Assessment of Medication Adherence and Quality of Life Among Hypertensive Patients Attending State Specialist Hospital in Ikare Akoko, Ondo State

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Abstract

The study assessed medication adherence and quality of life of hypertensive patients attending State Specialist Hospital in Ikare Akoko, Ondo state. This study specifically assessed the quality of life of hypertensive patients; the level of medication adherence of hypertensive patients; and the predictability of medication adherence on quality of life of hypertensive patient attending State Specialist Hospital Ikare Akoko. This study adopted cross sectional descriptive survey design. The study population comprised of 202 hypertensive patients in State Specialist Hospital in Ikare Akoko, Ondo State. The sample (148) for this study was derived by calculating sample from the total population using the Taro Yamane formula. Purposive sampling technique was used to select hypertensive patients attending NHIS clinic. An adapted questionnaire was used to collect data for the study. In ensuring the reliability of the instrument, 30 (10% of the sample size) hypertensive patients outside the study area were used. The overall reliability index was 0.798. The data collected were entered and analysed using SPSS version 27. Descriptive statistics was used to answer research questions, while linear regression analysis was used to test the hypothesis at 0.05 level of significance. The findings of the study revealed that most of the hypertensive patients had moderate medication adherence and quality of life. It is also revealed that medication adherence predicted quality of life of hypertensive patients. It was recommended among others that A community-based approach dedicated to enlightening both providers and patients should be implemented as it may contribute

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to improving the medication adherence among hypertensive patients.

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Introduction

Globally, cardiovascular disease accounts for almost 19 million deaths yearly, representing nearly one third of the total mortality (WHO, 2020). Of these, complications of hypertension leads to 9.7 million deaths every year, making hypertension a major worldwide public health problem. The global prevalence of hypertension in adults aged 25 and above was about 42% in 2019 (WHO, 2020). Hypertension affects almost one billion persons globally and is expected to rise by 29% to reach 1.56 billion by 2025 (Aladeneyi, et al 2017). It is usually asymptomatic, chronic disorder needing lifelong management. Though treatment of hypertension is evolving in response to newer drugs and published evidences, it still remains poorly controlled in developed and developing countries (Aladeneyi, et al., 2017).

In Nigeria, with a prevalence level of 31.8% (Ogah, et al., 2018), hypertension remains the commonest non-communicable disease and reason for sudden natural death (Ogah, et al., 2018). As a result of poor socio-economic background among hypertensive patients, poor adherence to hypertension treatment is very prevalent. Generally, sticking to the treatment instructions for a long-term illness is a great challenge to the patients. Meanwhile, medication adherence is a cost saving measure since it reduces the incidence of complications and the need for additional drugs (American Heart Association, 2017).

Poor adherence to antihypertensive treatment poses a clinical challenge globally. The current economic and global health situation is not helping matters. Hypertension is one of the prevalent diseases worldwide and the major cause of cardiovascular and cerebrovascular morbidity and mortality (Forouzanfar, et al, 2017). Hypertension is a chronic medical condition in which there is an abnormally high arterial blood pressure. Hypertension is defined as a systolic pressure level of ≥ 130 mmHg and diastolic of ≥ 80 mmHg (America Heart Association, 2017).

In patients with hypertension, adherence to drugs is a well-recognized factor contributing to poor or good control of blood pressure. WHO (2019) explains adherence to long term treatment as the extent to which a person's behavior taking medication, following a diet plan and/or executing lifestyle changes corresponds with agreed recommendations from a health care provider. Patient's adherence to therapy is a corner stone factor in controlling hypertension and its consequences. Adherence and compliance are often interchangeable synonymous terms. Patients with a high level of medication adherence were found to have a better blood pressure control (Adeloye, et al, 2015).

Quality of life is an essential outcome of health care, and understanding the effect of drug adherence on quality of life is a critical part of the care of hypertensive patients. The study of quality of life among hypertensive patients has become an essential component in clinical practices. Most studies on quality of life of hypertensive patients were conducted in developed countries with different socio cultural practices, which may influence not only the perception of quality of life but also the experience of hypertension symptoms. Very little information exists about quality of life of hypertensive patients in developing countries (Angaw, et al, 2015; Mills, et al., 2016).

