Unaffordable drug prices: the major cause of non-compliance with hypertension medication in Ghana.

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Abstract. PURPOSE: The prevalence of hypertension is increasing in Ghana. In addition hypertension has been identified as the most common cause of heart failure, stroke, chronic renal disease and spontaneous sudden deaths in Ghana. A major concern arising from this increasing hypertension prevalence is that many patients in this relatively poor country find it difficult to afford the standard hypertension medications. The purpose of this study was to evaluate access to hypertension medication and assess non-compliance with hypertension medication in Ghana. **METHODS**: Patient interviews were conducted on all new patients attending the hypertension clinic at Komfo Anokye teaching hospital between December 2001 and April 2002. **RESULTS**: 93% of the interviewed patients did not comply with their medications. 96% of the non-compliant patients cited unaffordable drug prices as the main reason for non-compliance. **CONCLUSIONS**: Non-compliance with hypertension medication is a major problem in Ghana. Unaffordable drug prices appear the major cause. Effort should be made both locally and internationally to improve access to medications for chronic diseases in developing countries.

INTRODUCTION

Over the past few years the prevalence of hypertension has been on the increase in Ghana (1, 2). In 2002 the prevalence rate was estimated at about 35% of Ghanaians in the 40-55 years age group and 40% in those above 55 years of age. Below 40 years, the prevalence of hypertension was approximately 6% and in this age group the prevalence was higher in males than in females. In the middle aged and the elderly hypertension is more common in females (1, 3). Hypertension has been identified as the most common cause of heart failure, stroke, chronic renal disease (4) and spontaneous sudden deaths in Ghana (1, 2).

A major concern arising from the increasing hypertension prevalence is that many patients in this relatively poor country find it difficult to afford standard hypertension medications (1). This leads to avoidable morbidity and mortality from a disease which should otherwise be controllable. It is also suspected that many Ghanaians living with hypertension are unaware they have the condition. In this study we assess non-compliance with hypertension medication in Kumasi, Ghana and reasons for non-compliance.

METHODS

Patient interviews were conducted. All new patients with hypertension attending the hypertension clinic at Komfo Anokye Teaching Hospital (KATH) between December 2001 and April 2002 were included in the study.

Komfo Anokye Teaching Hospital is the second largest hospital in Ghana, and is the teaching hospital for the School of Medical Sciences, Kwame Nkrumah University of Science and Technology in Kumasi, Ghana. The hospital is located in the center of Kumasi, Ghana's second largest city, and serves as a referral hospital for all the hospitals and clinics in the Ashanti Region of Ghana and some parts of the Eastern, Central, Northern and Western Regions of Ghana.

Patients were followed up for 3 months and questioned on the ease of access to prescribed medications

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for hypertension, non-compliance with hypertension medications, reasons for non-compliance, cost of hypertension medication per month and their family income status.

Non-compliance was defined as missing at least two days of medications per week. This definition was arrived at from the general understanding that a minimum compliance of 80% is needed to achieve an adequate reduction in blood pressure in the treatment of hypertension (5).

RESULTS

One hundred and twenty-eight patients were included in the study. 102 (80%) were females while 26 (20%) were males. 6% were under the age of 40, 68% were within the 40-60 age group while 26% were over 60. 33% of the patients were unemployed, 49% were manual workers, and 18% were in skilled employment. 30% of the patients reported that they did not know that they had hypertension prior to visiting the hospital. 72% of the patients were prescribed nifedipine, either alone or in combination with other drugs.

Table 1: Number of patients on different hypertension treatment regimens, the average cost of each regimen per month and the number of patients who are compliant.

Medicines (Total dose/day)	Number of patients receiving medication	Price /month (US $)	Number of patients who were compliant
Bendrofluazide(2.5mg) + Lisinopril (10 mg) +Nilol*	2	41.44	0
Carvedilol(6.25mg) + Bendrofluazide(2.5mg)+ Nifedipine(40mg)	2	31.7	0
Nifedipine (20mg) + Methyldopa (1g) +Nilol*	2	21.9	0
Nifedipine (40mg) + Methyldopa (1g)	11	19	0
Bendrofluazide (2.5mg) + Methyldopa (1g) +Nilol*	2	19	0
Hydrochlorothiazide (25mg) + Methyldopa (1.5 g)	11	16.8	0
Bendrofluazide (2.5mg) + Amlodipine (10mg) + Reserpine (0.25mg)	6	9.8	0
Bendrofluazide (2.5mg) + Nifedipine (40mg)	27	9.5	0
Nifedipine (40mg)	36	8.8	2
Bendrofluazide (2.5mg) + Nilol*	2	8.8	0
Nifedipine (20mg) +Atenolol (50mg)	8	7.3	0
Hydrochlorothiazide (25mg) + Brinerdine+	2	7.3	0
Atenolol (50mg) + Bendrofluazide (0.25 mg)	3	3.7	2
Bendrofluazide (2.5mg)+Reserpine (0.25mg)	8	3.2	0
Bendrofluazide (2.5mg)	4	1.5	4
Reserpine (0.25mg)	2	0.73	1

*Nilol. is a combination of nifedipine and atenolol

+Brinerdine is a combination of reserpine, dihydroergocristine and clopamide.

Apart from nifedipine, bendrofluazide and hydrochlorothiazide, very few other drugs were prescribed for hypertension (Table 1). 53% of the patients were on two medications, 33% on monotherapy and 14% on three or more drugs

One hundred and nineteen patients (93%) did not comply with their medications. One hundred and fourteen (96%) of the non-compliant patients cited unaffordable drug prices as the reason for non-compliance. Forty-two patients (33%) cited side effects as the reason for non-compliance. 67% of complains about side effects were attributed to nifedipine.

DISCUSSION

Unaffordable prices for hypertension drugs were cited as the major reason for non-compliance. Even though monthly hypertension medication prices shown in table 1 appear nominal to the reader in a developed country, for a country in a region where per capita expenditure on drugs is approximately US$8 (6), this is substantial. In addition, with 33% of the hypertension patients being unemployed, this price is beyond affordability. The fact that 49% were manual workers who invariably are poorly remunerated in Ghana means that the majority of the patients had limited incomes. Doctors may wish to consider affordability as a clinical factor when prescribing.

Since the majority of the patients were female in the 40-60 age group, it is likely that most of these were housewives and as is often the case in Africa depend on their husbands for financial support.

Thirty three percent (33%) of the patients cited side effects as a reason for non-compliance. Most of the side effects were intolerable headaches and sexual dysfunction in men, which were attributed to nifedipine. The reason why most side effects were attributed to nifedipine could be from the fact that nifedipine was by far the most prescribed drug. Nifedipine popularity could have resulted from the fact that calcium channel blockers have been reported effective in controlling blood pressure among black populations (7) and also because nifedipine is relatively cheap. Though the longer acting calcium channel blockers such as amlodipine and felopine have fewer side effects than nifedipine and their less frequent dosing schedules have been reported to lead to higher compliance (8) they cost considerably more than nifedipine.

CONCLUSION

Non-compliance with hypertension medication is a problem in Ghana. Unaffordable drug prices appear to be the major cause. Efforts should be made both locally and internationally to improve access to medications for chronic disease in developing countries. Doctors may wish to consider affordability as a clinical factor when prescribing.

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