



Factors Influencing Drug Compliance Among Hypertensive Outpatients in Selected State Hospitals in Lagos, Nigeria

ABSTRACT

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Competing Interests.

The authors declare no competing interests.

The research aimed to determine the level of drug compliance, factors responsible for drug compliance, healthcare provider enabling factors toward drug compliance, and healthcare institutional-based environmental factors influencing drug compliance among hypertensive patients attending cardiac outpatient clinics in Lagos State, Nigeria. The study applied socio-ecological theory. Respondents were patients with hypertension in cardiac outpatient clinics of selected three secondary hospitals. Three hundred and forty (340) respondents were selected from January- March 2023 to participate in the study. A validated questionnaire with Cronbach's alpha coefficients and was self-administered. Pearson's correlation was used to compare the relationship between the variables such as patient-related factors (age, income,) healthcare provider factors (effective communication), institutional-based factors (long waiting time) and drug compliance. Data analysis was done at $p < 0.05$. Result show Mean age of 56.6 years, moderate level of drug compliance was observed. There was a positive significant relationship between patient-related factors and drug compliance ($r = 0.025$, $p < 0.05$), negative significant relationship between healthcare provider factors and drug compliance ($r = -0.032$, $p > 0.05$), and between healthcare institutional-based factors and drug compliance ($r = 0.006$, $p > 0.05$). Forgetfulness 211(62.2%), use of herbal medicine 181(53.2%), lack of funds 214(62.2%), were some of the patient related factors for sub-optimal compliance. Respondents had moderate level of drug compliance which was majorly due to patient-related factors such as forgetfulness, lack of funds, and use of herbal medicine.

Keywords: Anti-hypertension therapy, Cardiac-outpatient clinic, Healthcare-provider, Healthcare-institutional, Patient-related factor

1. INTRODUCTION

Hypertension is globally regarded as a major public health issue and with significant mortality rate due to its high occurrence and have their hypertension under control. There being a major risk factor for cardiovascular diseases and other complications, making it an important area of research. (Mozaffarim, 2014; WHO 2021). WHO (2022) reported that nearly 1 out of 2 adults in the United States have hypertension (116 million). The World Health Organization estimates that 5 adults with hypertension in the United States are on lifestyle modifications recommendation Africa with about 46% of adults aged 25 years

The hypertension rate is low in West Africa but higher in East Africa. Prevalence ranged from 15% in West Africa to 25% in East Africa and between 42% in North Africa and 54% in South Africa. Hypertension has become a major threat to the well-being of people in sub-Saharan Africa. The high levels of blood pressure have shifted from high-income countries (HIC) to low and middle-income countries (LMIC), including Nigeria as a result of the economic recession (Ferdinal, 2020). The prevalence of hypertension increased by 7.7% in

low-and-middle-income countries within the space of one decade (2000 to 2010) as against the reduction in hypertension among the dwellers of high-income countries (Mills, 2016).

The concept of compliance is variously used interchangeably with other words such as obedience, adherence and conformance. Medication compliance is of various levels ranging from high, middle, and low levels when Morisky Medication Adherence (MMA) rating is used in patient assessment (Laghousi, et al 2021). Also, patients' compliance to medication varies from one patient to another, such as compliance to the time of medication, dosage, duration, interval, and route of administration, to mention but a few. For hypertension to be controlled, it requires effective compliance to the medication regime.

According to WHO (2022), compliance consists of three components, namely, acceptance of medication prescribed, adhering to the prescribed medications and continuity in using the prescribed medication. Despite the growing awareness of hypertension, coupled with the advancement of its pharmacological management, some patients are still experiencing uncontrollable hypertension,

which affects their health, family, healthcare sectors, society as well as their functionality as human beings. Poor medication adherence is one of the foremost causes of failure to achieve hypertension control (Kaptoge, et al., 2019). In spite of the fact that hypertension is manageable, Nigerians are observed to have a worse prognosis from hypertension, poor blood pressure control, and an increased risk of complications arising from poor adherence to antihypertensive medication (Bamidele, et al. 2020).

Adherence or compliance to medical advice is a complex and self-motivated health attractive behavior is what patient needs to keep to healthcare giver's advice, keep to regular clinic appointments, obtaining and ingest medications. Drug compliance for some time has remained a major global health challenge in managing chronic diseases, especially among hypertensive patients (WHO 2021).