The researcher observed that some of hypertensive patients are pressed with the drains of hypertension which worsen the existing ill health and medical conditions. This leads to poor quality of life and lessened activities of their daily living compelling the hypertensive patients to look for non-medical interventions like spiritual assistance and rituals. Therefore, assessing the influence of drug adherence on quality of life of hypertensive patients could offer background understanding for further intervention that can help promote the quality of life of hypertensive patients. This in turn could assist in increasing the patients' longevity, reduce morbidity and mortality rate.

The study, therefore, assesses medication adherence and quality of life of hypertensive patients attending State Specialist Hospital in Ikare Akoko, Ondo state. This study specifically:

1. assessed the quality of life of hypertensive patients attending State Specialist Hospital Ikare Akoko;
2. assessed the level of medication adherence of hypertensive patients attending State Specialist Hospital Ikare Akoko; and
3. determined the predictability of medication adherence on quality of life of hypertensive patient attending State Specialist Hospital Ikare Akoko.

Research Questions

The following research questions were raised for this study:

1. What is the quality of life of hypertensive patients attending state specialist hospital Ikare Akoko?
2. What is the level of medication adherence by hypertensive patients attending State Specialist Hospital Ikare Akoko?

Research Hypothesis

Ho1: Medication adherence will not significantly predict quality of life of hypertensive patients attending State Specialist Hospital Ikare Akoko.

Methodology

This study adopted cross sectional descriptive survey design. This design was used to make accurate and systematic description of medication adherence and quality of life among hypertensive patients. The study population comprised of 202 hypertensive patients. These are total number of hypertensive patients attending NHIS clinic in State Specialist Hospital in Ikare Akoko, Ondo State. The sample (148) for this study was derived by calculating sample from the total population using the Taro Yamane formula. Purposive sampling technique was used to select hypertensive patients attending NHIS clinic who were willing to participate in the study.

An adapted questionnaire was used to collect data for the study. The questionnaire was adapted (adopted from WHO and modified) by the researcher. The questionnaire consisted of three sections namely sections A, B and C. Section A collected information on socio-demographic characteristics of the respondents while section B collected information on level of medication adherence of the respondents. It consisted of 10 items. Adapted Likert type scale was used as follows: Always – 3 points, Occasionally – 2 points and Never – 1 point. Section C collected information on quality of life of the respondents. It consisted of 20 items. Adapted Likert type scale was used as follows: Always – 3 points, occasionally – 2 points and Never – 1 point. In ensuring the reliability of the instrument, 30 (10% of the sample size) hypertensive patients attending general hospital Iwaro Oka, Ondo State were used. The questionnaire was administered on patients and the questionnaire was retrieved back immediately after completion without telling them. The overall reliability index was 0.798.

Researcher met the Chief Medical Director and the Nurse in charge of NHIS department and asked for permission to collect data and explained the study objectives. Each respondent's verbal consent was obtained first before being served the questionnaire. The questionnaire was verbally translated to Yoruba because of the respondents who could not read and understand English Language. Only those who signified their intention to participate were served. The data collected were entered and analysed using SPSS version 27. Descriptive statistics was used to answer research questions, while linear regression analysis was used to test the hypothesis at 0.05 level of significance.

Results

Research Question 1: What is the quality of life of hypertensive patients attending state specialist hospital Ikare Akoko?

