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Evaluation of Patient's Antihypertensive Medication Counselling Provided by Pharmacists in a Tertiary Health care setting in Nigeria

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ABSTRACT

The aim of the present study was to ascertain the level of patient's antihypertensive medication counselling provided by Pharmacists. One hundred and fifty two (152) outpatients that visited the consultant outpatient clinic of the cardiology unit of the department of medicine, University of Maiduguri Teaching Hospital (UMTH), Maiduguri, Borno state, Nigeria were interviewed using a self-administered pre-tested structured, mostly closed ended questionnaire. Data analysis was done using the Statistical Package for Social Sciences (SPSS) version 16 for windows®. The study participants had a mean (SD) age of 49.3 $\pm$ 1.0. Out of 95(62.5%) that received medication counselling, 23(15.1%), 52(34.2%), and 20(13.2%) were counselled by medical doctors, pharmacists, and sales personnel respectively. There was a significant association between the medication counselling provided and the providers. Only 41(27.0%) of the participants exclusively bought their antihypertensive medications from the hospital pharmacies. One half of the study population 76(50.0%) did not know the names of the antihypertensive medications they were taking. Large proportion of the study participants 61(40.1%) did not know the duration of their therapy. Outstanding high number of the participants 106(69.7%) did not know the side effects of their antihypertensive medications. Majority of the participants 120(78.9%) sometimes missed to take their medications, and there was a significant association between action taken towards the missed dose(s) and missed dose(s) of antihypertensive medications. This study revealed a low level counselling of patients on their antihypertensive medication by pharmacists.

Keywords: Counselling, Hypertensive medications, Patients, Pharmacists.

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INTRODUCTION

Hypertension is one of the major chronic diseases resulting in high mortality and morbidity in today's world [1]. Poor control of this highly prevalent disease can lead to the development of ischemic heart disease, stroke and Chronic Renal Failure. Lack of patient education and counseling programmes on antihypertensive medications could contribute significantly to the problem of non-adherence [2]. No matter how appropriate, and cost-effective antihypertensive medications prescribed by physicians may be, they will result to problems in the hands of patients if they were dispensed to them by pharmacists without the corresponding relevant information/instructions on the use of medications. This underscores the importance of patients medication counselling. For practical purposes in day to day practices, every pharmacist working in the hospital or community pharmacy has a professional obligation to use his/her pharmaceutical and therapeutic knowledge to help patients receive the most benefit from the medications dispensed [3].

Patient counselling is defined as providing medication information orally or in written form to the patients or their representatives on directions of use, advice on side effects, precautions, storage, diet and life style modifications [4]. Patient counselling has the following objectives - Patients to recognize the importance of medication for their well-being; to establish therapeutic relationship and a foundation for continuous interaction and consultation with the patients; Patients to understand the strategies to deal with medication side effects and drug interactions; to ensure better patient medication adherence; Patient to become an informed, efficient and active participant in disease treatment and self-care management; to perceive pharmacist as a professional who offers pharmaceutical care; to prevent drug interactions and adverse drug reactions [4]. Patient medication counselling may benefit the patient in a number of ways including overall cost reduction for treatment and improvement in quality of life [3].

Several guidelines have been published regarding the points to be covered while counseling patients. The Omnibus Budget Reconciliation Act (OBRA)[5] guidelines specify that the pharmacist should discuss at least the following points while counseling patients: Name and description of the medication; the dosage form; route of administration; duration of therapy; special directions and precautions for preparation; administration and use of the prescribed drugs by the patient; common side effects or adverse effects or interactions and therapeutic contraindications that may be encountered, including their avoidance, and the action required if they occur; techniques of self-monitoring of drug therapy; proper storage; prescription refill information; action to be taken in case of missed dose.

Counselling hypertensive patients requires insight, creativity, and ingenuity, because fixed message will fall flat. Nevertheless, effective counselling covers three essential themes: improving health status with adherence, providing information on adverse effects and contraindications, and promoting healthy behaviours. Because patients' adherence is lower for symptomless conditions including hypertension [6].

