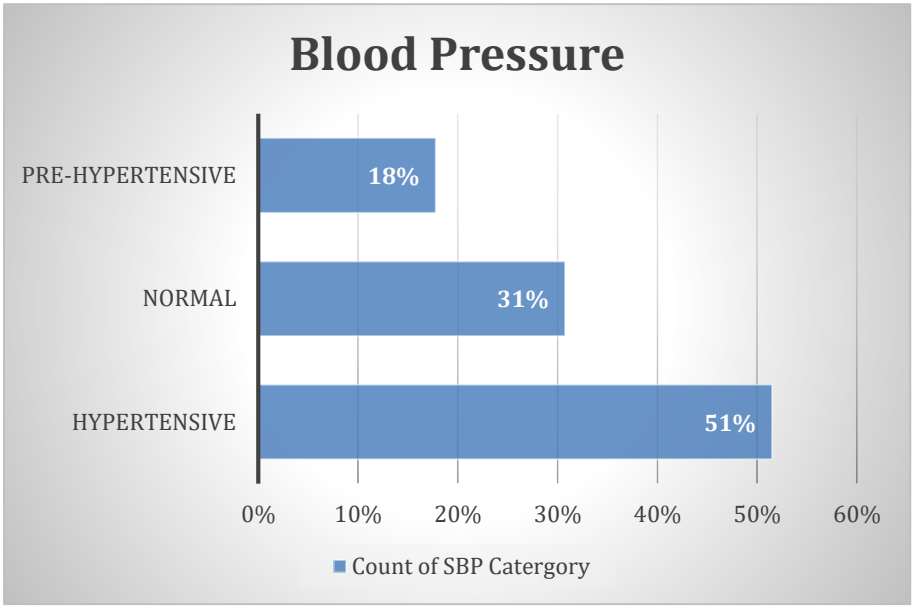
Our data gave a minimum and maximum of 14 and 43, with mean BMI of 26.74 ± 5.76 kg/m2. Our participants were classified into Normal weight (<25 Kg/m2), overweight (25 – 29.9 Kg/m2) and Obese (>30 Kg/m2). Using these guidelines, 50% of our participants were normal weight with 20% overweight and 30% obese. In examining the BMI distribution amongst men and women, women had the highest percentage of obese (38%, 77/202) as compared to men (10%, 8/83)





1.1.6 Systolic Blood Pressure

The systolic blood pressure of 271 participants was examined given a mean value of 137 ± 76. Because this was a random campaign done in the community, we classified them in two categories that would factor in for stressors/errors that may affect their blood pressure. As such they were classified into three groups; normal (<120 mmHg), prehypertension (121 – 139 mmHg) and hypertension (>140 mmHg). Following analysis, it indicated that 51% (139/270), 18% (48/270) and 31% (83/270) were hypertensive, pre-hypertensive and normal respectively.



1.1.6.1 Effect of family on the development of hypertension

An approximate of 270 participants reporting their knowledge of their family history of hypertension. Out of the 118 that reported with a family history of hypertension, 72% had also developed hypertension. Similarly, 69% of the persons that indicated no history of hypertension had developed hypertension.

Do you have a family history of Hypertension? * Hypertension risk Cross-tabulation

		Range		Total
		Risk of Hypertension	Normal	
11. Do you have a family history of Hypertension?		14	2	16
	No	108	48	156
	Yes	85	33	118
Total		207	83	290

In order to evaluate the statistical relationship between these two variables, we ran a chi square test of association using a confidence interval of $p<0.05$. Following this analysis it was observed that there was no significant relationship between family history and the development of hypertension with chi square value of 2.41 and a significance of $p = 0.299$.

