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Knowledge, Attitude and Practice of Physicians in the Treatment of Hypertension in North-Central Nigeria

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Abstract

Background and Objectives: Hypertension is a global health hazard and most cases are first attended to by the physicians. Achieving a control will depend on the knowledge, attitude and practice of the physicians. We therefore determined the knowledge, attitude and practices of physicians on the detection and treatment of arterial hypertension in north-central Nigeria. Design and Methods: A cross-sectional study of 100 of the 250 physicians attending a continuing medical education lecture series in Bida was conducted using a pre-validated self administered questionnaire. Results: The mean age of the physicians was 41.05 ± 8.71 years and 59 (73.8%) were males. Forty-one (51.2%) of them have practiced for more than 10 years. Arterial hypertension was considered an important health problem by 93.8% of the physicians, 30% of them believed that it should not be referred to a specialist. Majority of the physicians request for urinalysis (96.2%), electrocardiogram (95.0%), fasting blood glucose (88.8%), blood urea nitrogen (98.8%) and fasting lipid profile (97.5%) to either assess target organ damage or associated co-morbid conditions. Fifty-seven (71.2%) of the physicians prescribe diuretics as the initial drug. However, the knowledge of the other drugs on initiation of therapy of mild uncomplicated hypertension was poor. The sources of information on arterial hypertension by physicians were scientific programs (73.8%), drug companies (38.8%) and journals in 11.3%. Conclusion: The knowledge, attitude and practice of physicians in the detection and management of hypertension were modest. Educative programs like continuing medical education, seminars, and conferences on cardiovascular disorders are advised to be organized regularly to strengthen these and update the physicians.

Keywords

Arterial Hypertension, Physicians, Continuing Medical Education, North-Central Nigeria

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1. Introduction

Arterial hypertension is a global health hazard that is frequently encountered in clinical practice. The prevalence of arterial hypertension in Nigeria is on the rise, with age adjusted prevalence of 9.3 - 14.5% [1]-[3] during the 90's to between 20% - 25% according to recent studies [4] [5]. This translates to about 37 million Nigerians with arterial hypertension.

There is still uncertainty about the pathogenesis of arterial hypertension. However, derangement of physiological mechanisms involved in the maintenance of normal blood pressure, and an underlying renal or adrenal disease may play a part in its development [6]. Most patients with arterial hypertension are asymptomatic except when there are complications. It is thus imperative for physicians since most of the clinical features and laboratory findings are referable to involvement of the target organs: heart, brain, kidneys, eyes, and peripheral arteries [7].

Continuing medical education is a specific form of continuing education that helps those in the medical field maintain competence and learn about new and developing areas of their field. Physicians attend at regular intervals to acquire credit units to maintain their licenses by the professional regulating bodies.

Previous studies have shown that dissemination and implementation of guidelines on arterial hypertension by the physicians on the care of patients are lacking [6]. This knowledge gap will result in the provision of ineffective services. Hence, achieving a control and adopting preventing measures to this highly prevalent disease should be a collective effort of all cadres of physicians. Since individuals with hypertension are likely to be seen first by physicians at the community level, ascertaining their knowledge, attitude and practice is fundamental for effective diagnosis, evaluation and treatment [7]-[10].

The aim of this study was to determine the knowledge, attitude and practices of physicians on arterial hypertension in relation to detection, investigation and treatment.

2. Materials and Methods

A cross-sectional survey of one hundred of the 250 physicians that attended the continuing medical education series in Bida in September, 2011 were randomly recruited for this study. The questionnaire was pre-tested on 10 randomly selected residents' doctors in the hospital to ensure validity and interpretation of responses. It consisted of questions on knowledge, attitude, and practice of physicians on the diagnosis, evaluation and treatment of hypertension. Items in the questionnaire included demographic data, place of practice, and year of graduation. Responses to items for the three areas of knowledge, attitude and practice were yes, no, or don't know. The level of knowledge, attitude and practice mean percentage score was considered poor if it is less than 50%, fair (modest), from 50% to 75%, and good if more than 75%. Medical practitioners with specialist training were excluded. Ethical approval was granted by Ethical Committee of Federal Medical Centre, Bida.

3. Statistical Analysis

The statistical package for social sciences SPSS, version 16.0 (SPSS Inc., Chicago, Illinois, USA) was used for statistical analysis. Categorical variables were expressed as proportions and percentages while continuous variables were expressed by their mean and standard deviation. For all comparisons, a p value of less than 0.05 was considered significant.