Studies that involved patient's antihypertensive medication counselling by pharmacists have been carried out in Nigeria. A study conducted in Ife, south western Nigeria involved participating pharmacists counselling patients on their current antihypertensive medications [7]. Another study carried out in Ilorin, also in the south western Nigeria revealed that consistent antihypertensive medication counselling offered to patients by pharmacists greatly improved adherence rate [8]. A study in Benin City, South southern Nigeria concluded that patients rated patient education/counselling as fairly beneficial [9]. These studies were carried out in other geopolitical regions of Nigeria; they incorporated Pharmacist's antihypertensive medication counselling, but did not carry out assessment of patient's antihypertensive medication counselling provided by pharmacists. Maiduguri is in the north eastern Nigeria, a region which to the best of our knowledge has not been evaluated for patient's antihypertensive medication counselling provided by pharmacists. The objective of the study therefore, was to ascertain from patients the level of antihypertensive medications counselling they received from pharmacists.

METHOD

Setting

The study was conducted at the consultant outpatient clinic of the cardiology unit of the department of medicine, University of Maiduguri Teaching Hospital (UMTH), Maiduguri, Borno state, Nigeria. This area lies between latitude 1150 N and longitude 1350 E with an altitude of 345 meters above sea level and shares borders with three (3) West African countries namely Chad, Niger, and Cameroun, whose indigenes often reside and trade in Maiduguri. The vegetation falls under the Sahel zone of West Africa. It is a semi-arid region with a short period of rainfall.

Data collection process

Ethical clearance and informed consent were obtained from the Ethics and Research Committee of the hospital and participants respectively before the commencement of the study. Randomly sampled one hundred and fifty two (152) outpatients that visited the consultant outpatient clinic of the cardiology unit of the department of medicine, UMTH, Borno state, Nigeria were interviewed using a self-administered pre-tested structured, mostly closed ended questionnaire from August – November, 2011. The questionnaire was divided into two parts. Part A was aimed at obtaining the demographic profile of the participants. Part B was aimed at obtaining information on the antihypertensive medication counselling, and was however designed using a 2-point Likert response format consisting of Yes, No options and a few open ended questions.

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Data Analysis

Statistical Package for Social Sciences (SPSS) version 16.0 for windows® was used for analysis. For the 2-point Likert scale used, a mark of two (2) was awarded for Yes, one (1) for No, and zero (0) for no response. Chi-square analysis was used to test for statistical significance. A P-value of ≤ 0.01 was considered statistically significant.

RESULTS AND DISCUSSION

Socio-demographic characteristics

Participants' ages ranged from 19-83 years with a mean (SD) of 49.3 ± 1.0 years (Table: 1). The mean age obtained in this study is in line with that obtained in a study conducted in Karachi Pakistan [10], and Ekiti [11], south western Nigeria and contrary to the one obtained in Sagamu [12] Nigeria, and Ibadan [13] also in south western Nigeria. Female participants dominated (Table: 1) with 97 (63.8%), this is in agreement with the studies carried out in Sagamu [12], Ekiti [11] in south western Nigeria, and Ilorin [8] south western Nigeria. Most of the participants were married 136 (89.5%). Civil servants were in the majority 47 (30.9%).

Table 1: Socio-demographic characteristics of the study participants (n = 152) of Mean (SD) age of 49.3 ± 1.0 years

Participants' Characteristics	Frequency	Percent (%)
Gender		
Male	55	36.2
Female	97	63.8
Marital Status		
Married	136	89.5
Unmarried	3	2.0
Divorced	5	3.3
Widowed	8	5.3
Occupation		
Civil Servants	47	30.9
Retired workers	16	10.5
Business Persons	23	15.1
Farmers	1	0.7
House Wives	18	11.8
Unemployed	46	30.3
Student	1	0.7
Level of Education		
Uneducated	62	40.8
Primary	17	11.2
Secondary	17	11.2
Tertiary	56	36.8

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Antihypertensive medication counselling personnel

