

Approach to hypertension by the community pharmacist: criteria for follow-up, control and referral to different levels of care

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INTRODUCTION

Referrals from community pharmacy to health centres and hospitals have always been a moot topic without set criteria. This depends to a large extent on who treats us.

To improve patient care, it is a duty of all health professionals to strive for correct interdisciplinary coordination. With this in mind, when semFYC and SEFAC members proposed a joint course to us we realised how little was written on this alleged coordination and this instigated us to write this chapter, which in turn led SEFAC to lead this document. We hope this will be useful for you.

This chapter is, to the best of our knowledge, one of the first global documents that tries to encompass the hypertension patient's follow up from community pharmacy with some clear recommendations for its management under actual conditions.

DIAGNOSIS

The different European and Spanish consensus documents (1-5) define hypertension (HTA) as a rise in conventional office systolic blood pressure (SBP) ≥ 140 mmHg and/or diastolic blood pressure (DBP) ≥ 90 mmHg.

To diagnose hypertension, we must have at least two or more high conventional office blood pressure measurements (CBP) obtained on different visit days. However, given that the CBP is not very correlated with the risk of future morbimortality, it would be recommendable to confirm this diagnosis with at least one external determination of BP,

preferably by means of ambulatory blood pressure monitoring (ABPM) over 24 hours (6) with the aim of being able to rule out nocturnal hypertension (5-9), white-coat hypertension or masked hypertension (10). Given grade 3 hypertension (SBP ≥ 180 and/or DBP ≥ 110) the diagnosis is exceptionally accepted at just one conventional office measurement. A possible hypertensive emergency also needs to be ruled out (1-4,11-13).

If for whatever reason, the diagnosis has to be based on CBP measurements, the European guidelines 2018 recommend that the proximity and number of necessary visits depend on the initial figures; the higher they are, the shorter the intervals and the fewer the number of visits (1).

If the diagnosis is made out-of-office, the threshold for SBP and DBP measured will be home blood pressure monitoring (HBPM) ≥ 135 and/or 85 mmHg, which is considered the equivalent to conventional office BP $\geq 140/90$ mmHg. In the case of ABPM, alteration of any of the periods will be diagnostic criteria (24h BP $\geq 130/80$ mmHg and/or waking BP $\geq 135/85$ mmHg and/or BP at rest $\geq 120/70$ mmHg) (1-4,11).

This well-established process in consultation, can also be reproducible in the community pharmacy (CP). However, currently there is little evidence available on the value of BP measurements in CP as well as the recommendation of HBPM and performing ABPM by the community pharmacist (2,14-17). Despite this, given the reality that community pharmacists increasingly intervene in different health procedures, the need arises to have documents that offer recommendations in this regard.

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FOLLOW-UP AND MONITORING FROM MEDICINE AND NURSING

Monitoring aims

The general aim of BP monitoring is to attain figures lower than 140/90 mmHg. For patients aged under 65 with no chronic kidney disease we try to attain BP values <130/80 mmHg, as long as the treatment is well tolerated. SBP <120 mmHg and DBP <70 mmHg is not recommended (1,3).

Monitoring objectives with ambulatory techniques are to maintain average BP figures under 135/85 mmHg (HBPM) and for ABPM, average 24h under 130/80 mmHg, waking BP lower than 135/85 mmHg and at rest lower than 120/70 mmHg. There is no evidence that objectives with lower figures are accompanied by benefits or risks (1,18,19).

Follow up and monitoring consultations

Hypertension is dynamic but in regard to primary care consultations the protocol, by consensus, is well defined. A visit to nursing professionals at least every six months to review blood pressure is recommended (20). Moreover, a medical consultation (1,3) for physical examination and evaluation of further tests to rule out the onset or clinical course of target organ lesions (TOL) or cardiovascular disease (CVD) and to re-evaluate cardiovascular risk (CVR) is also advisable. At least one annual blood and urine analysis and an electrocardiogram every two years if the previous one is normal, is, therefore, required (1,3).

