*EJPMR, 2025, 12(12), 154-157* **Research Article** **Impact Factor 7.065**

**EUROPEAN JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH**

www.ejpmr.com

**ISSN (O): 2394-3211**
**ISSN (P): 3051-2573**
**Coden USA: EJPMAG**

# MEDICATION ADHERENCE AMONGST HYPERTENSIVE PATIENTS IN FEDERAL MEDICAL CENTRE, OWO, ONDO STATE. NIGERIA

**[1*]Folorunso Timothy Oluwarotimi, [2]Adeniyi Kunle Ayomide**

[1]Consultant Physician and Cardiologist MB chB, FMCP, MBA. FMC, Owo. Nigeria.
[2]MB chB. Registrar in Cardiology, Internal Medicine FMC, Owo. Nigeria.

***Corresponding Author: Folorunso Timothy Oluwarotimi**

Consultant Physician and Cardiologist MB chB, FMCP, MBA. FMC, Owo. Nigeria.

**DOI:** https://doi.org/10.5281/zenodo.17734692

**How to cite this Article:** 1*Folorunso Timothy Oluwarotimi, 2Adeniyi Kunle Ayomide (2025). Medication Adherence Amongst Hypertensive Patients In Federal Medical Centre, Owo, Ondo State. Nigeria. European Journal of Pharmaceutical and Medical Research, 12(12), 154–157.



**Article Received on 27/10/2025** **Article Revised on 17/11/2025** **Article Published on 01/12/2025**

## ABSTRACT

**Background**: Poor medication adherence is a major challenge among hypertensive patient. **Objectives**: We accessed the prevalence of poor medication adherence and factors responsible, amongst hypertensive patients in Federal Medical Centre, Owo. Ondo State. Nigeria. **Method**: This is a non-probability consecutive random sampling of all hypertensive patient accessing care in Federal Medical Centre for a minimum duration of 1 year. Recruitment in to the study was voluntary following obtaining their informed consent. **Results**: 400 hypertensive patients were recruited, of which poor adherence was 306(76.5) and good adherence was 94(23.5). Adherence to antihypertensive was influenced by monthly income (P<0.0001), SMBP (P<0.0001) and higher among married participants (P< 0.001). Duration of hypertension was negatively related to medication adherence (P<0.01) while adherence to medication was not influenced by age, sex, educational status, presence or absence of psychiatric illness, dementia, co morbidity, adverse reactions, NHIS or complications. **Conclusion**: Poor adherence to medications is common amongst hypertensive patients in Federal Medical Centre, Owo, Ondo State. Nigeria. Married patients who practices SMBP with regular monthly income have better adherence.

**KEYWORDS:** Adherence, SMBP, Hypertension and Medication.

## INTRODUCTION

Poor adherence to treatment regimens has long been recognized as a substantial roadblock to achieving better outcomes for patients. Data show that as many as half of all hypertensive patients do not adhere faithfully to their medications regimens and the result is more than $100 billion spent each year on avoidable hospitalisations.[1] Non adherence to medications regimens also affects the quality and length of life, for example it has been estimated that better adherence to antihypertensive treatment alone could prevent 89,000 premature deaths in united state annually.[2] It is worrisome to know that even when drugs were free, non adherence still persist. A study showed that even among patients of NHS with no cost sharing for medications, rate of non adherence were nearly 40%.[3]

Hypertension is the commonest cardiovascular disease in adults worldwide. It is a preventable risk factor for premature death and disability. It leads to approximately 9 million deaths per year globally.[4] According to World Health Organization (WHO), hypertension is defined as the sustained elevation of systolic blood pressure ≥ 140 mm Hg and/or diastolic blood pressure ≥ 90 mm Hg on two different occasions. However, American Heart Association/American College of Cardiology (AHA/ACC) has suggested a new cutoff value of 130/80 mm Hg for the diagnosis of hypertension. The commonly used antihypertensive drugs include calcium channel blockers, Angiotensin-converting enzyme (ACE) inhibitors, angiotensin receptor blockers (ARB), diuretics, and beta blockers.