Table 1: Quality of life of hypertensive patients   N= 139

S/N	ITEMS	Always (%)	Occasionally (%)	Never (%)	Mean	SD
1.	Night sweats	50 (36.0)	77 (55.4)	12 (8.6)	2.27	0.61
2.	Dissatisfaction with my personal life.	50 (36.0)	80 (57.6)	9 (6.5)	2.30	0.58
3.	Feeling anxious or nervous	51 (36.7)	77 (55.4)	11 (7.9)	2.29	0.60
4.	Poor memory	50 (36.0)	77 (55.4)	12 (8.6)	2.27	0.61
5.	Accomplishing less than I used to	50 (36.0)	80 (57.6)	9 (6.5)	2.30	0.58
6.	Feelings of wanting to be alone	50 (36.0)	77 (55.4)	12 (8.6)	2.27	0.61
7.	Aching in muscles and joints	50 (36.0)	79 (56.8)	10 (7.2)	2.29	0.59
8.	Feeling tired or worn out.	96 (69.1)	0 (0.0)	43 (30.9)	2.38	0.93
9.	Difficulty sleeping	66 (47.5)	20 (14.4)	53 (38.1)	2.09	0.92
10.	Aches in back of neck or head	72 (51.8)	59 (42.4)	8 (5.8)	2.46	0.61
11.	Decrease in physical strength	74 (53.2)	57 (41.0)	8 (5.8)	2.47	0.61
12.	Decrease in stamina	69 (49.6)	19 (13.7)	51 (36.7)	2.13	0.92
13.	Lack of energy	74 (53.2)	57 (41.0)	8 (5.8)	2.47	0.61
14.	Dry Skin	81 (58.3)	10 (7.2)	48 (34.5)	2.24	0.94
15.	Changes in appearance, texture or tone of my skin	84 (60.4)	7 (5.0)	48 (34.5)	2.26	0.94
16.	Low backache	74 (53.2)	57 (41.0)	8 (5.8)	2.47	0.61
17.	Frequent urination	54 (38.8)	70 (50.4)	15 (10.8)	2.28	0.65
18.	Involuntary urination when laughing or coughing	74 (53.2)	57 (41.0)	8 (5.8)	2.47	0.61
19.	Heart discomfort (unusual awareness of heart beat, heart skipping, heart racing, tightness)	77 (55.4)	19 (13.7)	43 (30.9)	2.24	0.90
20.	Decrease in my sexual desire	105 (75.5)	0 (0.0)	34 (24.5)	2.51	0.86

Table 1 revealed that 50(36%) respondents always had night sweats, 77(55.4%) had it occasionally, 12(8.6%) never had it. 50(36%) always had dissatisfaction with their personal life, 80(57.6%) had it occasionally while 9(6.5%) never had it. Also, 51(36.7%) reported feeling anxious, 77(55.4%) occasionally felt anxious while 11(7.9%) never felt anxious. 50(36%) experienced poor memory, 77(55.4%) occasionally had poor memory while 12(8.6%) never had it. 50(36%) always accomplished less than they used to do, 80(57.6%) occasionally did while 9(6.5%) never did. 50(36%) always experienced feeling of wanting to be alone, 77(55.4%) occasionally experienced it while 12(8.6%) never does. 50(36%) always experienced aching in their muscles and joints, 79(56.8%) occasionally did while 10(7.2%) never did. 96(69.1%) reported always feeling tired or worn out43(30.9%) never experienced it. 66(47.5%) always experienced difficulty in sleeping, 20(14.4%) occasionally experienced it while 53(38.1%) never experience it. 72(51,8%) always had aches in back of neck or head, 59(42.4%) occasionally had aches while 8(5.8%) never had aches. 74(53.2%) always had decrease in physical strength, 57(41%) occasionally experience it while 8(5.8%) never did.

69(49.6%) always had decrease in stamina, 19(13.7%) occasionally had it while 51(36.7%) never had it.

In addition, 74(53.2%) always had lack of energy, 57(41%) occasionally had it while 51(36.7%) never had it. 81(58.3%) always reported dry skin, 10(7.2%) occasionally had dry skin while 48(34.5%) never had dry skin. 84(60.4%) always had changes in appearance texture or tone of their skin, 7(5%) occasionally had it while 48(34.5%) never had it. 74(53.2%) always had low backache, 57(41%) occasionally had low backache while 8(5.8%) never did. 54(38.8%) always had frequent urination, 70(50.4%) occasionally had it while 15(10.8%) never did.74(53.2%) had involuntary urination when laughing or coughing, 57(41%) occasionally had it while 8(5.8%) never had it. 77(55.4%) always had heart discomfort, 19(13.7%) occasionally did while 43(30.9%) never had. 105(75.5%) always had decrease in their sexual desire, while 34(24.5%) never had it.