There are many factors influencing optimal compliance in patients with hypertension. These include patient-related factors such as age, lack of funds, educational status, knowledge about hypertension and duration of hypertension. There is also healthcare provider factors such as nurses and doctors' attitude, doctors hand writing and pharmacist inexplicable explanation. Besides, there is health institutional-based factors which include long waiting time and inaccessibility to healthcare centers.

Against the above background, the main objectives of the study are to investigate the factors influencing drug compliance among hypertensive patients attending cardiac

1.1. Research Questions

1. What are the compliance levels of hypertensive patients to drug regime in selected state hospitals in Lagos State?
2. What are the patients-related factors affecting drug compliance among hypertensive patients in selected state hospitals in Lagos State?
3. What are the healthcare-giver related factors determining drug compliance among hypertensive patients in selected state hospitals in Lagos State?
4. What are the health institutional-based factors responsible for drug compliance among hypertensive patients in selected state hospitals in Lagos State?

1.2. Hypotheses

H₀₁: There is no significant association between patients-related factors and drug compliance among hypertensive patients.

H₀₂: There is no association between healthcare providers enabling factors and drug compliance among hypertensive patients.

H₀₃: There is no association between healthcare Institutional environmental factors and drug compliance among hypertensive patients.

2. Methodology

2.1. Study design and setting

It is a descriptive survey research carried out in the cardiac outpatient clinics of the three selected Lagos state-owned secondary healthcare facilities that have the highest record of referral of hypertensive patients from Primary Health Centers. These are: Ifako-Ijaiye General Hospital (IIGH) in Lagos West Senatorial District, Somolu General Hospital

(SGH) representing Lagos East Senatorial District, and Lagos Island General Hospital (LIGH) representing Lagos Central Senatorial District.

2.2. Participants

The study population hypertensive patients aged 18 years and 79years who have been on antihypertensive therapy for at least six months and are accessing care at any of the three selected state hospitals. A total of 340 (IIGH 114, SGH 87 and LIGH 139) respondents were selected out of a monthly average of 1370 (IIGH 463, SGH 347, and LIGH 560) who attended cardiac outpatients clinic from January to March 2023. Taro Yamane formula and multi-stage sampling technique were used in selecting the eligible respondents.

2.3. Study procedure

The validity of the instrument was carried out to ensure that it measured up to the variables under investigation. It was determined by face and content validity and the content was reviewed by research supervisor and other experts for clarity and comprehension to ensure it can measure the objectives of the research. The reliability of the instrument was tested by using pre-testing method. The questionnaire was administered to thirty-four (34) patients, a replica of the study population that is 10% of the sample size who are attending consultant cardiac out patient clinic in Orile-Agege General Hospital, Lagos State. These numbers are not part of the research respondents but are in a similar setting like those that participated in the actual study. A cronbach alpha coefficient score of ≥ 0.7 was accepted as

reliable enough for the instrument to be utilized for the main study.

The questionnaire consists of five sections. Section A questions are based on socio-demography, section B assessed patients' level of compliance to antihypertensive medication (10 items) and section C assesses patients-related factors (12 items), while section D evaluated healthcare provider factors (8 items) and section E assessed healthcare institutional-based factors (8 items). The protocol for Morisky-Green test compliance to hypertension was used to assess respondents' level of compliance to antihypertensive therapy (Laghousi, et al., 2021). The answering option of Strongly Disagree, Disagree, Agree and Strongly Agree. The scale of 10-40 points rating was designed to determine level of medication compliance in patients. Level of compliance was based on (10) questions: strongly disagree was allocated a mark of 1, disagree 2, Agree 3, and Strongly Agree 4. The respondents that scored 10-20 were adjudged to have low level of compliance while those that scored between 21-30 were adjudged to have moderate level of compliance while respondents that scored 31-40 were adjudged to have high level of drug compliance.

The data were analyzed using Statistical Package for Social Science (SPSS) Version 25.0, descriptive statistics, percentages and frequency in addition to Pearson's Correlation were utilized to test the hypotheses of the study at 0.05 level of significant and the results are presented in tables.