It is advisable to monitor two months from starting or switching medication to evaluate the drug's hypotensive effect and the onset of possible adverse effects. This may take one to two months to take effect.

In patients with higher cardiovascular risk (CVR, TOL, grade 3 hypertension), this monitoring may be necessary much more frequently (1,3).

Having out-of-office monitoring during follow-up will offer much more actual information on the degree of monitoring (1,3,21), whereby it is recommendable to use HBPM and ABPM during this process. This enables evaluating situations of poor or correct masked monitoring (4,5,7,22,23).

At each visit of a hypertension patient we should review the recommended therapeutic guidelines, adherence to the treatment, its tolerability, the adverse effects and follow up of non-pharmacological measurements (1,3). It is important to ask about signs or symptoms that guide us as to a poorly controlled or secondary essential hypertension or TOL (lifestyles, labile BP, angina-like precordial pain, dyspnoea on effort, clinical symptoms compatible with intermittent claudication, visual abnormalities, cephalic or gait instability, macroscopic haematuria, among others) (24,25).

In regard to physical examination, the weight and waist circumference measurement, BMI calculation, cardiac pulse and rhythm, in addition to accurately reading BP in consultation should be included. Moreover, we should look

for signs of possible TOL involvement and include a cardio respiratory auscultation to rule out signs of heart failure, carotid murmurs, palpation of distal pulses and abdominal examination. The advisability of a neurological and cognitive state examination should be evaluated (1,3).

The hypertensive patient's annual blood work-up should include glycaemia (and in some cases HbA1C), lipid and urate profile, creatinine, estimation of glomerular filtration, sodium and potassium and albumin/creatinine quotient preferably in a urine sample first thing in the morning (1,3).

These recommendations may vary according to comorbidities or onset of new drugs (for example, whether renin angiotensin system [RAS] blockers such as ACEI or ARA-II have been used). Renal function should be re-evaluated after one month; or an ionogram also after one month if diuretics are involved) (1,3).

Special situations (normal-high BP, white-coat hypertension, masked and nocturnal hypertension)

Patients with BP in the range 130-139/85-89 mmHg or diagnosed white-coat hypertension have a higher risk of clinical course to sustained hypertension. Moreover, it is possible they will present another CVRF or TOL. For this reason this should be included in the protocol to follow up hypertension with at least one annual follow-up visit with conventional office and out-of-office BP measurements, evaluation of the follow-up in terms of lifestyle changes and any clinical evaluation that might lead to a change in therapeutic strategy (1,3,23).

As mentioned, it is currently recommended taking clinical decisions when managing hypertension by means of ambulatory blood pressure monitoring values wherever possible. This is because they are a better predictor of total and cardiovascular mortality (6,8,26). This is especially important in the case of white-coat hypertension, masked hypertension and nocturnal hypertension, in which conventional office monitoring is not useful as they can only be detected by means of HBPM/ABPM. For this reason, correct diagnosis and follow-up of white-coat hypertension and masked and nocturnal hypertension is by means of ABPM (4,8,9).

Once white-coat hypertension is diagnosed, a BP self-recording will be recommended one to three days a month (three readings in the morning and three in the afternoon) if the patient is stable. If there are abnormalities in this self-record, repetition of ABPM in the short term will be recommended. These patients should be followed up with ABPM each year. This could be every two years if the patient has stable self-registries and low/moderate CVR. If the patient shows a high CVR, ABPM should be every six months (4,22,23,27,28). A new ABPM at three months and in the event of very high risk is recommended (4,22).

In case of masked hypertension we will use the same guidelines both for diagnosis and for follow up and monitoring as those recommended for white-coat hypertension in regard to the use of ABPM (4,22,27,28). We will treat nocturnal hypertension in the same way as only with ABPM we can only be certain of its actual BP values (4,8,9,21). In these cases, if there has been a change in treatment, it is recommended repeating ABPM in three months.