To summarise the quality of life of hypertensive patients attending state specialist hospital Ikare Akoko, the following method was used

Mean = 46.80

SD = 4.47

Min = 35

Max = 58

$\overline{X}$ – SD = 46.80 – 4.47 = 42.33

$\overline{X}$ + SD = = 46.80 + 4.47 = 51.27

Range

Scores from   35 - 42 Low

43 – 51 Moderate

52 – 58 High

Table 2: Summary of Quality of life of hypertensive patients

Level	Frequency	Percent
Low	27	19.4
Moderate	94	67.6
High	18	13.0
Total	**139**	**100.0**

Table 2 summarises the quality of life of hypertensive patients. From the table, 27 respondents representing 19.4 percent had low quality of life, 94 respondents representing 67.6 percent had moderate quality of life while 18 respondents representing 13.0 percent had high quality of life. It could be concluded that most of the hypertensive patients had moderate quality of life.

Research Question 2: What is the level of medication adherence by hypertensive patients attending State Specialist Hospital Ikare Akoko?

Table 3: Medication adherence by hypertensive patients   N= 139

S/N	ITEMS	Always (%)	Occasionally (%)	Never (%)	Mean	SD
1.	I know what each of my medication is for	47 (33.8)	80 (57.6)	12 (8.6)	2.25	0.60
2.	I have trouble remembering when to take my medications	53 (38.1)	77 (55.4)	9 (6.5)	2.32	0.59
3.	I always think that some of my	74 (53.2)	62 (44.6)	3 (2.2)	2.51	0.54

	medications are not helping me					
4.	I avoid taking some of my medications because of side effect	72 (51.8)	61 (43.9)	6 (4.3)	2.47	0.58
5.	I take my medicines daily	53 (38.1)	77 (55.4)	9 (6.5)	2.32	0.59
6.	When my blood pressure is under control, I sometimes stop taking my medicine	74 (53.2)	60 (43.2)	5 (3.6)	2.50	0.57
7.	When I travel, I sometimes forget to take along my medications	52 (37.4)	77 (55.4)	10 (7.2)	2.30	0.60
8.	Whenever I feel worse when taking medication, I stop taking the medicine	67 (48.2)	48 (34.5)	24 (17.3)	2.31	0.75
9.	Too much of medication make me uncomfortable.	56 (40.3)	42 (30.2)	41 (29.5)	2.11	0.83
10.	I take my medication only when I am sick	73 (52.5)	64 (46.0)	2 (1.4)	2.51	0.53

Table 3 revealed that 47(33.8%) respondents knew what each of their medication is for, 80(57.6%) occasionally knew it while 12(8.6%) never knew. 53(38.1%) always had trouble remembering when to take their medications, 77(55.4%) occasionally remembers while 9(6.5%) never experienced it. 74(53.2%) always think that some of their medications are not helping them, 62(44.6%) occasionally did while 3(2.2%) never did. 72(51.8%) always avoid taking some of their medications because of side effect, 61(43.9%) occasionally did while 6(4.3%) never did. 53(38.1%) always take their medicine daily, 77(55.4%) occasionally did while 9(6.5%) never did. 74(53.2%) always stop taking their medications when their blood pressure is under control, 60(43.2%) occasionally stopped while 5(3.6%) never did. 52(37.4%) always forget to take along their medications when they travel, 77(55.4%) occasionally did while 10(7.2%) never did. 67(48.2%) always stopped taking their medications when they feel worse, 48(34.5%) occasionally did while 24(17.3%). 56(40.3%) always feel uncomfortable with too much medication, 42(30.2%) occasionally did while 41(29.5%) never did. 73(52.5%) always take their medication only when sick, 64(46%) occasionally did while 2(1.4%) never did.

