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RESEARCH ARTICLE

Pharmacists and management of arterial hypertension: Attitudes and knowledge of pharmacists in the city of Dakar

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ABSTRACT

Background: High blood pressure (BP) (hypertension) is one of the leading causes of death and cardiovascular disease worldwide. In 2001, hypertension, considered both pathology in its own right and a risk factor for other diseases, was responsible for more than 7.6 million deaths. A 2014 study in Dakar showed that the prevalence of hypertension was 27.50%. **Aim and Objective:** The objective of this study is to assess the involvement of the community pharmacist in the management of high BP with regard to screening, counseling, and treatment and to assess the difficulties encountered in these stains. **Materials and Methods:** This is a descriptive and analytical cross-sectional study of all community pharmacists who meet our eligibility criteria. The survey took place from April 15, 2019, to June 10, 2019, and involved 100 pharmacies in the Dakar region. The questionnaire was designed on the basis of the following headings: Presentation of the pharmacy; BP screening and measurement; tips for primary and secondary prevention of high BP; tertiary prevention; and difficulties encountered by pharmacists. **Results:** The results showed that 46% of pharmacists gave a false definition of ATH. No pharmacist had the three types of armbands (adults, children, and obese). The rest time before measuring the BP, namely, 5–10 min, was respected by 94.12% of the pharmacists respected. The patient's position at the measurement and the grip on both arms were not respected by most of the respondents who disagreed with the recommendations. Hygienic-dietary measures were not recommended enough. However, the sodium diet and smoking cessation have been recommended by all pharmacists. Concerning the drugs to avoid in hypertensive patients, only 35.29% of pharmacists advised against nonsteroidal anti-inflammatory drugs and 47% for sympathomimetics. Most pharmacists referred patients to the doctor when the BP was abnormally high, whether he was on or without treatment with a compliance check for patients on treatment. **Conclusion:** At the end of this study, the results obtained certainly show a certain mastery of the management of average handle time but are not very satisfactory. Indeed, many gaps and shortcomings in terms of knowledge and practice have been highlighted.

KEY WORDS: Hypertension; Management; Pharmacists

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INTRODUCTION

High blood pressure (BP) (hypertension) is one of the leading causes of death and cardiovascular disease worldwide.[1-7] In 2001, hypertension, considered both as a pathology in its own right and a risk factor for other diseases, was responsible for more than 7.6 million deaths.[5] A 2014 study in Dakar showed

that the prevalence of hypertension was 27.50%.[6] Several studies have shown that the pharmacist can play an important role in the management of high BP. The main objective of this thesis is to assess the quality of the involvement of the community pharmacist in the care of hypertensive patients.

MATERIALS AND METHODS

The study was started after the approval of the university's ethics committee Cheikh Anta Diop in Dakar and we have obtained the prior informed consent of pharmacists. We carried out a descriptive and analytical cross-sectional study in the form of a survey in the Dakar region on 100 respondents made up of full-time pharmacists, assistant pharmacists, and students in their thesis years working at the pharmacy.

Inclusion Criteria

The following criteria were included in the study:

- Be a full-time pharmacist
- Being an assistant pharmacist
- Being a thesis student practicing at the pharmacy
- Being a student who has validated their 5th year pharmacy practice practicing at the pharmacy.

Non-inclusion Criteria

- Sellers
- Internship medical visitor.

Data Collection Procedure

The survey took place in the period from April 15, 2019, to June 10, 2019, and covered 100 pharmacies. In pharmacists, the questionnaire was administered to all the people fulfilling the inclusion criteria, explaining to them that it was not a test but just an assessment and that the questionnaire was anonymous and confidential.

RESULTS

The analysis described the sociodemographic characteristics of pharmacists (status, age, sex, and training) screening and measurement of BP, primary and secondary prevention advice for hypertension, tertiary prevention (therapeutic monitoring of the patient and advice), and finally the difficulties encountered by pharmacists

Of the 100 pharmacists interviewed, 48% were women and 52% men, and the average age was 32.26 years. Most of the pharmacists surveyed, 88% said that they had received continuous training in the management of hypertension. Our results show that 46% of pharmacists interviewed do not know the definition of hypertension [Figure 1].

The majority of pharmacists were able to clearly identify the major signs reminiscent of hypertension (headache: 100%, ringing in the ears: 88.24%, dizziness: 58.82%, and tinnitus: 41.18%). However, the epistaxis 5.88% has been ignored by most pharmacists [Figure 2].

Most of the community pharmacies 83% do not have an adequate reception room for good BP monitoring. Regarding the type of BP monitor used, 69% opted for electronics and 31% for the manual. No pharmacist had three types of cuff (obese, normal adult, and child) and BP conditions were often overlooked [Figure 3].