Blood pressure is recognized as a universal premorbid factor for many chronic diseases. One of the main obstacles in the management of hypertensive patients is poor adherence to drug therapy. Treatment adherence is defined as the extent to which the patients' therapeutic

drug intake aligns with the prescribed treatment. In other words, it refers to the process of taking physicians' prescribed medications more than 80% of the time. There are myriad of factors that may affect adherence to antihypertensive therapy like age, sex, residence, education status, health literacy, health insurance, anxiety/depression, sleep disturbances, duration of therapy, and drug class.

Hypertension is a global public health problem with significant morbidity worldwide. Its prevalence is increasing. Even with increasing awareness and diagnosis, blood pressure control still remain unsatisfactory especially in low and middle income countries. Medication non adherence is associated with poor clinical outcomes and potential negative impact on health care cost. Evaluation of adherence should become an integral part of assessment of patient treated for hypertension. Medication adherence can significantly improve with a patient centered approach, non-judgmental communication skills, collaborative multi-disciplinary management and patient participation (self-monitoring of Blood pressure).[5] The chronic asymptomatic nature of hypertension and the occasional or even frequent omission of recommended doses appear to be without immediate consequences make non adherence common.

## METHODOLOGY

Ethical approval for the study was obtained from the Research and Ethics Committee of Federal Medical Centre, Owo Ondo State. Nigeria (Approval Date: 27th May, 2025; Approval Number: FMCOWO/ HREC/2025/50; Reference Number: NHREC/ FMCOWO-HREC/04/01/2025). Participants entered the study voluntarily; their informed consent was obtained before recruitment. This study was conducted in both general and specialist outpatient clinics of the Federal Medical Centre, Owo. Ondo State, the foremost tertiary health institution in the whole of ondo state. Non-probability consecutive sampling method was used. All hypertensive patients accessing care in Federal Medical Centre for a minimum duration of 1 year. Recruitment into the study will be voluntary following obtaining their informed consent.

Sample size will be calculated using Cochran's formula $n = z^2pq/e^2$ which is 384.16 and will be approximated to 400. Z = 1.96 (95% confidence interval), p = 50%, q =1-p, e margin error of 5%. The study was carried out by self-administered survey instrument comprises of two sections. Section A which contain the clinical profile of the respondents and the section B contain the Modified Morisky Medication Adherence Scale **'No'** answers to questions 1-4, 6 and 7, a '**Yes'** answer to question 5 and **'Never/rarely'** to question 8 score 1 each and other responses score 0. A score of 8 suggests good adherence. Score of 7 or less suggests poor adherence. Percentages of good adherence and poor adherence will be calculated and their clinical profile will be compared.

## RESULTS

Socio-demographic characteristics of study population.

| **Parameter** | **Good adherence 94 (23.5)** | **Poor adherence 306 (76.5)** | **P-value 0.001*** |
|---|---|---|---|
| Age years 60.61+13.72 | 59.89 + 14.55 | 62.96 + 11.36 | 0.610 |
| Sex Male 183 (45.75)<br>Female 217 (54.25) | 51 (28.0)<br>43 (19.8) | 131 (72.0)<br>174 (80.2) | 0.58<br>0.58 |
| Marital<br>Married 307 (76.75)<br>Not married 93 (23.25) | <br>81 (20.25)<br>13 (3.25) | <br>226<br>80 | <br><br>0.001* |
| Educational level<br>No formal education<br>Primary<br>Secondary<br>Tertiary | <br>5 (16.3)<br>21 (5.25)<br>20 (5)<br>48 (12) | <br>25 (82.3)<br>71 (17.75)<br>73 (18.25)<br>137 (34.25) | <br>0.654<br>0.654<br>0.654<br>0.654 |
| Monthly income 125207.50 + 198405.497 | 182095.74 + 257.85.864 | 107732.03 + 173320.607 | 0.0001* |

