PHARMACEUTICAL CARE OF HYPERTENSIVE PATIENTS ROLE
OF COMMUNITY PHARMACISTS

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KEY WORDS

ABSTRACT

This study evaluated the involvement of community pharmacists in the pharmaceutical care of hypertensive patients.

The study was done in Federal Capital territory (FCT), Abuja and made use of a sample size of 180 community pharmacists.

A questionnaire constructed on a 5-point response scale was used for the study.

Basis for recognition of BP was 140/90 by 65% of the respondents. The pharmacists had an acceptable mean score (3.2) in their ability to recognize high BP through routine check of patients' blood pressure in absence of ailment. Some level of pharmacovigilance was obtained. A mean score of 4.36 in urging patients to check their BP regularly, 4.21 in persuading hypertensive individuals not to smoke and 4.23 in encouraging individual hypertensive to moderate sodium intake revealed an active participation in patient lifestyle modification.

From the results, community pharmacists in FCT, Abuja are involved in the pharmaceutical care of hypertension.

INTRODUCTION

Worldwide, hypertension is common[1] and now regarded as a major public health problem.[2] This disease is estimated to cause 4.5% of current global disease burden and is as prevalent in many developing countries, as in the developed world.[3] Indeed, hypertension accounts for more than 5.8% of total deaths, 1.9% of years of life lost and 1.4% disability adjusted life years all over the world. Hypertension is now being widely reported in Africa and is the most common cause of cardiovascular disease on the continent.[4]

Primary health care (PHC) is the first level of professional contact in the community and this forms the corner-stone strategy for the attainment of level of health that will permit socially and economically productive life.[5] A community pharmacist belongs to this level of health system and as such plays a big role in providing clinical/pharmaceutical services. Through routine assessments, community pharmacists could detect ailments such as high blood pressure. By implementing new guidelines for the management of hypertension, they could participate in controlling the morbidity and mortality of this disease. Guidelines such as that issued by the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7) emphasize patient lifestyle changes, adherence to therapy, and regular monitoring of BP levels.

American Diabetes Association (ADA) and the World Health Organization-International Society of Hypertension (WHO-ISH) also highlight the same goals. As members of interdisciplinary health care team, pharmacists should utilize the JNC 7 guidelines and scientific evidence to consult with physicians about medications, design effective formularies, and collaborate with physicians in evaluating and co-managing patients with hypertension.[6]

This study was aimed at ascertaining the level of community pharmacists' involvement in management of hypertension in Federal Capital Territory (FCT) Abuja. The specific objectives were to find the different measures adopted by community pharmacists in recognizing hypertension in patients that visit their pharmacies, to ascertain level of drug monitoring and to establish the level of involvement of community pharmacists in lifestyle modification.

METHOD

Setting

The survey was conducted from February to May 2003 in FCT Abuja; a city located geographically in the centre of Nigeria and occupies an area of 8000km2. Abuja is the capital of Nigeria with a population of about two million. Majority of the inhabitants are civil servants. Few traders live in the city while others operate from outside the main city. Three hundred and fifty pharmacists reside in Abuja with 80% of them in community practice. As at the time of study, there were 230 registered pharmacies.

Sample

All the 230 community pharmacists in Abuja city (at the time of study) were included in the survey. A questionnaire was self administered on the entire pharmacists in their various pharmacy premises. The completed questionnaires were collected on a follow up visit after one to two weeks. Non responders were interviewed orally to ascertain the reason for their

non-participation. Lack of time was given as the major reason for not participating.

Survey Instrument

A questionnaire was employed in the study. The questionnaire was constructed on a 5- point response scale. It consisted of four sections made up of the personal data section and sections A to C. Items included in the instrument covered different aspects of hypertension management such as diagnostic measures adopted by community pharmacists, drug therapy associated problems encountered and involvement of community pharmacists in lifestyle modification.

The questionnaire was validated after pretest of survey instrument on a sample of 20 community pharmacists.

Analysis of Data

The retrieved completed questionnaires were analysed with SPSS (Statistical Package for Social Sciences, version 10). Data analysis was carried out by simple percentage and mean. The respondents were rated on a 5-point scale, "5" representing the highest mean score and "1" representing the lowest mean score. Mean values greater or equal to 3 suggested a slightly satisfactory performance. All mean values were reported with standard deviation.