4. Results

4.1. General Characteristics of Physicians

Out of the one hundred questionnaires administered, 80 (80%) were returned completed and qualified for assessment. The responding physicians age ranged between 27 to 68 years with a mean of 41.05 ± 8.71 years. There were more males than females (73.75% versus 26.25%, p = 0.000). The years of clinical experience ranged from one year to 40 years, with a median duration of 11 years. Twenty-one (26.3%) of the physicians have practiced for between 1 to 5 years, 17 (21.2%) have their years of experience ranging from 6 to 10 years while those with more than 10 years represented 51.2%. The age of physicians correlated positively with the years of clinical practice (p = 0.000) (**Table 1**).

Table 1. Demographic characteristics of the physicians.

Age (years)	41.05 ± 8.71
Gender (male/female)	74/26
Duration of practice (years)	13.09 ± 9.05
Place of clinical practice	n (%)
Government hospital	57 (71.3)
Private	17 (21.2)
Ministry	2 (2.5)
Others	4 (5.0)

Data are expressed as mean ± standard deviation or as percentage values.

4.2. Knowledge of Physicians on Investigation of Arterial Hypertension

Most of the physicians (93.8%) believed that arterial hypertension is a global health problem. In making a diagnosis of arterial hypertension, 10%, 35% and 55% of the physicians believed that one, two and three visits were enough respectively. Only 30% of them referred their patients with arterial hypertension with complication to specialist. A good blood pressure control was considered to be 120/75 mmHg, 130/80 mmHg and 140/90 mmHg by 45%, 30% and 25% of the physicians respectively. Fifty-one of them (63%) indulged in self treatment of hypertension. Forty-one (51.2%) of the respondents agreed that hypertension is stress related and 61 (76.2%) do not believe in herbal treatment of hypertension. Forty-one (51.2%) of the respondents agreed that hypertension is stress related and 61 (76.2%) do not believe in herbal treatment of hypertension. Forty-six (57.5%) of the physicians send their patients for laboratory investigations to determine target organ damage, but more (81.3%) to assess for associated co-morbid condition (**Table 2**). Although 73.8% of the physicians believed that education programs such as continuing medical education, seminars and conferences were a better way to gather information. Other sources include drug companies, advertisements and journals.

4.3. Attitude and Practice of Physicians on Management of Hypertension

Table 3 shows the attitude and practices of physicians in the management of arterial hypertension. A total of 75 physicians (93.7%) agreed that hypertension is an important health hazard and stress is an important causative factor. Despite the high patronage of herbal remedy that is evident in our society, only 12.5% prescribed it for their patients. Regarding the treatment of arterial hypertension, 36.3% and 71.2% of the physicians reported initiating therapy with angiotensin converting enzyme inhibitors and diuretics respectively. Calcium channel blockers are rarely (22.5%) the first line drug prescribed by the physicians. The level of knowledge in the present study with regards to patients with refractory hypertension is such that 31 (38.8%) of them believed in adjusting the dose of the drugs while 36 (45.0%) of them disagreed.

5. Discussion

The main findings from this study were that majority of the physicians agreed that arterial hypertension is an important health problem. Secondly, a substantial number of them refer their patients for various laboratory investigations to determine target organ damage or associated co-morbidities. However, their knowledge of current antihypertensive drugs therapy was poor.

The finding of our study is consistent with a study by Zibaeenezhad *et al.* [11] conducted in the Fars Province of southern Iran, where the knowledge, attitude and practice of general practitioners were evaluated in relation to hypertension as risk factors for heart diseases. The report demonstrated that almost all the primary care physicians believed arterial hypertension was an important health problem and needed to know more about it. In another study in Saudi Arabia by Ai-Dharrab *et al.* [12], about 80% of their participants also believed that arterial hypertension is an important health hazard. Arterial hypertension is viewed a priority problem by 62.5% of Egyptian physicians [13]. In this same study, the level of knowledge varied with regard to definition of hypertension (61.3%) and treatment of hypertension was fair in 59.8% although, only 19% had guidelines on hypertension.

Our study demonstrated that about 86.2% of physicians agreed that there was need for hypertensive patients to have laboratory evaluation, but eventually only 57.8% actually send their patients to ascertain target organ

Table 2. Knowledge and practice of physicians about investigation of hypertension.

Parameters	Agree n (%)	Disagree n (%)	Don't known (%)
Need for tests	69 (86.2)	7 (8.8)	4 (5.0)
Evaluation for the presence or absence of target organ damage	46 (57.5)	28 (35.0)	6 (7.5)
Evaluation for other co-morbid risk factors	65 (81.3)	0 (0)	15 (18.7)
Type of tests: urinalysis	77 (96.1)	2 (2.5)	1 (1.2)
Blood glucose estimation	71 (88.8)	4 (5.0)	5 (6.2)
Kidney function test	79 (98.8)	0 (0)	1 (1.2)
Electrocardiography	76 (95.0)	1 (1.2)	3 (3.8)
Fasting lipid profile	78 (97.5)	0 (0)	2 (2.5)
Referral to specialist	24 (30.0)	52 (65.0)	4 (5)

Data are expressed as percentage values.