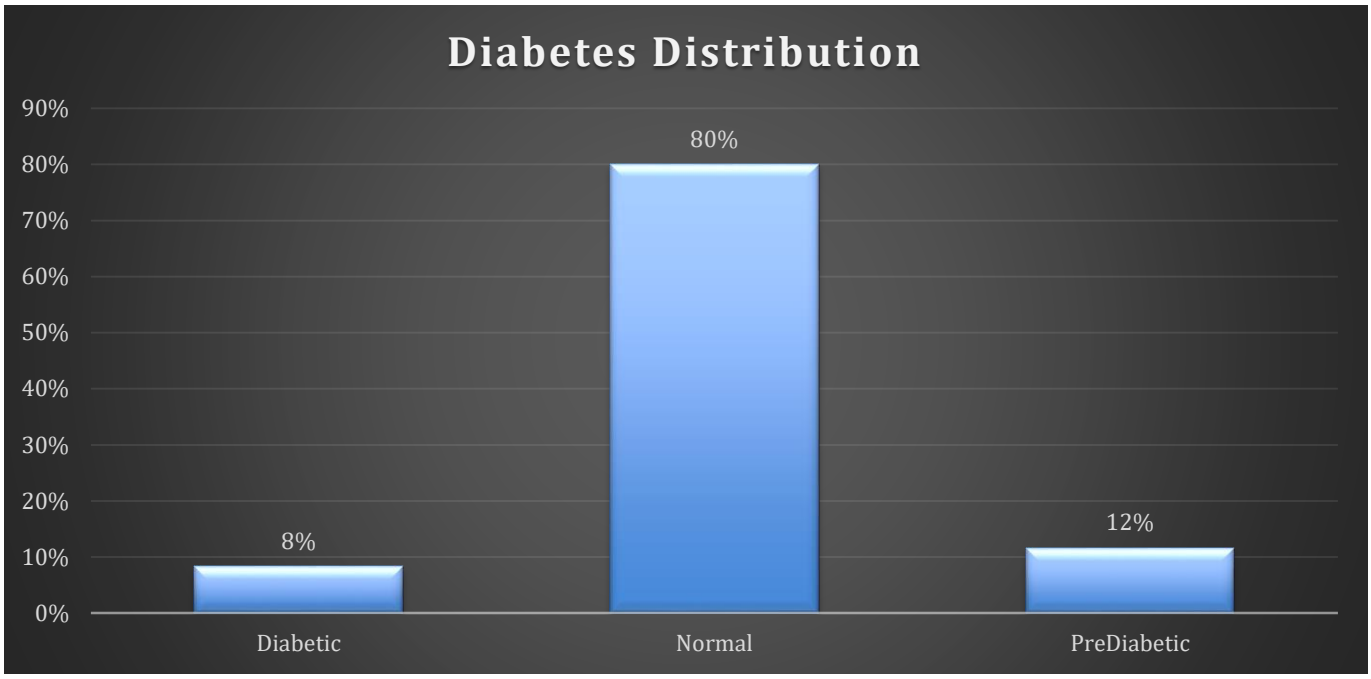
Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2.413[a]	2	.299
Likelihood Ratio	2.760	2	.252
N of Valid Cases	290		

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 4.58.

1.1.7 Blood Sugar

A total of 275 participants had their blood sugar levels tested. Amongst these 122 persons (44%) were considered for Random blood sugar (RBS) and 153 persons (56%) for Fasting blood sugar (FBS). Analysis of the response portrays a minimum and maximum value of 74 mg/dl and 366 mg/dl respectively for RBS and 58 mg/dl and 355 mg/dl respectively for FBS. The mean and standard deviation for RBS and FBS was given as 114 ± 37 mg/dl and 99 ± 31 mg/dl. Different ranges were utilized to best describe the status of the participants. Participants with RBS; less than 200 mg/dl were considered normal and those with values greater than or equal to 200 were indicative of diabetes. For participants who were considered for FBS, values less than 100 mg/dl, 100 – 126 mg/dl and greater than 126 mg/dl were indicative of normal blood sugar, pre-diabetic and diabetic respectively. In light of this, we had a distribution of 8% (22/266) as diabetics and 12% (31/266) as pre-diabetics.



1.1.7.1 Relationship between family history and development of diabetes

We received 271 entries on family history of diabetes. These were used to evaluate the possibility that someone with a family history of diabetes can develop diabetes. Following this, it was found that 32% of those with family history of diabetes were at risk of developing diabetes. While those without family history, 27% were at risk of developing diabetes.