In the event of white coat or masked hypertension we should intervene early on the other CVRF and insist on improving lifestyles. The decision to commence pharmacological treatment should be personalized according to CVR and TOL in addition to comorbidities (1,3,4,21,29).

REFERRAL CRITERIA

Referral to primary care from the community pharmacy

The community pharmacist can perform isolated measurements in the community pharmacy (CPIM) to monitor and follow-up patients who attend the pharmacy. According to the results obtained performing outpatient HBPM and/or ABPM will be offered according to availability, with validated and calibrated devices; and whether this is possible in coordination and with the prior agreement of professionals from the reference health centre (HC). This work has already been recognized by the European Society for hypertension in its latest consensus document on out-of-office blood pressure measurement (2). Despite this, further studies are still necessary to decide on the most suitable protocol in this situation (2).

Given that the blood pressure monitoring in the community pharmacy will be equated to out-of-office blood pressure measurement, the threshold for considering normal figures should be <135 and 85 mmHg (2,30,31).

Evaluation, monitoring and/or referral will never be performed with just one determination, except for SBP/DBP values $\geq 180/110$ mmHg; rather, at least two or three visits are required at one to four week intervals (according to level of BP and the patient's risk of cardiovascular disease) (2).

BP in community pharmacy.

SBP/DBP: 130–134 and/or 80–84 mmHg

For patients with BP 130–134/80–84 and undiagnosed hypertension, at least annual monitoring by a nurse is recommended to review whether or not there is clinical course to sustained hypertension.

For patients with pre-diagnosed hypertension values, follow-up of hygiene-dietary measures and lifestyle modifications (LM) needs to be recommended/strengthened, aside from the corresponding annual medical visit (1).

In the event of comorbidities or CVRF more frequent medical controls might be needed (3–12 months). Moreover, evaluation of the patient's referral from the pharmacy if this follow up has been discontinued (1,26).

For patients with these BP values performing HBPM and/or ABPM is recommended to rule out the masked hypertension phenotype, which is a reason for faster referral. Any ABPM should be provided to the physician with additional useful information during patient follow-up.

In the event of pregnancy, it will be advisable to perform HBPM/ABPM and evaluation by their physician or gynaecologist within the period of results being available.

BP in the community pharmacy.

SBP/DBP: 135–139 and/or 85–89 mmHg

If this is a patient without known hypertension and for whom there is no record of taking recent prior BP, it would be recommendable to perform at least two to three visits at one to four week intervals (according to level and the patient's risk of cardiovascular disease) (2). If values are repeated above 135 and/or 85 mmHg, a visit with your primary care team would be recommended. HBPM and/or ABPM readings could be offered from the community pharmacy.

For these patients, strengthening and following up LM will be recommended (1).

If the patient has already been diagnosed with hypertension and is continuing to maintain figures of 135–139 and/or 85–89 mmHg measured in the community pharmacy, it would be recommendable to perform HBPM/ABPM with the purpose of ensuring that we are dealing with a lack of control. If HBPM/ABPM is under the threshold it will be recommended to follow up and continue scheduled visits in the health centre. HBPM/ABPM according to the patient's CVRF and medical team's indications will be repeated. Non-pharmacological measurements will be strengthened and adherence to pharmacological treatment will be reviewed. If however, HBPM/ABPM is above the threshold, there will be a referral to the primary care physician for evaluation in under three months.

As in the above case, in the event of comorbidities or CVRF more frequent medical controls might be needed (3–12 months). Moreover, evaluation of referral from the pharmacy if this follow up has been discontinued (1,26).

In the event of pregnancy, given some abnormal values in the CP evaluation by your physician or gynaecologist will be recommended during the period of results being available; as well as offering the possibility of HBPM/ABPM with results for the visit (32).

BP in community pharmacy.

SBP/DBP: 140–159 and/or 90–99 mmHg

Both in the case of a known hypertension patient and one that has been previously diagnosed and even in anti-hypertensive treatment, the community pharmacist should recommend a visit with the health centre professional in under

three months and offer HBPM or ABPM for his follow-up; in accordance with the existing coordination and if there has been any therapeutic change or belief this is indicated within eight weeks (1,3). In this case the time in which it would be recommendable to perform HBPM/ABPM should be less in patients with SBP-DBP figures 135-139.

