Clinic Attendance Compliance Pattern of Adult Hypertensive Nigerians Seen at UNTH, Enugu

BY

IKE SO[1], ANISIUBA BC[1], ONWUBERE BJC[1], IKEH VO[2]

[1]Department of Medicine, University of Nigeria Teaching Hospital, Enugu

[2]Office of the Chief Medical Director, Nnamdi Azikiwe University Teaching Hospital, Nnewi

SUMMARY

Objective: A number of factors affect the clinic attendance compliance of the average adult Nigerian. The consequent default from treatment could affect the management outcome of such patients. This study was therefore, undertaken to evaluate the clinic attendance compliance pattern of adult hypertensive patients being seen at the UNTH Enugu, and the factors affecting this.

Method: Records of consecutive adult hypertensive patients attending the Cardiac Clinics of the University of Nigeria Teaching Hospital, Enugu, in a total study period from 1989 to 1999 were retrospectively studied. Data were collected from patients' case records using a proforma that had been specifically designed for the study.

Results: Four hundred and ten patients were reviewed. Forty percent of the patients had already defaulted by the 3rd visit. The default rate was significantly affected by the number of antihypertensive drugs the patients were taking ($P < 0.0001$). The 41 – 60 year age groups accounted for the greatest default rates.

Conclusion: This study shows a high default rate at clinic attendance. Age, severity of hypertension at first visit and the number of antihypertensive drugs appear to affect the clinic compliance pattern. Efforts should be geared at addressing these factors in the bid to ensure a better management outcome for hypertensive patients.

***Key Words:** Clinic Compliance, Adult Hypertensive Nigerians*

INTRODUCTION

The public health burden of hypertension in the developing countries is escalating. The major challenges regarding the problem of hypertension in the developing nations are those related to awareness, detection and control. It is a fact that the state of hypertension control is disappointing worldwide, but the problem is particularly serious in the developing countries where appalling low rates of BP control (3.3-8%) have been reported and where the cost of anti-hypertensive drugs is prohibitive.[1]

Strikingly, the prevalence of hypertension in Nigeria, a developing country, is high, at 11.2%, and after adjusting for age, in line with the revised criteria by the World Health Organization, it is 16.6%[2,3].

Non-compliance is a major documented factor in the low rate of blood pressure control[4,5].

Studies elsewhere, and locally, have reported that factors which contribute to poor attendance to health facilities for services available include long distances, high cost of drugs and services, gender preference and poor quality of care[6-9].

This study was thus undertaken to evaluate the clinic attendance compliance pattern of adult hypertensive patients coming for

Correspondence Author:
Dr. S. O. Ike, Dept. of Medicine
UNTH, Enugu, E-Mail: sobiajuluike@yahoo.com
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care at the University of Nigeria Teaching Hospital, Enugu and the factors affecting this.

PATIENTS AND METHODS

A retrospective study of consecutive adult hypertensive patients attending the Cardiac clinics of the University of Nigeria Teaching Hospital, Enugu, in the six year period, 1989 to 1995, with follow-up ranging from 4 to 10 years (with a total study period spanning 1989 to 1999), is reported. Information was collected from the case records of the patients.

The parameters studied included the personal data such as age and gender, blood pressure at first visit, occupation and recorded complications. We also looked at the default rate, length of time before first default and compared the number of drugs, age and complications with default rate.

Data were analyzed using two-way ANOVA and statistical significance was taken as $P < 0.05$. Average values are expressed as mean ± SD.

RESULTS

Case records of 410 adult Nigerians with hypertension seen over a 10 year period .were studied. Of these 410 patients, 224 (55%) were males, whereas 184 (45%) were females, giving a male: female ratio of 1.2:1 (Table 1).