Clinical characteristics of the study population

| **Parameter** | **Good adherence** | **Poor adherence** | **P-value** |
|---|---|---|---|
| Duration of Hypertension 7.66 (6.74) | 9.73 (7.94) | 7.02 (6.20) | 0.01* |
| No of medications 4.02 (1.71) | 4.14 (1.76) | 3.98 (1.70) | 0.423 |
| None<br>Psychiatric illness or Dementia | 90 (22.5)<br>4 (1) | 296 (74)<br>10 (2.5) | 0.72 |
| None<br>Comorbidity | 74 (18.5)<br>20 (5) | 242 (60.5)<br>64 (16) | 0.956 |
| None<br>Adverse reaction | 91 (22.75)<br>3 (0.75) | 293 (73.25)<br>23 (5.75) | 0.394 |

| | | | | |
|---|---|---|---|---|
| SMBP | No | 30 (7.5) | 195 (48.75) | 0.0001* |
| | Yes | 64 (16) | 111 (27.75) | |
| NHIS | 18(4.5) | 16 (4) | 2 (0.5) | 0.203 |
| Out of pocket | 382(95.5) | 92 (23) | 290 (72.5) | 0.203 |
| None | | 69 (17.25) | 205 (51.25) | |
| Complications | | 25 (6.25) | 101 (25.25) | 0.19 |

SMBP self-monitoring of blood pressure

## DISCUSSION

400 hypertensive patients were recruited, of which poor adherence was 306(76.5) and good adherence was 94(23.5). Mean age of poor adherence 62.96+11.36 was not statistically different from mean age of good adherence 59.89+14.55. More female 217(54.25) participated in the study than male 183(45.75). This affirmed the health seeking behavior of women above their male counterpart[6] although the difference is not significant. More female 178(80.2) had poor adherence than male 131(72.0) while more male 51(28.0) had good adherence than female female 43(19.8), although these were not stastically significant. Adherence to antihypertensive was influenced by monthly income (P<0.0001). The cost of medications is a major barrier to accessing quality healthcare and drives massive non adherence among those who can barely afford the medicine.[7] Adherence was higher among married participants compared to singles (P< 0.001). G O Olaniran et al[8] found out that medication adherence is low despite most participant strong family support and family support is highly recommended and beneficial for medication adherence. Participants with self-monitoring of blood pressure (SMBP) have significant medication adherence (P< 0.0001). SMBP may contribute to improvements in medication adherence in hypertensive.[9] Duration of hypertension was negatively related to medication adherence (P<0.01). Mean duration of hypertension in participants with good adherence 9.73(7.94) and poor adherence 7.02(6.20). Owing to chronic nature of hypertension, it is expected that poor adherence will increases with duration of hypertension but reverse is our finding. Adherence to medication was not influence by age, sex, educational status, presence or absence of psychiatric illness, dementia, co-morbidity, adverse reactions to medication, hypertension complications or NHIS. Most studies have equally corroborated these, particularly Ijeoma C Onyebuchi and Maxwell O. Adibe[10] reported that enrollment in the NHIS was not associated with better medication adherence level despite associated lower cost of medication. In our study, the proportion of participants on NHIS was extremely low 18(4.5).

## CONCLUSION

Poor adherence to medications is common amongst hypertensive patients in Federal Medical Centre, Owo, Ondo State. Nigeria. Married patients who practices SMBP with regular monthly income have better adherence. The duration of hypertension was negatively related to antihypertensive adherence.