On purchase of antihypertensive medications, 56(36.8%) of the participants did not receive medication counselling. Out of 95(62.5%) that did 23(15.1%), 52(34.2%), and 20(13.2%) were counselled by medical doctors, pharmacists, and sales personnel respectively. There was a significant association between medication counselling provision and the provider (Table 2). This shows that patient's antihypertensive medications taking behaviours was dependent on the personnel that provided the counselling. This finding is consistent with the finding of a study [8] that revealed that patients that received antihypertensive medication counselling from pharmacists were more adherent to their antihypertensive therapy than those that did not. On the contrary, this finding is inconsistent with the finding of another study carried out in Tanzania [14]. However, when the medication counselling is performed by the right health care provider (pharmacists) it engenders adherence to antihypertensive medications. The health care professional that is trained to provide medication counselling is the pharmacist who is also a pharmaceutical care practitioner. This is consistent with literatures [4, 15] which stated that pharmaceutical care has become the dominant aspirations of pharmacy practice worldwide and in the past decades and aimed to improve therapeutic outcomes. Patient medication counselling is an important means for achieving pharmaceutical care. Patient medication counselling by pharmacist deals with providing information to the patients regarding the medications.

Table 2: A cross-tabulation of provision of antihypertensive medication counselling, and the health care professional that provided the counseling (n = 152)

		On purchase of drugs, did you receive counselling on your antihypertensive medication(s)?		Total
	Providers	**No**	**Yes**	
If yes, who provided the counselling?	No response	56	0	56
		36.8%	0.0%	36.8%
	Medical doctor	0	23	23
		0.0%	15.1%	15.1%
	Pharmacist	1	52	53
		0.7%	34.2%	34.9%
	Sales boys/girls	0	20	20
		0.0%	13.2%	13.2%
Total		57	95	152
		37.5%	62.5%	100.0%

X^2 = 1.478; df = 3; P = 0.000

Place of purchase of antihypertensive medications

In Table 3; only 41(27.0%) of the respondents exclusively buy their antihypertensive medications from the hospital pharmacies where the presence of pharmacists are guaranteed. The vast majority buy their antihypertensive medications from pharmacy shops in the city of Maiduguri and environs where pharmacists that registered the premises could be hardly seen,

let alone provision of medication counselling, and patent medicine stores which in the first place are not licenced to sell ethical (prescription) drugs. The ugly trend revealed by this study is as a result of medications out of stock syndrome experiences in the pharmacies of the area of study.

Table 3: A cross-tabulation of places of purchase of antihypertensive medications and provision of antihypertensive medication counselling (n = 152)

		On purchase of drugs, do you always receive adequate information on the antihypertensive medication(s)?		Total
	Place of Purchase	**No**	**Yes**	
Where do you buy your antihypertensive medications from?	Hospital pharmacies	15	26	41
		9.9%	17.1%	27.0%
	Pharmacy shops	28	48	76
		18.4%	31.6%	50.0%
	Patent medicine stores	11	14	25
		7.2%	9.2%	16.4%
	Hospital pharmacies and Pharmacy shops	3	7	10
		2.0%	4.6%	6.6%
Total		57	95	152
		37.5%	62.5%	100.0%

$X^2 = 0.719$; df = 3; P = 0.869

Antihypertensive medication counselling variables

One-half of the study population 76(50.0%) did not know the names of the antihypertensive medications they were taking (Table 4). This is consistent with the finding of a study in Tanzania [14]. The implication of these findings is if per chance these participants experienced any adverse drug reactions or any other drug related problems they would not be able to report which drug that caused it. Furthermore, they would also not be able to inform the physician or pharmacist which antihypertensive they were using [14]. However, these findings revealed that patient's knowledge about their disease and treatment is not always adequate [16]. Patient's knowledge of the names of the antihypertensive medications they were taking is the starting point with regards to antihypertensive medications adherence. For a patient to become an active participant in the management of his disease condition(s), first and for most the patient should know the disease condition(s) that they are suffering from, followed by the name(s) of the antihypertensive medication(s) prescribed to manage the condition(s). For practical purposes, the pharmacist should repeat the names of the antihypertensive medications frequently so that patients become familiar with them [6]. Majorities 125(82.2%) knew the purpose of their antihypertensive medications, while 27(17.8%) did not know (Table 4). This finding substantiates the fact that some patients lack understanding of the role their therapies play in the management of their disease conditions