3. Results

Result from table 1 shows the demographic characteristics of the respondents. The mean age of the respondents was 56.6 (50-59 categories). Female participants 233 (68.5%) were more than male 107 (31.5%); majority 154 (45.4%) were married. Few of the respondents 88 (25.9%) were illiterate, while about 108 (31.7%) had tertiary education. Majority 140 (41.2%) of the respondents were self-employed and 160 (47%) of the respondents earn N60,000 or less income per month. The result also revealed that two-third of the respondents spend above N6000 Naira to procure their drug monthly, only 55 (16.2%) were placed on a single medication per day while the remaining participants were on 2-4 medication daily. One hundred and eighteen 118 (34.8%) were diagnosed with hypertension, one hundred and thirty-four of the respondents had been on medication between the space of 5 -10 years ago. 151 (43.4%), 35(11.1%) of the respondents had diabetes and other diseases respectively.

The result in table 2b presents three levels of drug compliance: Low-level compliance to medication (value ranging from 10-40). Low level of drug compliance <20, moderate level of drug compliance 20-30 and high level of drug compliance >30. 166 (48.7%) have moderate level of drug compliance, 126,36.6% have low level of drug compliance and 48 patient (14.1%) reported high level of drug compliance.

Table 1. Socio-demographic characteristics of respondents (N-340)

VARIABLES	CATEGORIES	FREQUEN-	PERCENT-
Age	18-29	18	5.8%
	30-39	20	5.9%
	40-49	40	11.8%
	50-59	146	42.9
	60-69	66	19.4
	70-79	50	14.7
Gender	Male	107	31.5
	Female	233	68.5
Education	Illiterate	88	25.9
	Primary education	68	20
	Secondary education	76	22.4
	Tertiary education	108	31.7
Marital status	Unmarried	40	11.7
	Married	154	45.4
	Widow/widower	80	23.5
	Divorce	66	19.4
Occupation	Business	140	41.2
	Retired	75	22.1
	Civil/ public servant	70	20.5
	Others	55	16.2
Monthly income	<30,000	65	19.1
	30-60,000	95	27.9
	60-100.000	180	53.0
Number of pills per day	One	55	16.2
	Two	95	27.9
	Three	120	35.3
	Four	70	20.6
Duration of hypertension	<5years	77	22.6
	5-10 years	118	34.8
	11-15 years	60	17.6
	>15years	85	25.0
Duration of treatment	<5years	70	20.6
	5-10years	134	39.4
	11-15years	88	25.9
	>15years	48	14.1

Results in table 3 show that above average 181 medication. 172(50.6%), 230(67.9%) of the (53.2%) of the participants prefer the use of respondents agreed that fear of side effects and herbs leading to their non-compliance to too many drugs were the reasons for prescribed medication. 211(62.2%) of the sub-optimal compliance while religion and respondents claimed that lack of funds and family support account for 246 (72.8%), 213 forgetfulness were the factors responsible for (62.4%) of the respondents' compliance level their non-compliance to the prescribed

Table 2a: Compliance levels of hypertensive patients to drug regime in selected state hospitals in Lagos state

S/ N	ITEMS	SA F (%)	A F (%)	D F (%)	SD F (%)	M	SD
1	I feel I should take my blood pressure medication according to the doctor's prescription	123 (36.2%)	63 (18.5%)	64 (18.8%)	90 (26.5%)	2.81	1.309
2	I do not always take my medicines because I always	124 (36.2%)	62 (18.5%)	64 (18.8%)	90 (26.5%)	2.28	1.108
3	I do not always take my medicines because I get tired	88 (25.9%)	66 (19.4%)	93 (27.6%)	92 (27.1%)	2.37	1.174
4	There is no need to go for check-up when you do not	80 (23.5%)	70 (20.6%)	102 (30.0%)	88 (25.9%)	2.32	1.095
5	I do not take some of the drugs because I do not need them	75 (22.1%)	69 (20.1%)	99 (29.2%)	97 (28.6%)	2.19	1.090
6	It is always good to take your medicine only when your	80 (23.5%)	70 (20.6%)	97 (28.6%)	93 (27.6%)	2.29	1.119
7	It is good to add some herbal medicine to the one the doc-	75 (22.1%)	66 (19.4%)	83 (24.4%)	116 (34.1%)	2.05	1.152
8	The period I take my blood pressure medication is too long so I have stopped taking it	77 (22.6%)	68 (20%)	107 (31.5%)	88 (25.9%)	2.27	1.068
9	Inability to swallow drugs	71 (20.8%)	62 (18.2%)	99 (29.2%)	108 (31.7%)	2.03	1.071
10	Busy schedule	69 (20.1%)	64 (18.8%)	110 (32.4%)	97 (28.6%)	2.08	1.016