Table 3. Knowledge and attitudes of physicians about hypertension therapy.

Parameters	Agree n (%)	Disagree n (%)	Don't known (%)
Hypertension is an important health hazard	75 (93.7)	2 (2.5)	3 (3.8)
Stress is a cause of hypertension	41 (51.2)	31 (38.8)	8 (10.0)
Non pharmacological treatment of hypertension	52 (65.0)	28 (31.3)	3 (3.7)
Herbal treatment for hypertension	10 (12.5)	61 (76.2)	9 (11.3)
Central acting drugs as first line of therapy	18 (22.5)	43 (53.7)	19 (23.8)
Diuretics as first line drug	57 (71.2)	17 (21.3)	6 (7.5)
Calcium channel blockers as first line drug	67 (46.2)	33 (41.3)	10 (10.5)
Angiotensin converting enzyme inhibitors as first line	29 (36.3)	38 (47.5)	13 (16.2)
Alteration of dug should be the next line in case of treatment failure	31 (38.8)	36 (45.0)	13 (16.2)
Discontinuation of all drugs in case of treatment failure	9 (11.3)	64 (80.0)	7 (8.7)

Data are expressed as percentage values.

damage and 81.3% to rule out associated co-morbid medical conditions. This modest attitude to screening of patients was also established in a study by Al-Khashman [14] in screening people for hypertension in Riyadh, Kingdom of Saudi Arabia where 56% of the primary care physicians routinely screen patients that are more than 35 years of age. In a large study by Hagemeister *et al.* [15] of 11,547 German physicians on the impact of physicians' compliance on hypertension guidelines, adequate guideline awareness was only found in 23.7% of the total study population, specifically 37.1% of the Cardiologists complied, 25.6% of internists and 18.8% of the general practitioners. The duration of private practice significantly influenced the awareness of and less so by regional and municipal factors. In our study, the duration of clinical practice had insignificant effect on responses by the physicians. This might not be unconnected to the fact that, most of these older physicians have undergone several of these continuing medical education courses.

About 30% of physicians reported that they would refer patients with arterial hypertension for specialist care after diagnosis. This finding from our study is consistent with the report by Abdolfotouh *et al.* [13] in primary healthcare physicians in Egypt, where only 43.5% of them refer patients for expert care. This practice might be due to the fact that most physicians either practice in private or general hospitals with very low standards of care and where most don't attend update or refresher courses. Although, management of these patients starts with the physicians, they should realize that the cornerstone of management of hypertensive cases is accurate diagnosis and referral of cases without delay to the specialist [16].

In our study, scientific programs are the commonest way to gather information concerning hypertension management (73.8%) followed by drug companies (38.8%) and journals (11.3%) while internet and textbooks accounted for 6.4% and 7.1% respectively. This is related to the finding by Zibaeenezhad *et al.* [11] which demonstrated that 70% of their physicians received their information from previous educational courses and scientific meetings and only 30% from articles and guidelines.

In the present study, most of the physicians favour the use of diuretics 71.2% in the treatment of mild uncomplicated hypertension. Few of them chose calcium channel blockers, angiotensin converting enzyme inhibitors,

and centrally acting drugs (46.2%, 36.2% and 22.5%) respectively. This is not consistent with the study of Huse *et al.* [17], which demonstrated that only 23% used diuretics and beta-blockers as their initial drug in accordance with the guidelines and that Cardiologists in particular were more likely than internists or general/family physicians to choose other drug classes, such as angiotensin-converting enzyme Inhibitors or calcium-channel blockers. The high rate of use of diuretics in this study might be due to the fact that hypertension in blacks is said to be volume dependant [18].

The present study has a number of limitations. First, the sample size for the study was small and therefore making the results less generalizable, hence studies with larger sample size are advised. Second, although questionnaire used was pre-validated, the respondents could have been biased with their answers. Finally, the exclusion of physicians with specialist training who would have been used for comparison is another factor.

6. Conclusions

In conclusion, this study demonstrated that the knowledge, attitude and practice of physicians in North-central Nigeria on the detection, investigation and treatment of arterial hypertension are modest and scientific programs like continuing medical education among others are important media of acquiring information.

It is hoped that the study will add to the limited knowledge and broaden the understanding of hypertension treatment by physicians in Nigeria and could therefore be extremely useful in planning further continuing medical education.

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