RESULTS

The survey questionnaire response rate was 78%. The personal data of community pharmacists that participated in the survey and their basis for diagnosing hypertension are shown in Table 1. Majority of the community pharmacists in FCT, Abuja are males; between the age bracket of 30 to 39 and have practised for between 1 to 5 years. More than one-third of these respondents have seen greater than 69 hypertensive cases in the last one year and about 64% indicated that their basis of recognizing hypertension was when BP was above 140/90 mmHg.

Table 2 shows that community pharmacists rarely diagnose their patients of hypertension on routine

examination for other ailments since that is usually carried out by medical doctors. Regularly, they have been able to identify hypertension on routine check of patient's blood pressure in absence of any ailment, on clinical manifestation of the disease and by studying the prescription presented by the patients.

As shown in Table 3, sexual dysfunction (mean score of 3.06) and poor patients compliance (mean score of 3.28) were the most widely drug associated problems met by community pharmacists in Abuja city. Drug interactions, high or low drug dosage and wrong choice of drugs are rarely encountered.

Using 8-item measures (Table 4), community pharmacists rarely placed their hypertensive patients on exercise as well as adopting measures that will improve individual hypertensive insulin sensitivity. Urging patients to check their BP regularly, discouraging smoking, nutritional counseling, encouraging the obese to lose weight and discouraging alcohol intake formed their regular activities.

DISCUSSION

The results of this survey revealed that community pharmacists in FCT, Abuja provide some level of pharmaceutical care to hypertensive patients. A good number of community pharmacists (63.9%) recognised hypertension based on blood pressure reading consistently above 140/90 as specified by JNC 7. Community pharmacists in FCT, Abuja had satisfactory performance in their ability to identify hypertensive patients in the course of their daily professional activity. A 3.2 mean score in routine check of patient's blood pressure in absence of ailment revealed a good level of pharmaceutical care outlook. There was some level of pharmacovigilance as they were able to detect some medication related problems especially sexual dysfunction (mean score of 3.06) and poor patients compliance (mean score of 3.28). Hypertension treatment/management guidelines also stress on patient lifestyle changes. A mean score of 4.36 in urging patients to check their BP regularly indicated that community pharmacists in FCT, Abuja participate

actively in patient lifestyle modification. They also scored very high in persuading hypertensive individuals not to smoke (4.21), give nutritional counsel (4.06), encourage obese patients to lose weight (4.10), discourage alcohol intake (4.21) and encourage hypertensives to moderate sodium intake (4.23).

The result from this survey is impressive compared to other studies of this nature that have been carried out in Nigeria. A couple of surveys of Nigerian community pharmacists' involvement in various PHC programmes have been conducted. A survey carried out in Lagos showed that community pharmacists have not been adequately integrated into PHC programmes[7]. With particular reference to hypertension, Oparah and Arigbe-Osula[5] carried out a study in Benin to evaluate the involvement of community pharmacists' in PHC. The study indicated that community pharmacists' in Benin scored a mean average of 2.65 on 5 point scale (35% performance) on screening of hypertension. They rarely treat or take part in managing hypertension (mean score, 2.55).

All over the globe, community pharmacy-based hypertension management model is being encouraged, with the goal of improving hypertension control at community level through a more active involvement of pharmacists in the prevention, detection and management of hypertension. A community pharmacist is a highly trained professional who can be seen without prior arrangement, in a familiar setting which is often regarded to be part of an every day shopping occurrence. Pharmacists are therefore the most highly accessible members of the primary health care team. Community pharmacies are visited by both people who are sick and people who are in good health and as such have a potential for health promotion and disease prevention. A regular visit of a person with hypertension for prescribed drug therapy puts the patient in a regular contact with the pharmacist and provides opportunities for intervention.[8] Numerous studies have been carried out to ascertain the level of community pharmacists'