Table 2b: Summary of compliance levels of hypertensive patients to drug regime

Scale	Score	Frequency	Percentage (%) N-340
Low	50% (<20)	126	36.6%
Moderate	75% (20-30)	166	48.7%
High	100% (>30)	48	14.1%

Table 3: Patients-related factors toward drug compliance among hypertensive patients in selected state hospitals in Lagos state

S/ N	Variables	Yes	No	M	SD
1	Do you prefer herbs to lower your high blood pressure?	181 (53.2%)	159 (46.8%)	1.30	0.460
2	Do you have enough income to procure the medication?	129 (37.8%)	211 (62.2%)	1.53	0.501
3	Do you tend to forget your medication?	211 (62.2%)	129 (37.8%)	1.62	0.487
4	Are you afraid of the side effects?	172 (50.6%)	168 (49.4%)	1.51	0.502
5	Are the medication too many?	230 (67.9%)	110 (32.1%)	1.68	0.468
6	Do you have health insurance scheme?	153 (44.9%)	187 (55.1%)	1.45	0.499
7	Do you smoke cigarette?	87 (25.6%)	253 (74.4%)	1.26	0.438
8	Do you receive support from your family members?	213 (62.8%)	127 (37.2%)	1.63	0.485
9	Does your religion support taking drugs?	246 (72.4%)	94 (27.6%)	1.72	0.442
10	Does your work permit you to attend clinic and take your drug?	251 (73.7%)	89 (26.3%)	1.74	0.442
11	Do you have smokers around you	192 (56.4%)	148 (43.6%)	1.56	0.497

Table 4: Correlation between the patients-related factors and drug compliance among hypertensive patients.

		Patient Factor	Drug Compliance
Patient Factor	Pearson Correlation	1	.179*
	Sig. (2-tailed)		0.025
Drug Compliance	N	340	340
	Pearson Correlation	.179*	1
	Sig. (2-tailed)	0.025	
	N	340	340

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

Upon analysing Tables 3 & 4, which display use of herbs medication, number of several variables of patient-related factors and co-morbidity, friends and family contribute to drug compliance among hypertensive patients' level of drug compliance. This is in population, the following comments were agreement with the study conducted by Adisa, made. et al.,(2018) in a medical out-patient clinic of

The result shows that a significant positive Usman Danfodiyo University Teaching relationship exists between the patients-related Hospital in Sokoto State in which factors and drug compliance among non-compliance were linked to a combination hypertensive patients ($r=.025$; $p<0.05$). Hence, of patients' factors and they include the null hypothesis 1 is therefore rejected. This forgetfulness 35.5%, doses omission 32.2% and implies that age, level of education, income, the cost of treatment which may be more than forgetfulness, number of pills, occupation, the the patients and family financial capability.

Table 5: Healthcare provider-related factors influencing drug compliance among hypertensive patients in selected state hospitals in Lagos state

S/ N	Variables	Yes	No	M	SD
1	My healthcare provider educates me on the nature of the illness	277 (81.4%)	63(18.6%)	1.81	0.390
2	I understand the prescribed drugs	294 (86.5%)	46(13.5%)	1.87	0.342
3	I can read the doctor's hand writing	133 (39.1%)	207(60.9%)	1.77	0.423
4	Nurses attitudes are pleasant	286(84%)	54(16.0%)	1.84	0.368
5	Pharmacist explains the drug clearly	294 (86.5%)	46(13.5%)	1.87	0.342
6	The healthcare giver listens patiently to my complaint	148 (43.6%)	192(56.4%)	1.85	0.362
7	The healthcare providers (Nurses, Doctors and Pharmacies) communicates well with me	152 (44.8%)	188(55.2%)	1.85	0.356
8	The healthcare providers are well-experienced	281 (82.7%)	59(17.3%)	1.83	0.380

Results in Table 5 shows that 277(81.4%) Respondents, 192(56.4%) claimed that received health education about their illness healthcare providers did not patiently listen to and 294(86.5%) understand the prescribed them, 188(55.2%) confirmed poor drugs. Pleasant nurses' attitude and adequate communication gap. Almost two-third of the explanation by the pharmacists influenced the respondents agreed that the healthcare majority 286 (84%), 294(86.4%), respectively. providers were well experienced.