If the patient also presents extra CVR factors or comorbidities it would be recommendable to undertake a medical visit in a period of one month. The patient will also be asked about signs or symptoms that may indicate an imbalance in underlying cardiovascular disease to refer more urgently for evaluation by his primary care physician or emergency service if necessary (3,4).

In the event of pregnancy, it will be advisable to immediately perform HBPM or ABPM and evaluation by the patient's physician or gynaecologist. The results of the test performed will be provided (32).

BP in community pharmacy.

SBP/DBP: 160-179 and/or 100-109 mmHg

Both in the case of a known hypertension patient and one that has been previously diagnosed and even in anti-hypertensive treatment, the community pharmacist should recommend a visit with the health centre professional in under a month and offer HBPM or ABPM for her follow-up; in accordance with the existing coordination and if there

has been any therapeutic change or belief this is indicated within eight weeks (1,3).

If the patient also presents extra CVR factors or comorbidities it would be recommendable to undertake a medical visit in a period of two weeks. The patient will also be asked about signs or symptoms that may indicate an imbalance in underlying cardiovascular disease to refer for evaluation more vehemently or even urgently by his physician or even continuous or emergency care service if necessary (1,3).

In the event of pregnancy, it will be advisable to refer to A&E for evaluation (32).

BP in community pharmacy.

SBP \geq 180 mmHg and/or DBP \geq 110 mmHg (hypertensive emergency)

Urgently refer to the physician if there is verification after a period of rest of 15 minutes and BP figures continue.

BP in community pharmacy.

SBP <90 mmHg and/or DBP <60 mmHg

BP <90/60 mmHg referral to primary care physician in a period of three weeks. Patients with BP lower than 90/60 mmHg who present cases of lypothymia, syncope or falls on more than one occasion or who feel faint daily/almost daily, will be urgently referred to see their family physician on the same day (33).

Summary Table Referral and coordination criteria

BP in community pharmacy	Patient			
	No known hypertension	Known hypertension	CVRF or comorbidities	Pregnancy
SBP: 130-134 and/or DBP: 80-84 mmHg	Annual nursing visit recommendation HBPM/ABPM LM	Annual medical visit recommendation HBPM/ABPM LM	Recommendation for a physician's visit and quarterly annual according to with CVRFs HBPM/ABPM LM	Recommendation medical visit HBPM/ABPM
SBP: 135-139 and/or DBP: 85-89 mmHg	Annual medical visit recommendation HBPM/ABPM LM	Annual medical visit recommendation HBPM/ABPM LM	Recommendation for a physician's visit and quarterly annual according to with CVRFs HBPM/ABPM LM	Visit physician or gynaecologist visit as soon as possible with possibility HBPM or ABPM with results for the visit
SBP: 140-159 and/or DBP: 90-99 mmHg	Recommend medical visit in <3 months HBPM/ABPM LM		Medical visit in <1 month HBPM/ABPM LM	
SBP: 160-179 and/or DBP: 100-109 mmHg	Recommend medical visit in <1 month HBPM/ABPM LM		Medical visit in <15 days HBPM/ABPM LM	Refer to emergency
SBP \geq 180 mmHg and/or DBP \geq 110 mmHg	Urgently refer to the physician if there is verification after a period of rest of 15 minutes and chronic rise in BP \geq 180/110			
SBP <90 mmHg and/or DBP <60 mmHg	Asymptomatic: refer in <3 weeks			
	Lipothymia, syncope or regular falls: refer to A&E/health centre			

Abbreviations: ABPM: ambulatory blood pressure monitoring; BP: blood pressure; CVRF: cardiovascular risk factors; DBP: diastolic blood pressure; HBPM: home blood pressure monitoring; HTA: arterial hypertension; LM: lifestyle modification; SBP: systolic blood pressure.

Source: own preparation.

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