The major part of pharmacies 82, 35% referred patients to a medical consultation if their BP figures were high whether they were under treatment or not and advised dietary and dietary measures [Figure 4]. Regarding the attitude of pharmacists toward hypertension in a patient already on treatment, the following answers were obtained [Figure 5].

As for the pharmacist's knowledge of dietary measures for hypertension, 100% said that salt consumed in excess can promote or worsen hypertension while 29% thought that saturated fatty acids do not increase the risk of hypertension. About 82% of pharmacists said that coffee is responsible for the development of hypertension when 100% said that smoking is a risk factor.

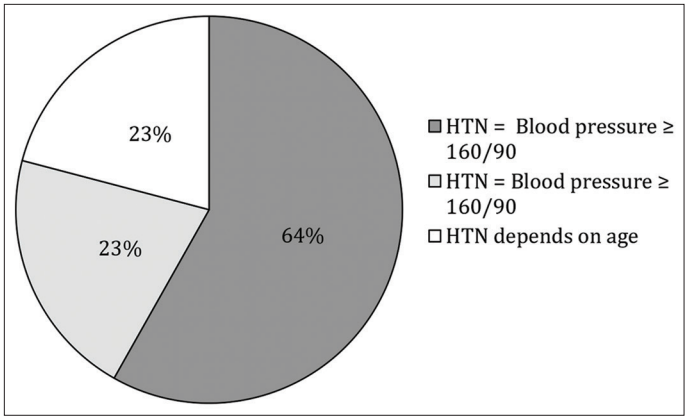

Figure 1: Pharmacists' knowledge of the definition of hypertension

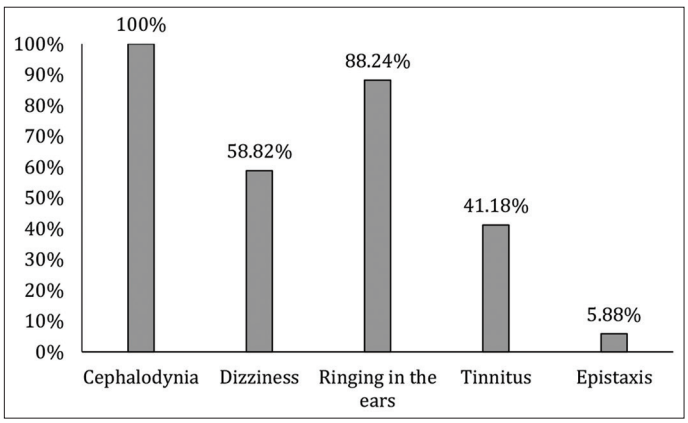

Figure 2: Hypertension symptoms according to pharmacists

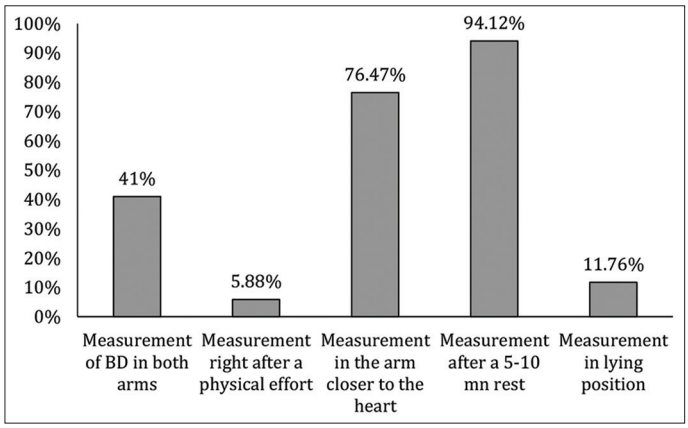

Figure 3: The knowledge about blood pressure measuring conditions

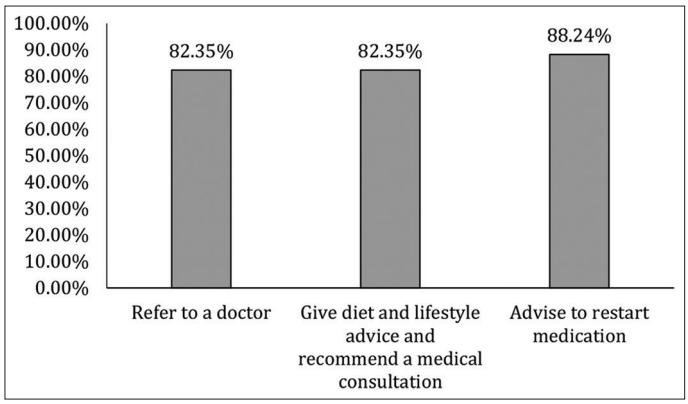

Figure 4: Attitudes of the pharmacist in the event of discovery of a hypertension