TABLE 1: AGE AND SEX DISTRIBUTION

AGE RANGE	SEX		TOTAL
	M	F	
18 – 30	9	14	23
31 – 40	25	25	50
41 – 50	55	53	108
51 – 60	63	48	111
61 – 70	48	36	84
71 – 80	20	7	27
>80	4	1	5
Total Age	224	184	408
Age N/S			2 [410]

N/S = Not stated

Four hundred and eight patients had their ages recorded. Their ages ranged between 19 years and 86 years with a mean (SD) age of 52.7 (13.1) years.

TABLE 2: LENGTH OF TIME BEFORE DEFAULT

NO. OF VISITS BEFORE DEFAULT	LENGTH OF TIME BEFORE DEFAULT												
	Less than 2/52	2 to 4 weeks	>4weeks to 4 months	>4 months to 1 year	1-2 yrs	3 yrs	4 yrs	5 yrs	6 yrs	7 yrs	8 yrs	9 yrs	10 yrs
1	25	26	26	13	2	-	-	-	-	-	-	-	-
2	1	41	41	9	9	-	-	-	-	-	-	-	-
3	-	13	13	18	9	-	-	-	-	-	-	-	-
4	-	-	-	25	12	-	-	-	-	-	-	-	-
5	-	-	-	8	8	1	-	-	-	1	-	-	-
6	-	-	-	2	14	-	-	-	-	-	-	-	-
7	-	-	-	-	10	1	-	-	-	-	-	-	-
8	-	-	-	1	7	1	-	-	-	-	-	-	-
9	-	-	-	-	3		-	-	-	-	-	-	-
10	-	-	-	-	2	1	1	-	-	-	-	-	-
11-15	-	-	-	-	3	7	2	-	-	-	-	-	-
16-20	-	-	-	-	-	8	1	2	-	1	1	-	-
21-30	-	-	-	-	-	3	4	1	1	1	-	-	-
31-60	-	-	-	-	-	-	1	-	-	-	1	-	2

Forty percent (166) of the patients had already defaulted by the 3rd visit, with 106 (25.9%) of them defaulting within 1 month of their presentation. Two patients attended for up

to 10 years (duration of study) with-out defaulting: one at the 59th visit, and the other at the 54th (Table 2). Only 49 patients (12%) did not default at all.

The default rate by age group is shown in figure 1. The 41-50 and 51-60 years age groups accounted for more than half of the patients (53%, 219 patients). While this group (41-60 years age group) contributed more than 61% of those who never defaulted, they also recorded the highest default rates (52.4%). Those aged 80 years and above accounted for the least number of patients and defaulters respectively.

The default rate was significantly affected by the number of antihypertensive drugs the patients were placed on ($P < 0.0001$). There was also significant difference in the default rate as measured by the number of visits at which the patients defaulted ($P < 0.0001$) (Table 3).