involvement in the management of hypertension. Sookaneknun et al were able to establish that hypertensive patients who received pharmacist input achieved a significantly greater benefit in BP reduction, BP control, and improvement in adherence rate and lifestyle modification.[9] Carter in his study to evaluate the pharmacists' collaborative role in the management of hypertension showed that the expanded role of clinical pharmacists in programs for evaluating, monitoring, and treating patients with hypertension can result in improved adherence to therapy and established guidelines.[6] In Canada, the effect of a pharmaceutical intervention program on blood pressure (BP) and factors affecting BP was explored. Compared with the control group, the pharmacy program resulted in significant systolic BP reduction (7.8 vs. 0.5 mm Hg; $p = 0.01$) and an increase in the proportion of controlled patients only for those with high incomes. In the high-income group, the program also had a positive impact on physical activity, self-reported adherence, health concerns, and information transmitted. The low-income group did not appear to benefit from the program.[10] Carter et al suggests that when community pharmacists in a clinic setting are trained and included as members of the primary care team in a clinic setting, significant improvements in blood pressure control, quality of life, and patient satisfaction can be achieved.[11] These and many other studies have demonstrated that when pharmacists are included as members of health care teams, control rates for hypertension increase.[12]

CONCLUSION

Community pharmacists in FCT, Abuja are involved in the pharmaceutical care of hypertensive patients. Nevertheless, there is still room for improvement. Implementation of some sets of interventions seems necessary. Development and implementation of standardized health information systems and sustenance of the mandatory continuing professional development program (MCPD) for pharmacists are steps in the right direction. More studies are necessary in this area so as to establish through objective measures, the effect of pharmacist participating in management of different diseases. With such facts, coupled with advocacy efforts, pharmacy intervention programs on different health issues can be instituted as practice standards.

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Table 1: Personal data of community pharmacists in FCT, Abuja and basis of recognizing hypertension in patients (n = 180)

		Frequency/Percentage
Sex	Male	124 (68.9%)
	Female	56 (31.1%)
Age	20-29	39 (21.7%)
	30-39	94 (52.2%)
	40-49	21 (11.7%)
	50 and above	1 (0.6%)
	No response	25 (13.9%)
Duration of Practice	<1 year	25 (13.9%)
	1-5 years	104 (57.8%)
	6-10 years	23 (12.8%)
	>10 years	19 (10.6%)
	No response	6 (3.3%)
Number of hypertensive cases seen in the last one year	<10	11 (6.1%)
	11-50	63 (35%)
	51-90	31 (17.2%)
	>90	69 (38.4%)
Basis of recognising hypertension	No response	6 (3.3%)
	Above 130/85	25%
	Above 140/90	63.9%
	Above 165/105	7.8%
	Above 185/115	3.3%

Table 2: Diagnostic measures adopted by community pharmacists (n = 180)

		Mean	Standard deviation
1	Routine examination for other ailments	2.66	1.02
2	Routine check of patients blood pressure in absence of ailment	3.2	1.24
3	Clinical manifestation	3.49	1.16
4	Prescription study	3.69	1.33

Table 3: Drug therapy associated problems encountered (n = 180)

		Mean	Standard deviation
1	Wrong drug prescribed for patients	2.51	1.20
2	Prescribed dose too low to be effective	2.19	1.00
3	Prescribed dose too high to be safe	2.33	0.95
4	Unfavorable drug interactions	2.69	1.00
5	Drug affecting sexual function	3.06	1.20
6	Drugs affecting social function	2.19	1.67
7	Poor patient compliance	3.28	1.26

Table 4: Involvement of Community pharmacists in lifestyle modification (n = 180)

		Mean	Standard deviation
1	Urging patients to check their BP regularly	4.36	0.91
2	Persuading hypertensive individual not to smoke	4.21	1.04
3	Giving nutritional counseling (low fat and high fibre intake)	4.06	1.23
4	Putting individual hypertensive on regular exercise	2.99	1.44
5	Encouraging the obese to lose weight	4.10	1.07
6	Discouraging alcohol intake by hypertensive	4.21	0.99
7	Encouraging individual hypertensive about moderate sodium intake	4.23	1.08
8	Adopting measures that will improve individual hypertensives' insulin sensitivity	2.68	1.08