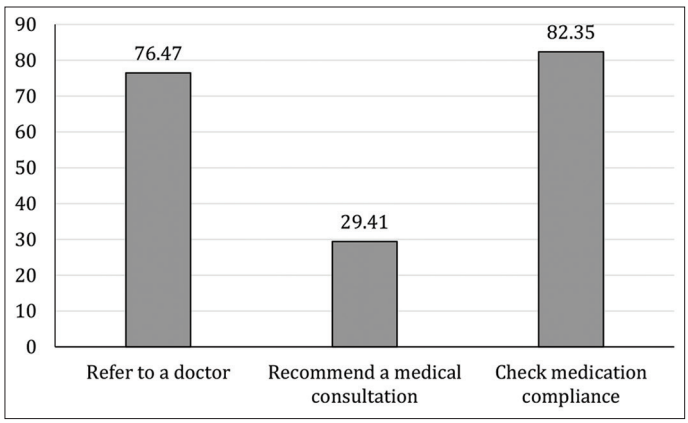

Figure 5: Pharmacist's attitudes toward hypertension under treatment

Regarding treatment, the majority said that treatment for hypertension is lifelong, while 18% said that treatment should stop if BP figures become normal. The majority of pharmacists (83%) said that physical activity and weight loss can reduce BP. Almost as many respondents, 76% said that contraceptive pills are involved in raising BP [Figure 6].

Regarding side effects and contraindications, the following results have been obtained [Table 1 and Figure 7].

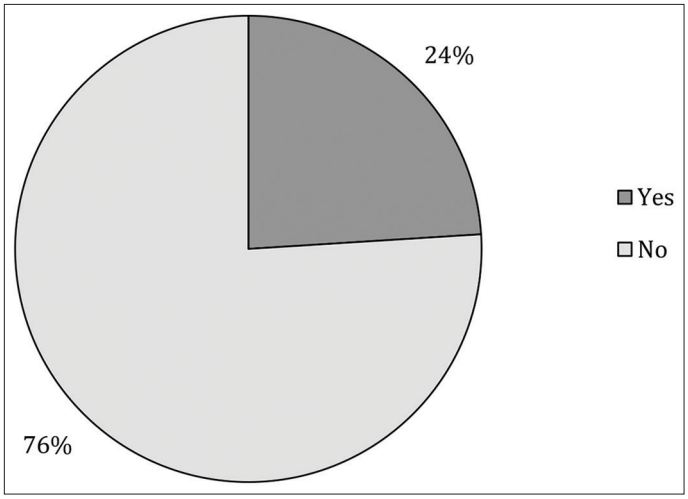

Figure 6: All the pills are involved in raising the blood pressure

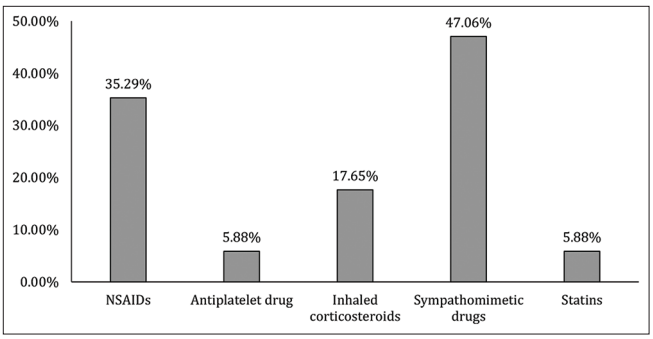

Figure 7: Pharmacists contraindicated in hypertension according to pharmacists

Table 1: Advice related to the side effects of antihypertensives

Side effects of antihypertensive drugs	Yes
Diuretics are best taken once daily in the evening.	6%
Beta blockers speed up the heart rate.	0%
Faced with a chronic dry cough that persists day and night, an urgent discontinuation of ACE inhibitors is sometimes recommended	82%
Calcium channel blockers do not cause lower extremity edema	11%
Alpha-blockers should not be combined with alpha-blockers for urological use because of an increased risk of hypotensive effect.	53%
Central antihypertensive drugs are not recommended in case of alcohol consumption because of a significant sedative effect.	0%