[16]. Consequently these patients may not adhere to their treatment regimen, since they were not adequately informed about their disease condition(s) [8]. Most of the participants 115 (75.5%) knew the dose/frequency of their antihypertensive medications (Table 4). This finding is not in agreement with the finding of a study in Tanzania [14]. Pharmacists should at all times make suggestions that incorporate multiple daily doses into the patient's routine, specifying the number of times per day to take the medication, asking specific questions about the patient's ability to follow direction such as, this medication must be taken twice, when in your day do you think you would take it? [6]. Large proportion of the study participants 61(40.1%) did not know the duration of their therapy (Table 4). A study that was carried out in Ekiti attributed ignorance of the need for long-term treatment as one of the reasons of poor adherence amongst the participants [8]. As a result of ignorance some patients would think that the need for antihypertensive medication is intermittent, so when they feel better they would stop taking medications to see whether medication is still needed [17]. However, sudden termination of many antihypertensive medications may lead to rapid dangerous blood pressure escalation [6]; thereby giving rise to complications development and in some cases outright death of the patients. Moreover, the Pharmacist should always tell patients to keep enough medicine to last through weekends, holidays, or vacations. Written information should be provided to reinforce counselling, especially when someone else picks up the patients antihypertensive medications [6].

Outstanding high number of the participants 106(69.7%) did not know the common side effects of their antihypertensive medications. The side effects ignorance is accountable for patients stopping their antihypertensive medications when they feel worse, and this is one of the causes of antihypertensive medication non-adherence. Adequate counselling should be made ideal by offering tips for coping with common adverse effects, noting rare but serious side effects, and describing the circumstances under which patients should contact their providers. However, the Pharmacists should warn patients about drug, food, or over the counter (OTC) product interaction and other contraindications. The pharmacist should highlight transient side effects, reinforcing the fact that many such as orthostasis or gastrointestinal complaints are temporary, also counselling patients on the dangers of stopping the medications before talking to their physicians [6].

Table 4: Patient's Antihypertensive medications counselling parameters (n = 152)

Antihypertensives Therapy knowledge	Frequency	Percent (%)
Drug Name		
No response	3	2.0
No	76	50.0
Yes	73	48.0
Drug purpose		
No	27	17.8
Yes	125	82.2
Drug dose/frequency		
No	37	24.3
Yes	115	75.7

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Drug side effects		
No response	4	2.6
No	106	69.7
Yes	42	27.6
Duration of therapy		
No response	15	9.9
6months – 1 year	1	0.7
2 – 3 years	4	2.6
Life time	70	46.1
Not told	56	36.8
When better	6	3.9

Out of 120(78.9%) participants that sometimes missed to take their antihypertensive medications as prescribed, 110(72.3%) took their antihypertensive medications as soon as they could and took only that dose when it was almost time for the next dose, 10(6.6%) forgot the dose completely. There was a significant association between the actions taken and missed doses of antihypertensive medications (Table 5). This finding revealed that the majority of the participants were well counselled on what to do in an event of missed doses of their antihypertensive medications. It is the professional responsibility of a Pharmacist to inform patients on what to do if they miss a dose –either to take their antihypertensive medications as soon as they could and take only that dose when it is almost time for the next dose, and not to take double or extra doses [6]. For these reasons; counselling about antihypertensive medications is very useful in improving patients' medication adherence [16] thereby eliminating or minimizing morbidity and mortality that are associated with antihypertensive medications non-adherence.