Do you have a family history of Diabetes * markers Crosstabulation

Count

		markers		Total
		Risk of Diabetes	Normal	
13. Do you have a family history of Diabetes		9	6	15
	No	54	145	199
	Yes	25	51	76
Total		88	202	290

This association was further examined using a chi square test for association done at a 95% CI. Analysis revealed a significant association with a chi square of 7.44 and p value of 0.024.

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	7.444[a]	2	.024
Likelihood Ratio	6.835	2	.033
N of Valid Cases	290		

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 4.55.

1.1.8 Relationship between Knowledge and practice

The relationship between having good knowledge and good practice. The values were cross-tabulated and association calculated using chi square test. The cross calculation revealed that there was an 81% agreement between good knowledge and good practice. A chi-square test of association was done between knowledge and practice. Following the analysis, there was a significant chi square association between having knowledge and doing good practice. It gave a chi square value of 8.12 with an asymptotic significance (2-sided) of 0.017. Further analysis revealed a 23.4% positive correlation with a significance of 0.000. Observing this correlation, a linear regression analysis was done which shows a significant ANOVA test confirming that knowledge indeed has an effect on the practice. This was further confirmed by coefficient with a significance of 0.000.

Effect of Knowledge on Practice					Regression				
	Chi Square		Correlation			**ANOVA**		**Coefficient**	
	Chi-Square	Sig	R	Sig	R-square	F-value	Sig	t	Sig
	8.102	0.017	0.234	0.000	0.055	16.49	0.000	4.062	0.000

Discussion and Conclusion

This study was done to understand the knowledge, practice, and risk status of the population of Bamenda. Current findings show that mostly females (71%) were part of our screening and sensitization campaign. This can be backed by the fact that men consistently underutilized preventive health care services compared to women. Looking at our data, it revealed that 23% of the population were made of the elderly population which can be explained by the fact that most aged and elderly persons are more conscious about their health than the young. In examining the knowledge of our participants, it was noticed that many lack basic knowledge on the risk factors of kidney disease, its diagnosis and treatment. Although we have a marginal percentage of our population having basic knowledge on prevention habits, it is sure that more efforts have to be put into place to promote more knowledge of chronic kidney disease and other Non-communicable diseases in the community. This is especially important as we see the strong statistical relationship between having good knowledge of chronic kidney disease and carrying our good practice. As the adage goes "**if they don't know what's right, chances are they won't do what's right.**" Although there was an impressive 75% of the population who appeared to have good practice, it is still not very clear if they actually reported their real life actions or had answers influenced by their knowledge of what is right. As of the analysis it was found that 30% of our tested population were obese with women making up the majority of that obese population. This brings to light the disparity in the risk of obesity amongst gender and points to the need for women to become more involved in exercise so as to burn excessive fat, thereby preventing the complications due to obesity. In addition, the blood pressure of individuals was evaluated and it revealed that 51% of our population presented as hypertensive and 18% pre-hypertensive; giving us an estimated risk population for hypertension of 69%. However, these percentages cannot be used as a representation of the Bamenda or Cameroon's prevalence of hypertension as it may be skewed by factors such as age and gender which have not been corrected. Also, we evaluated the effect of family history as a risk factor of developing hypertension and found that there was no significant association. To continue, analysis on the risk of being diabetic in our population was looked at and it was found that 8% and 12% presented as diabetic and pre-diabetic respectively. The relationship between the effect of family history and the risk of developing diabetes revealed a significant relationship.

All in all, it is worth noting that this report presents an indicative risk of developing the above risk factors of kidney disease as these were a screening activity and not a diagnostic activity. Indicating the possibility of false positives and false negatives. Considering that good knowledge drives good practice, it is recommended that more emphasis are laid on promoting knowledge on the risk factors of kidney disease and non-communicable disease. In order to drive positive action and lifestyle modification.