To compute the level of medication adherence by hypertensive patients attending State Specialist Hospital Ikare Akoko, the following method was used

Mean = 23.60

SD = 2.83

Min = 15

Max = 30

$\overline{X}$ − SD = 23.60 − 2.83 = 20.77

$\overline{X}$ + SD = = 23.60 + 2.98 = 26.58

Range

Scores from 15 - 20 Low

   21 – 26 Moderate

    27 – 30 High

Table 4: Level of medication adherence by hypertensive patients

Level	Frequency	Percent
Low	19	13.7
Moderate	97	69.8
High	23	16.5
Total	**139**	**100.0**

Table 4 summarises the level of medication adherence by hypertensive patients. From the table, 19 respondents representing 13.7 percent had low level of medication adherence, 97 respondents representing 69.8 percent had moderate level of medication adherence while 23 respondents representing 16.5 percent had high level of medication adherence. It could be concluded that most of the hypertensive patients had moderate level of medication adherence.

Test of Hypothesis

$H_0 1$: Medication adherence will not significantly predict quality of life of hypertensive patients attending State Specialist Hospital Ikare Akoko

Table 5: Linear regression analysis showing the medication adherence and quality of life

Variables	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Remark
	B	Std. Error	Beta			
(Constant)	39.841	3.164		12.590	.000	
Medication Adherence	.781	.133	.678	5.872	.000	Sig.

R= 0.678, R^2=0.460, Adjusted R^2=0.456, Standard error of estimate= 4.419

$(F_{(1, 137)} = 9.588; p < 0.05)$.

Table 5 showed that the independent variable (medication adherence) account for 45.6% of the variance on quality of life of hypertensive patients (R^2 adjusted = 0.456). The analysis of variance of the linear regression data yielded an F-ratio value which was found to be significant at 0.05 alpha level ($F_{(1, 137)} = 9.588; p < 0.05$). This implies that the null hypothesis was rejected. Medication adherence significantly contributed to quality of life as (ß = 0.678; t= 5.872; p <0.05). Hence, medication adherence significantly predicted quality of life of hypertensive patients attending State Specialist Hospital Ikare Akoko.

Discussion of Findings

The *Discussion of Quality of Life*

The findings of the study revealed that the quality of life of hypertensive patients attending state specialist hospital Ikare Akoko was moderate. Most of the hypertensive patients had moderate quality of life as 27 respondents representing 19.4 percent had low quality of life, 94 respondents representing 67.6 percent had moderate quality of life while 18 respondents representing 13.0 percent had high quality of life. In line with this study, Chin et al (2014) concluded that the quality of life of hypertensive patients is at moderate level. The quality of life of people with hypertension is affected by several factors, among them are linked to the very existence of infirmity and its chronic-degenerative character, to the discovery of the disease, to the negative effects on physical, emotional and social aspects, as well as those related to medication therapy (Chin, et al., 2014).

Discussion of Medication Adherence

It was also revealed that the level of medication adherence by hypertensive patients attending State Specialist Hospital Ikare Akoko was moderate. Most of the hypertensive patients had moderate level of medication adherence as 19 respondents representing 13.7 percent had low level of medication adherence, 97 respondents representing 69.8 percent had moderate level of medication adherence while 23 respondents representing 16.5 percent had high level of medication adherence. In consonance with this finding, Trevisol, et al., (2015) found that most of the hypertensive patients had average adherence to medication. Medication non-adherence results in decreased treatment benefits for hypertensive patients, frequent hospital readmissions and physician visits due to deterioration of their medical condition and suffering from its complications such as coronary artery disease, heart failure, or cerebrovascular disease, and increased health costs (Yap, et al., 2016).

Discussion of Hypothesis

The findings also revealed that medication adherence significantly predicted quality of life of hypertensive patients attending State Specialist Hospital Ikare Akoko. The analysis of variance of the linear regression data yielded an F-ratio value which was found to be significant at 0.05 alpha level ($F_{(1, 137)} = 9.588$; $p < 0.05$). Medication adherence significantly contributed to quality of life as ($ß = 0.678$; $t = 5.872$; $p < 0.05$). This finding is in line with the study of Saleem (2013) who explored studies conducted in Spain, USA and Pakistan. In Spain, he showed that adhering to pharmacological treatment improves quality of life, in the USA he found low physical and mental quality of life scores in elderly people who did not adhere to their pharmacological treatment but in Pakistan he concluded that there is a weak correlation between adhering to hypertension treatment and quality of life. In a study conducted by Trevisol, et al., (2015) it was reported that non-adherence of drugs among hypertensive patient contributed to low health related quality of life when compared to patient who adhere to drugs (Trevisol, et al., 2015).