FIG 1: DEFAULT RATE BY AGE GROUP

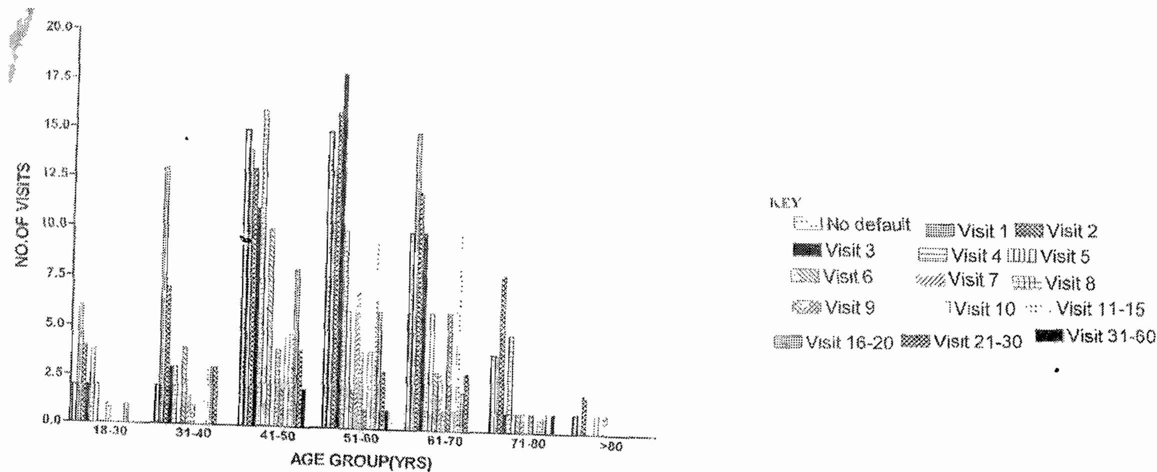

TABLE 3: NUMBER OF DRUGS VS DEFAULT RATE

NUMBER OF DRUGS	NUMBER OF VISITS BEFORE DEFAULT														
	0	1	2	3	4	5	6	7	8	9	10	11-15	16-20	21-30	31-60
1	15	29	22	17	12	13	6	5	6	2	2	10	5	5	1
2	16	29	23	15	18	7	5	6	3	5	5	15	3	3	2
3	11	4	8	5	2	0	5	1	1	0	2	2	3	3	0
4	2	3	1	2	1	1	2	0	2	0	1	2	0	2	1

2-WAY ANOVA

Source of Variation	% of Total Variation	P Value
Visits	38.03	0.0001
Drugs	35.07	0.0001

Housewives were the highest "occupational group" attending the clinics (136:33%) and were mostly in severe hypertensive region (59.6%). Native doctors

also presented to the clinic (twice) while the traditional rulers presented least (0.2%). Most patients presented initially with moderate or severe hypertension (85.6%); (Table 4). Housewives, however, accounted for 17 (34.7%) of the patients who never defaulted.

Twenty of the patients (4.9%) in table 4 presented initially at the Cardiac Clinic with normal BP reading. These, as shown from their case records, were known hypertensives, who had been started on antihypertensive therapy from their referral source – especially the general outpatient department.

Nigeria on hypertension[10], and other systemic diseases[9,11,12]. This high default rate at clinic attendances could be attributable to factors earlier highlighted, especially long distances from places of referral, some for hours, from places of referral to the center - a tertiary health care institution[9]; high cost of antihypertensive drugs [1,9,12]; and particularly, inadequate patients education on the course of the disease and duration of treatment[10,9,12]. A significant contributory factor, based on all the foregoing, is how ill a patient feels which is a documented motivating factor[13]. The tendency for patients to 'abandon' their 'sick role,' medications and clinics, and return to their normal life style [14] once they are symptom free (which can happen after the first few visits on antihypertensive therapy) and never bother to return, especially if they come from far distances, is rife in our environment.

TABLE 4: DEFAULT RATE BY OCCUPATION & BP

OCCUPATION	NORMAL	MILD	MODERATE	SEVERE	TOTAL	%
Housewife	10	9	36	81	136	33.0
Civil Servant	4	7	18	32	61	14.9
Trader/Business	1-	2	14	31	47	11.5
Pensioner	-	4	8	21	33	8.0
Farmer	2	3	10	16	31	7.6
Teacher/Lecturer	-	4	11	10	25	6.1
Artisan	-	5	4	11	20	4.9
Professionals	-	1	7	12	20	4.9
Clergy	1	2	5	5	13	3.2
Student/Applicant	-	-	3	6	9	2.2
Contractor	-	2	1	1	4	1.0
NOT INDICATED	3	-	1	-	4	1.0
Native Doctor	-	-	-	2	2	0.5
Soldier	-	-	1	1	2	0.5
Prisoner	-	-	1	1	2	0.5
Traditional Ruler	-	-	-	1	1	0.2
TOTAL (PERCENTAGE)	**20 (4.9%)**	**39 (9.5%)**	**120 (29.3%)**	**231 (56.3%)**	**410**	**100**

DISCUSSION

This study shows that the default rate among adult hypertensive Nigerians is high. This finding is in keeping with other studies in

The default rate from this study was highest in the 41 – 60 year age groups. However, this can be viewed against the background of patients in this age range

contributing more that half of clinic attendance and more than 60% of non-defaulters. Patients above 70 years of age contributed only 7.8% of the total patients seen. This trend is in keeping with a previous study[15], where 56.5% of the patients were in the 41 – 70 year age group with only 7.18% of the total 5538 patients seen being more than 70 years.