Limitations

- Crises in the North West Region which made people to be afraid of coming out in their numbers for the campaign
- Screenings was done only ones at various locations which was disadvantageous to those who could not make it that day
- Inadequate Publicity means
- Inconsistent Volunteers
- Lack of enough personals and/or volunteers

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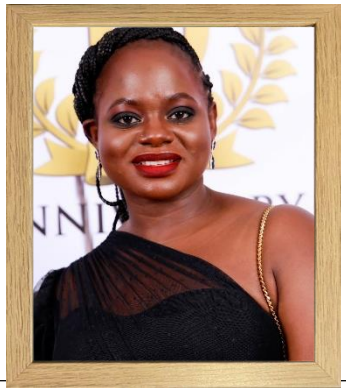
Bamenda Kidney Health Campaign 2022 Team

Iya Bekondo Granatella
CEO/Founder The Iya Foundation



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Head of Research & Screenings

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Bernice Che
Volunteer

Christain N. Fritz
Volunteer

Mbolle Jabert
Volunteer

"Let us abstain from everything that hampers the wellbeing of our body systems especially our kidneys, and no one should feel alone or without support when it comes to their Health Kidney health is for everyone including you"

Mbolle Jabert

"We all have a responsibility to educate the community about kidney disease, its causes, and ways of preventing as well as managing it The joy of serving the community through humanitarian works cannot be explained as it comes with great satisfaction

Yes you can join the fight to reduce the number of deaths associated with kidney disease by playing your path as a kidney health ambassader"

Bernice Che

PARTNERS

ST. BLAISE CATHOLIC HOSPITAL BIG MANKON - BAMENDA SINCE 2005

MINSANTE
Ministère de la Santé Publique

NextGEN
Institute

COMPASUDA
TOGETHER WE BUILD

LIMONA FOUNDATION INTERNATIONAL
DIAGNOSE - TREAT - HEAL

NTAMBANG BROTHERS CIG

The founder of the IYA Foundation Mme IYA Bekondo was diagnosed with kidney disease at the age of seven, and subsequently lost her kidneys ten years later. Through the support and charitable effort of her family, friends, and her community, Iya was able to get a lifesaving renal transplant donated by her mother. Upon receipt of her transplant, Iya has made a commitment to helping patients in the low and middle income countries who suffer from end stage renal disease, as well as educate, inform, and create awareness about chronic kidney disease. The Kidney Resource Center (KRC), powered by The Iya Foundation, is a center that aims to partner with dialysis clinics across the world to fight CKD from a preventative angle by significantly increasing access to information on kidney health and its related issues to communities at large. The KRC stands to Advocate, Encourage, Educate, Empower, and Equip patients, their caregivers, healthcare providers, policy makers, and interested individuals to become kidney health educators and advocates.

Our Mission: The Iya Foundation Inc. a New Jersey Non-profit Organization aims to save lives through kidney health education, awareness, early detection, prevention and research. The Foundation also raises funds to support “in need” kidney failure patients and dialysis clinics.

Our Vision: To see communities have complete access to healthcare, wellness for kidney failure patients and delay of disease progression in chronic kidney disease patients.

What do we aim to achieve?

1. Provide access to dialysis treatments and care.
2. Fight food insecurity in dialysis patients.
3. Community health programs for awareness and early detection.
4. Chronic kidney disease and kidney failure patient education and empowerment.
5. Social and mass media sensitization on kidney health and organ donation.

Sphere of Action

a. Identify high risked persons in the community and are refer for follow-up and management of risk factors.
b. Community engagement and sensitization on healthy practices to carter for their kidneys.
c. Organize patient support group session with patients that help patients to share their burden and help each and every member cope with the overall burden of the disease.
d. Organize Quarterly food security program that supports patients with basic nutritional needs.
e. Financially assist needy/vulnerable patients with necessities for dialysis.

We remain open to partnership and collaboration with other organizations across the world.

Our Projects for 2023

GENESIS FUND

Pay dialysis fee for kidney patients

To Donate/Support or Partner With Us

CONTACT

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"After 16 years with her transplanted kidney from her mother Rose Mesonge Alobwede epse Bekondo, Iya had to go back on dialysis and awaits another life-saving kidney transplant".

The Iya Foundation Kidney Resource Center

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My Kidney My Life Foundation