DISCUSSION

Most of the pharmacists surveyed, 88% said that they had received continuous training in the management of hypertension. This training is most often provided by pharmaceutical laboratories, which shows the importance of these companies in supporting health workers for the proper management of chronic pathologies. Our results show that 46% of pharmacists interviewed do not know the definition of hypertension. This poses a real public health problem in the management of hypertension. Indeed, the dispensary

occupies a very important place in the orientation of the patients toward the health structures for a good assumption of responsibility of this pathology. This illustrates a lack of information if we know that the WHO has accepted the definition of hypertension as being a BP exceeding 140/90 mmHg.[8] The majority of pharmacists were able to clearly identify the major signs reminiscent of hypertension (headache: 100%, ringing in the ears: 88.24%, dizziness: 58.82%, and tinnitus: 41.18%). However, the epistaxis 5.88% has been ignored by most pharmacists. This ignorance can be explained by the fact that it is a sign which is often the subject of a medical consultation and therefore is rarely observed at the pharmacy. However, knowledge of major signs such as headache, tinnitus, buzzing, and dizziness is very important since the disease progresses in silence and the detection of these signs allows orientation and early management. Most pharmacies do not have an adequate reception room for good BP monitoring. This poses a problem in the reliability of the results. No pharmacist had three types of cuff (obese, normal adult, and child). This certainly poses a diagnostic problem in certain specific cases where the use of specific cuffs is essential. In fact, the French Society of Arterial Hypertension recommends the use of BP monitors whose cuff is adapted to the circumference of the arm. Health-care professionals must have cuffs suitable for all arm circumferences (at least three cuffs) once the device has been validated for these cuffs.[1] Regarding the taking of BP, 41.18% of pharmacists took the BP on both arms. However, according to researchers at the Massachussets General Hospital (United States), measuring the tension in both arms is a life-saving gesture. Indeed, the researchers found that a difference between the two measures could be an early indicator of heart disease. A big difference in the measurement of BP may suggest that the artery supplying one of the arms is blocked, which is an early sign of cardiovascular disease. If the arteries of the arm are blocked, it is likely that the arteries of the heart and brain are also partially blocked.[9] Most of the pharmacists surveyed (82%) said that coffee can be responsible for hypertension. However, the association between coffee and BP is complex. Acute ingestion of coffee increases BP, but some studies suggest that the daily consumption of four or more cups of coffee has a protective effect on the development of hypertension, especially in women. This discrepancy could be explained by the fact that coffee is a mixture of different substances, containing in addition to caffeine antihypertensive substances such as polyphenols, soluble fibers, and potassium. More recently, interest has focused on extracts of green coffee beans which contain chlorogenic acid and which seem to have a hypotensive effect that roasted coffee beans would not have. A distinction must, therefore, be made between the specific effects of caffeine and the effects of other components which may be contained in coffee.[10] About 29% said that saturated fatty acids do not increase the risk of hypertension. Many studies have linked hypertension to the consumption of beef, veal, poultry, and animal fats. Saturated fats appear to increase the viscosity of the blood. A higher proportion of fatty acids from polyunsaturated sources (linoleic acid and alpha-linolenic acid) compared to saturated fat is correlated with a lower risk of suffering from hypertension. Regarding treatment, the majority had opted for lifelong treatment of hypertension, while 17% ordered a stop of treatment if the BP figures became normal, this attitude could be at the origin of sometimes dramatic complications of this disease. Nonsteroidal anti-inflammatory drugs (NSAIDs) and sympathomimetics have been cited more by pharmacists as the drug to avoid in the event of hypertension. However, corticosteroids have been ignored by most pharmacists. In fact, among the drugs commonly used, NSAIDs represent a well-established cause of elevated BP and can interfere with antihypertensive treatments. Several meta-analyzes, dating from the 1990s, showed that the use of NSAIDs could increase BP by 5 to 6 mmHg in hypertensive patients.[4,11] Concerning patients previously treated for hypertension, BP control seems to be impaired when NSAIDs (specific and non-specific) are combined with angiotensin-converting enzyme (ACE) inhibitors, sartans, beta-blockers, and diuretics. On the other hand, BP did not seem to be influenced in patients treated with anticalcics.[3] NSAIDs are a well-established cause of elevated BP and can interfere with antihypertensive treatments.

CONCLUSION

At the end of this study, a number of imperfections were noted. Hence, we can make a following recommendations:

- The definition of hypertension must refer to the recommendations which are unanimous in adopting a threshold of 140/90 mmHg.
- Greater compliance with the PA measurement conditions is required.
- A quiet place with a grip on both arms and in several positions this will avoid excess or default measurement errors.
- Emphasize patient education and diet and hygiene measures.
- Permanent renewal of pharmacists' knowledge by participating in University post study.
- The publication of recommendations on care through the organization chart of the Ministry of Health with regular updates.
- A readjustment of the teachings of the Faculty of Pharmacy Medicine and Odontology for a better understanding of the management of this pathology by pharmacists.

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