There is poor communication between the The results in tables 5 & 6 show that healthcare providers and the patients. significant relationship between healthcare

Table 6: Correlation between healthcare provider-related factors and drug compliance among hypertensive patients

		Healthcare Giver Factor	Drug Compliance
Health Care Giver Factor	Pearson Correlation	1	-0.032
	Sig. (2-tailed)		0.693
	N	340	340
Drug Compliance	Pearson Correlation	-0.032	1
	Sig. (2-tailed)	0.693	
	N	340	340

Table 7: Healthcare Institutional-based factors responsible for drug compliance among hypertensive patients in selected state hospitals in Lagos

S/N	Variables	Yes	No	M	SD
1	Lack of accessibility to healthcare centers	133(39.1%)	207(60.9%)	1.39	0.490
2	Long waiting time	168(49.4%)	172(50.6%)	1.49	0.502
3	Difficulty in getting prescribed medication	153(44.9%)	187(55.1%)	1.45	0.499
4	Unexcited when attending clinic	131(38.5%)	209(61.5%)	1.38	0.488
5	The health facility is conducive and neat	279(82.1%)	61(17.9%)	1.82	0.385
6	There are good public address systems	229(67.3%)	111(32.7%)	1.67	0.471
7	The hospital is well-equipped	259(76.3%)	81(23.7%)	1.76	0.427
8	Availability of suggestion boxes to lodge your complain	224(66.0%)	116(34.0%)	1.66	0.475

Table 8: Correlation between healthcare institutional factors and drug compliance among hypertensive patients

		Institutional Factor	Drug Compliance
Institutional Factor	Pearson Correlation	1	0.006
	Sig. (2-tailed)		0.943
	N	340	340
Drug Compliance	Pearson Correlation	0.006	1
	Sig. (2-tailed)	0.943	
	N	340	340

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

provider factors and drug compliance among knowledge of hypertension given by healthcare hypertensive patients did not exist, ($r = -.032$; workers and medication compliance. This $p > 0.05$), hence the null hypothesis two is not might be because patients received a lot of rejected. This indicates that health counselling information from various other sources apart did not have effect on patients' attitude. This is from medical workers.

supported by the study conducted in Medan Table 7 revealed that 'lack of accessibility' and City by Wahyuni, et, al., (2019) which stated 'long waiting time' were causes of the that there was no association between moderate level of drug compliance among the

the respondents as majority 207(60.9%), 172 (50.6%) were in agreement. Respondents, 279 (82.1%) also claimed that the health facility was conducive and neat. Also, upon examining table 7 & 8, the results revealed that significant positive relationship do not exist between healthcare institutional environmental factors and drug compliance among hypertensive patients, ($r=0.006$; $p>0.05$), hence null hypothesis three is not rejected. This implies that despite availability of conducive healthcare setting, the compliance level is still moderate.

4. Discussion

This study was carried out to investigate factors that influence drug compliance among hypertensive patients attending cardiac outpatient clinic in the three selected state hospitals in Lagos, Nigeria. The mean age was 56.6 years. This shows that hypertension is more common at this age range as indicated in table 1 above. This is similar to the study that evaluates the factors relating to treatment adherence among hypertensive patients at Taif Primary Healthcare centers, Saudi Arabia, which showed mean age of 55.7 years (Aloufi, et al.2022).

The level of drug compliance in this research was moderate (48.7%). However, this is lower compared to similar studies conducted at Babcock Teaching Hospital, Illisan 69% and Nepal 62.6%, (Bamidele, 2020; Lamichhane, 2022) but similar to the values reported at Uyo 45.1% (Ekanem, 2020). There are many reasons for the moderate level of compliance as recorded in this study. These include old age (respondents above 60years), low income, cost of the drug, level of education and number of

pill. Majority 140 (41.2%) of the respondents, were self-employed. Almost half, 156 (45.9%) participants had informal education, which indicates that the understanding of nature and complications of the disease is not understood correctly. Therefore, the reason why they are on that drug is not clear enough to them. The respondents at Illisan are of high socio-economic status with high level of education while 182(45.0%) respondents had stable jobs.