Conclusion

Sequel to the findings of this study, it is concluded that most of the hypertensive patients had moderate medication adherence and quality of life. It is also concluded that medication adherence predicted quality of life of hypertensive patients.

Recommendations

Based on the findings of this study, it was recommended that

1. It is important that an economically sustainable, culturally sensitive and primary prevention approaches are promoted, especially in low-income communities.
2. A community-based approach dedicated to enlightening both providers and patients should be implemented as it may contribute to improving the medication adherence among hypertensive patients.

References

Adeloye, D., Aderemi, A. V., Basquill, C., Obi, F. A., & Thompson, J. Y. (2015). An Estimate of the Prevalence of Hypertension in Nigeria: a systematic review and meta-analysis, 3(3),230–242.

Aladeneyi, I., Adeneyi, O.V., Owolabi, E.O., Fawole, O., Adeolu, M., Goon, D.T. &Ajayi A.I.(2017) Prevalence, Awareness and Correlates of Hypertension Among Urban Public Workers in Ondo State, Nigeria. *Online J Health Allied Scs,* 16(3), 1 – 8.

American Heart Association (2017). What is high blood pressure? Available from: https://www.heart.org/HEARTORG/Conditions/HighBloodPressure/GettheFactsAbo

utHighBloodPressure/The-Facts-About-High-Blood Pressure UCM 002050 Article.jsp. Accessed 15th July, 2020.

Angaw, I., Dadi, A.F. & Alene KA. (2015) Prevalence of hypertension among federal ministry civil servants in Addis Ababa, Ethiopia: a call for a workplace-screening program. *BMC CardiovascDisord*, 15(1), 76 – 81.

Chin, Y.R., Lee, I.S. & Lee, H.Y. (2014). Effects of hypertension, diabetes, and/or cardiovascular disease on health related quality of life in elderly Korean individuals: a population-based cross- sectional survey. *Asian Nurs Res (Korean SocNursSci)*. 8(4), 267-273.

Forouzanfar, G., Mohammad, H. & Patrick, L. (2017).Global Burden of Hypertension and Systolic Blood Pressure of at Least 110 to 115 mm Hg. *Journal of America Medical Association.317*(2), 165-182.

Mills, K.T, Bundy, J.D, Kelly, T.N., Reed, J.E., Kearney, P.M. & Reynolds, K. (2016) Global disparities of hypertension prevalence and control: a systematic analysis of population based studies from 90 countries. *Circulation Journal,* 134(1), 441–450.

Ogah, O.S, Madukwe, O.O., Onyeonoro, U.U., Chukwuonye, I.I, Ukaegbu, A.U, Akhimien, M.O. & Okpechi, I.G (2018). Cardiovascular risk factors and non-communicable diseases in Abia state, Nigeria: report of a community-based survey. *Int J Med Biomed Res*, 2(1), 57-68

Saleem F, Hassali MA, Shafie AA, UlHaq N, Farooqui M, Aljadhay H et al (2013). Pharmacist intervention in improving hypertension-related knowledge, treatment medication adherence and health-related quality of life: a non-clinical randomized controlled trial. *Health Expect*. 18(5), 1270-1281. DOI:10.1111/hex.12101.

Trevisol, D.J, Moreira, L.B, Kerkhoff, A., Fuchs, S.C. & Fuchs, F.D. (2015) Health-related quality of life and hypertension: a systematic review and meta-analysis of observational studies. *J Hypertens.* 29(2), 179-188.

World Health Organisation (2019).Adherence to long-term therapies – Evidence for action. Retrieved from http://apps.who.int/medicinedocs/pdf/s4883e/s4883e.pdf

Yap A.F., Thirumoorthy T. & Kwan. Y.H. (2016). Medication adherence in the elderly. *J Clin Gerontol Geriatr.* 7(2), 64–67.

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