## REFERENCES


1. Ostenberg. L, Blaschke T. Adherence to medication. N Engr. J Med, 2005; 353: 487-497.
2. Cutler Dm, Long G, Berndt ER, et al. The value of antihypertensive drugs; a perspective on medical innovation. Health Aff.(Millwood), 2007; 26: 97-110.
3. Doshi JA, Zhu J, Lee BY, Kimmel S, Volpp KG. Impact of a prescription co payment increase on lipid-lowering medication adherence in veterans. Circulation, 2009; 119: 390-397.
4. Laxman Bhusal, Bishnu Deep Pathak, Bishal Dhakal Nabin Simkhada Neeral Sharma Binit Upadhaya Remi Sushil Adhikari, Prakash Raj Oii, Shashank Neupane, Binod Limbu, Dhan Bahadur Shrestha. Determination of level of self reported adherence of antihypertensive drug(s) and its associated factors among patient with hypertension at a tertiary care center. J. Clin Hypertens (Greenwich), 2022 oct 27; 24(11): 1444-1450. doi:1-0.1111/jch.14592.
5. Muhammad Umair Khan, Shhiahan Shah, Tahir Hameed. Barriers and determinants of medication adherence among hypertensive patients attended National Health Service Hospital, Sunderland. J Pharm. Bicooallied Sci, 2014 Apr-Jun; 6(2): 104-108. doi10.4103/0975-7406.129175
6. Neurolaunch Editorial Team. Health –Seeking Behaviour: Factors influencing Healthcare Decision and Outcomes. September 22, 2024.
7. Victor Chikaodiri Amaechi, Evaristus Jideofor Ugboma et al. The impact of Drug Cost on Medication Adherence in Nigeria: A Perception among Pharmacist. Universal Journal of Pharmaceutical Research. 2831-5235, 2024; 9(4): 5-13.
8. GO Olaniran, BA Akodu, AA Olaniran, JO Bamidele, AO Ogunyemi, OO Idowu. Medication Adherence and Percieved Family Support among Elderly Patients with Hypertension Attending a Specialty Clinic in Lagos, Nigeria. DOI: https://doi.org/10.30442/ahr.0901-04-188,
9. Fletcher BR, Hartmann-Boyce J, Hinton L, McManus RJ. The Effect of self-Monitoring of Blood Pressure on Medication Adherence and lifestyle Factors: A Systematic Review and Meta-Analysis. Am J Hypertens doi:10.1093/ajh/hpv008.Epub 2015 Feb 26.PMID 25725092
10. Onyebuchi IC & Adibe MO (2023). The impact of the National Health Insurance Scheme on medication adherence of hypertensive patients. West African Journal of Pharmacy, 34(2): 150-162. DOI:https://doi .org/10.60787/wapcp-34-2-296.

**Consent Form**

Dear Respondents, we humbly request your participation in this study. Kindly and freely express your view and opinion by answering the questions that follow. Be assured that all information provided is absolutely confidential, your name is not required and it is basically for research purpose. Your refusal to participate do not attract any punitive measure as you comes to our hospital for treatment. Thanks for your anticipated cooperation.

**QUESTIONNAIRE**

**Assessment of Adherence to Medications among Hypertensive Patients in Federal Medical Centre, Owo using Modified Morisky Medication Adherence Scale**

**Section A**

1. Duration of Hypertension _____
2. Age (in years)_____ 3. Sex_____ 4. Educational level_____
5. No. of medications_____ 6. Any Psychiatric or Dementia Problem_____
7. Any co-morbid state_____ 8. Total income/month_____
9. Adverse effects from medication_____
10. Do you do SMBP (Self monitoring of BP) (a) Yes (b) No
11. Do you get your medications through NHIS (a) Yes (b) No
12. Any history of complications: (a) Stroke (b) TIA (c) Heart Failure (d) Kidney disease (e) Retinopathy (f) others_____

**Section B**

Please answer each question, based on your personal experience with your medications. Note that there is no right or wrong answer

| S/N | QUESTIONS | No | Yes |
|---|---|---|---|
| 1. | Do you sometimes forget to take your medications? | | |
| 2. | People sometimes miss taking their medications for reasons other than forgetting. Thinking over the past 2 weeks, were there any days when you did not take your medications? | | |
| 3. | Have you ever cut back or stopped taking your medications without telling your doctor because you felt worse when you took it? | | |
| 4. | When you travel or leave home, do you sometimes forget to bring along your medications? | | |
| 5. | Did you take your medications yesterday? | | |
| 6. | When you feel that your health condition is under control, do you sometimes stop taking your medications? | | |
| 7. | Taking medications every day is a real inconvenience for some people. Do you ever feel hassled about sticking to your treatment plan? | | |

**Tick as appropriate**

| | | | |
|---|---|---|---|
| 8. | How often do you have difficulty remembering to take all your medications? | Never/rarely | |
| | | once in a while | |
| | | Sometimes | |
| | | Usually | |
| | | All the time | |