This study revealed that 36.6% of the respondents had poor level of compliance. There are factors responsible for this. Lack of funds is a major factor that causes poor compliance, this is further aggravated by the current economic recession, which is why some patients resorted to the use of herbal medication. Most of the antihypertensive drugs have some unbearable side effects such as decreased libido, which makes some patients not want to comply to their medication time. However, patients on too many pills find it difficult to comply while busy schedules at home or in the office often leads to irregularity in compliance to drug usage.

This is similar to the study conducted by Adisa (2018) in Sokoto, which identified forgetfulness, dosage omission, side effect and dislike for drugs as likely factors. However, few 14.1% of the respondents had high level of drug compliance. This study shows that 180(53%) earned above N60,000 Naira and that 108 (31.7%) had tertiary education. This indicates that respondents with higher education are more compliant to drug usage.

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The role of healthcare providers in adherence to antihypertensive drugs in patients is influential. This can be seen in providing information that is easily understood by patients about their illness. Responses on satisfaction with care received during their visit to the clinic revealed that, nearly half of the respondents were satisfied with information provided by the healthcare (nurses, doctors, pharmacy). The results showed that although 277 (81.4%) of patients received information about their health status from the healthcare providers.

Furthermore on healthcare providers enabling factors, poor communication stands as a barrier to effective use of medicines. Many of these patients do not know the name of the drug they prescribed for them, and hence missed out on taking some tablets, taking an incorrect dose as a result of doctor's illegible hand writing on the prescription paper coupled with nurses in-patient attitude to rightly decode the prescription. One of the major responsibilities of the healthcare providers is to give a clear explanation of patient's health status to him/her and the recommended solutions using the language that is comprehensible to individual patient. This is where effective communication

becomes a vital tool in managing both out and in-patients in any hospital. Lack of time to monitor the feedback from the patient can stand as a barrier to effective communication between healthcare givers and the patients. On the other side, some of this patients are afraid or too reserved to register their complaint; thus making them to suffer in silence.

In other words, the patients appeared not to recognise the importance of health education as the level of compliance is still at the moderate level. This is consistent with the findings from a Tanzania study (Campbell, 2021) where 76% of the respondents received health information from healthcare providers, which resulted in moderate level of compliance. Some respondents, 192 (54.6%) observed that healthcare givers don't always listen to patients' complain. Going by the above discovery, it can be deduced that if the healthcare providers can patiently listen to patients' complaint and take time to health education them, there would be improved drug compliance and less health complications.

On healthcare institutional-based factors, the respondents 172(50.6%) were satisfied with the short time they spend during each visit to the clinic. Other respondents 279 (82.1%) also added that they were satisfied with the healthcare facility environment. In addition, 259 (76.3%) respondents were of the opinion that the health facility is well equipped. Notwithstanding, 131(38.5%) respondents were unexcited when attending clinic. This might be as a result of financial constraint, difficulty in movement due to old age and distance from healthcare institution. It may also be due to

non-listening attitude of some healthcare providers to their complaint. The observation is in agreement with the study conducted by Akintunde (2015) which stated that adherence level was higher among those attending specialty clinic despite frequent visiting to the clinic and use of more medications. More than four-fifth of those attending cardiology clinic had at least moderate level of adherence compared to those attending GOPD clinic. Compliance with medication is necessary to control the disease and in minimizing the morbidity and mortality resulting from hypertension. Healthcare professionals have to encourage the patients towards medication adherence.

Conclusion

Drug compliance among hypertensive patients is multi-faceted as it has been established that it depends on various intrinsic and extrinsic factors. Generally, in this study, the respondents had moderate level of healthcare provider and fair access to healthcare resources but moderate level of drug compliance. In addition, the independent variables were all significantly associated with and contributed variedly to drug compliance. Moreover, patient-related factors were the strongest factors, while healthcare institutional factors were the least. Thus, it can be deduced from the study that an increase in any of these factors will yield better drug compliance among hypertensive patients. This, therefore, call for concerted efforts to improve current conditions.

Declarations

Ethical approval was obtained from the Babcock University Health Committee (BUHREC)

772/22). Written informed consent was obtained from the participants and strict confidentiality of all information and findings was maintained throughout the study.

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