This, however, contrasts with the trend in Caucasians, where for example, hypertension trend increased progressively with age, to above 80 years of age[16,17]. The reason for this contrast could be linked to the relatively shorter life span prevalent in developing countries, Nigeria particularly, with fewer people attaining the age of 60 years and above. More realistic is the fact that in the health service provision in this country traditional (unorthodox) healers are highly patronized in preference to orthodox medicine[11,12]. The former promise total cure for hypertension as against the latter's teaching of lack of cure for same, though with possibility for good control. Our population, especially the elderly, tends to tilt therefore to the traditional healers more for the above, but also for easily accessible and relatively cheap services as compared to the costly and as-yet-not fully accessible government/orthodox health services. This is pertinent especially when viewed against the absence of state funded health welfare scheme in our nation[15].

It could also be deduced from the study that the number of antihypertensive drugs patients were placed on affected significantly their compliance and default rate. Two hundred and eighty five of the 339 defaulting patients (84.1%) were on 2 drugs or less for treatment, as against only 8 (5.3%) on 4 drugs. Equally so, 54.6% of defaults were within the first 5 visits for patients on 2 or less drugs as against 5.6% for 3 drugs and 2.4% for 4 drugs. This finding is supported by findings from other studies, in Caucasians[18,19]. It is well documented that improved success of aggressive early treatment of hypertension avoids non-compliance associated with patient frustration[20].

This study recorded the highest attendance rate from housewives (33%), far outstripping the civil servants (14.9%) and professionals (4.9%). Out of the 184 female attendances, 136 (73.9%) were housewives. Could this be an indication of an increased awareness rate among this group? This could be plausible especially as it may be pointed out that by the nature of their "occupation," they should be more relatively disposed to health talks and enlightenment campaigns in the radios and televisions. Interestingly too, two native doctors identified themselves at the clinic. The impact of health talks and campaigns especially with respect to the response of housewives and native doctors lends itself to further research.

On a rather worrisome note is the revelation from the study that 231 (56.3%) of the patients presented initially with severe hypertension. In 39 (9.5%) of the population presentation was with mild hypertension. As stressed earlier, the poor orthodox health seeking behaviour [11,12], tendency to be motivated only by how ill a patient feels, and appearing at the hospital as a last resort, due to the low purchasing capacity,[1,11] of our people may account for this. Due to escalating cost of drugs and the reality that most hypertensive patients in Nigeria are poor, the Nigerian Hypertension Society convened a meeting to determine Guidelines for the Management of hypertension in Nigeria[21]. The fact that the center is a tertiary health institution may also explain this scenario.

The setbacks in this study include its retrospective nature with its attendant problems. Being a hospital (tertiary level) based study; this may not reflect what exactly obtains in the population. Many patients who present at the General Out Patient and other medical out-patient clinics of the hospital are not represented in this study.

RECOMMENDATIONS

More intensive and appropriately targeted health education campaigns are required to provide the populace with information on the course of hypertension and

the need for and benefits of complying with appointments.

Special support from both government and international bodies is solicited to subsidize antihypertensive medications.

Rational antihypertensive drugs prescription by clinicians is also advocated to stem patients frustration arising from the duration of time taken to control the blood pressure.

Self-measurement of blood pressure, which promotes better patient understanding of the disease and the effects of treatment, and allows the patient to become more involved in the management of their condition, should be encouraged.

A population based prospective study may provide more reliable and comprehensive information on the clinic compliance pattern of adult hypertensive Nigerians.

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