Table 5: Cross tabulation of action taken towards missed dose of antihypertensive medications and missing taking antihypertensive medications at the appropriate time (n = 152)

		Do you sometimes miss taking your antihypertensive medications at the time you are supposed to take it?			Total
	Actions	**No response**	**No**	**Yes**	
If yes, what do you do when you miss a dose of your antihypertensive medications?	No response	2	30	0	32
		1.3%	19.7%	0.0%	21.1%
	Take as soon as you remember if the time of the next dose is far/skip if it close	0	0	110	110
		0.0%	0.0%	72.3%	72.3%
	Forget it completely	0	0	10	10
		0.0%	0.0%	6.6%	6.6%
	Take double or extra dose	0	0	0	0
		0.0%	0.0%	0.0%	0.0%
Total		2	30	120	152
		1.3%	19.7%	78.9%	100.0%

X^2 = 1.520; df = 6; P = 0.000

Study limitation

Some of the study limitations worth of mentioning are the use of self-reporting questionnaires which only rely on the honesty of those reporting them. Secondly, all aspects of medication counselling were not covered in this study. More so, interviewers bias was another potential limitation due to fact that those who had no formal education filled the questionnaire with the help of interpreters, though we believe that this effect should be minimal as all of them were trained before the commencement of the study and they were highly experienced in this regard. Finally the cross-sectional nature of the study creates difficulties in ascertaining casualty.

CONCLUSIONS

The findings of the study are not acceptable at this era of pharmaceutical care which ensures that patients have all the relevant information about their drug therapy, in order to adhere to their medications. We recommend the overhauling of the pharmacy department of the study area to empowering pharmacist to implement pharmaceutical care fully by employing pharmacists with the relevant knowledge and skills required to provide pharmaceutical care to patients. Secondly, the management of pharmacy department should review their drug procurement and stocking programmes, in order to surmount the challenges that medications out of stock syndrome poses to the pharmacy department of the study area in particular, and at large to the standard of pharmacy practice in Nigeria, therefore not subjecting patients to constantly be at the mercies of sales boys/girls in the pharmacy shops and patent medicines stores in the city for medication information.

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Conflict of interest

All views expressed in this paper are those of the authors as they do not in any way represent that of the staff and management of UMTH, Maiduguri, Borno state, Nigeria. The authors declare no conflict of interest.

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APPENDIX

QUESTIONNAIRE

PART A

Fill in the blank spaces and tick [√] the appropriate option(s)

AGE _____Years
SEX (a) Male [ ] (b) Female [ ]
Marital status (a) Married [ ] (b) Single [ ] (c) Divorced [ ] (e) Widowed [ ]
Occupation (a) Civil servant [ ] (b) Retired worker [ ] (c) Businessman/woman [ ] (d) Unemployed [ ]
Level of education (a) Not educated [ ] (b) Primary [ ] (c) Secondary [ ] (d) Tertiary [ ]

PART B

1. Where do you buy your antihypertensive medications from?
   (a) Hospitals [ ] (b) Pharmacy shops [ ] (c) Patent medicine stores [ ] (d) Drug vendors [ ]
2. When you buy your medications do you receive adequate information on the antihypertensive medications and how to take them? Yes [ ] No [ ]
3. If yes who gives you the information?
   (a)Medical doctor [ ] (b) Pharmacist [ ] (c) Lab scientist [ ]
   (d) Sales boys/girls [ ] (e) Drug vendors [ ]
4. Do you know the name(s) of the antihypertensive medication(s) that you are taking? Yes [ ] No [ ]
5. Do you know the reason while you are taking antihypertensive medications? Yes [ ] No [ ]
6. Do you know the dose/frequency of your antihypertensive medications? Yes [ ] No [ ]
7. Do you know some side effects of your antihypertensive medications? Yes [ ] No [ ]
8. How long were you told that you are going to take these antihypertensive medications?
   (a) Less than 6 months [ ] (b) 6months -1 year [ ] (c) 1 -2years [ ]
   (d) Life time [ ] (e) others specify _____
9. Do you sometimes miss taking your antihypertensive medications?
   (a) Yes [ ] (b) No [ ]
10. What do you do when you miss a dose of your antihypertensive medications?
    (a)Take it as soon as you could and take only that dose when it is almost time for the next dose[ ]
    (b)Forget it completely [ ]
    (c)Take double or extra dose [ ]

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