

Audit on Patients with Above-Normal Blood Pressure in Community Health Clinics

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Background: Hypertension is a prevalent and under-diagnosed condition which can lead to severe possible complications affecting multiple organs, if not adequately managed. NICE guidelines include different blood pressure targets tailored to varying age groups, necessary to decrease the potential negative repercussions. Early diagnosis enables prompt management initiation and hence this highlights the importance of regular screening.

Method: Retrospective review of notes documented on Electronic Patients Record (EPR) was collected from over a 2-week period in November 2023.

Results: This audit assessed the screening, management adequacy and NICE guidelines adherence of hypertension in community clinics around Malta and Gozo. Results reveal how elderly patients above 80 years of age tend to have a higher blood pressure than 40-79 year-old patients. Nevertheless, patients in the elderly group who are on antihypertensive treatment are much better controlled than the younger cohort. The most frequently used management approach was blood pressure monitoring. Other management approaches included increasing the doses of anti-hypertensives or prescribing additional medications as well as lifestyle modifications and screening for end-organ damage. However, still not as frequent as the 2019 NICE guidelines suggest.

Conclusion: This retrospective study showcases the importance of regular blood pressure monitoring and adherence to standardized guidelines in order to mitigate the risks associated with hypertension.

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Hypertension is a common and relatively under-diagnosed medical condition, which can lead to serious medical complications including cardiovascular complications, cerebrovascular disease and kidney disease among many others. Treatment delays in managing hypertension can prove fatal, thus the importance of early diagnosis and management cannot be overemphasised.¹

In primary healthcare, monitoring of blood pressure is essential especially in those above 40 years of age. In 2019, the National Institute for Health and Care Excellence (NICE) set out a guideline on diagnosis and management of hypertension in adults.²

The 2019 NICE guidelines on hypertension suggest that an elevated blood pressure is that equal or greater than 140/90 when checked in the clinic. If the clinic blood pressure is between 140/90-179/119, the guidelines suggest further investigations which include ambulatory or home blood pressure monitoring (ABPM/HBPM), looking for target organ damage including an electrocardiogram (ECG), urine to assess for albumin-creatinine ratio (ACR), blood tests and fundoscopy and to assess cardiovascular (CV) risk such as by using the QRISK score. In those patients with a BP equal or more than 180/120, the NICE guidelines classify this as 'severe hypertension' which may require same-day referral for urgent investigations.

The NICE guidelines also recommend target blood pressure for those on treatment depending on their age. In those who are aged 80 or older, the clinic blood pressure should be aimed to be less than 150/90, however in those who are aged younger than 80, the blood pressure should be aimed to be below 140/90.

MATERIALS & METHODS

The aims of this audit are to to determine the percentage of patients who have an elevated blood pressure, whether optimal blood pressure ranges are being met in those with and without treatment and the management of patients with high blood pressure.

Retrospective review of patients attending the 22 community clinics in Malta and Gozo across a two week period from 6th November 2023 to 19th November 2023 was assessed. Data for this audit was primarily collected from Electronic Patient Records (EPR) including basic demographics such as age and sex and documented blood pressure readings, management and medication history. Approval to

carry out this audit was granted by the Data Protection Office of Primary Health Care. No ethical approval was required for this audit.

RESULTS

22 community health clinics across Malta and Gozo were assessed over a 2-week period in November 2023. A total of 789 patients attended the clinics over the specified time period, out of which 21.7% (n=171) had a consultation relating to blood pressure in their EPR note. Four patients who had their blood pressure screened in the clinic were excluded from the data as they were aged younger than 40, thus the total patient cohort included in this audit stands at 167. 31.1% (n=52) of the screened cohort were male whilst 68.9% (n=115) were female. Most of the patients were aged between 40 and 79, making up 83.2% (n=139) of the cohort whilst the remaining 16.8% (n=28) were aged 80 or above. Four patients (aged between 40-79) had documented a normal or raised blood pressure, however the actual value of the blood pressure was not documented in the EPR note.

When looking at all patients aged 40 – 79 who have a documented blood pressure (n=135), 33.3% (n=45) had an elevated systolic blood pressure (SBP). 49.6% (n=67) of the patients were not on treatment, out of which 26.9% (n=18) had an elevated SBP (≥ 140). The remaining 50.4% (n=68), were on treatment, out of which 39.7% (n=27) had an elevated SBP (≥ 140).

With regards to those patients aged 80 or above who have a documented blood pressure (n=28), 50.0% (n=14) had an elevated SBP. 53.6% (n=15) of the patients were not on treatment, out of which 73.3% (n=11) had an elevated SBP (≥ 140). The remaining 46.4% (n=13) were on treatment, out of which 23.1% (n=3) had an elevated SBP (≥ 150) (Figure 1).

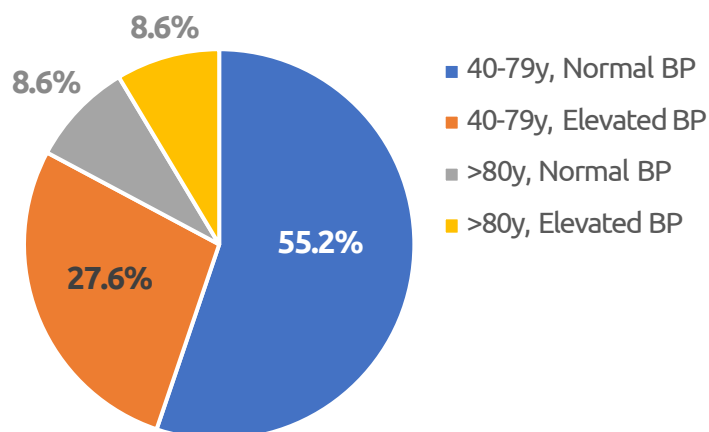


Figure 1 Figure showing percentage of patients with normal or elevated systolic blood pressure according to age, in those patients with documented blood pressure readings

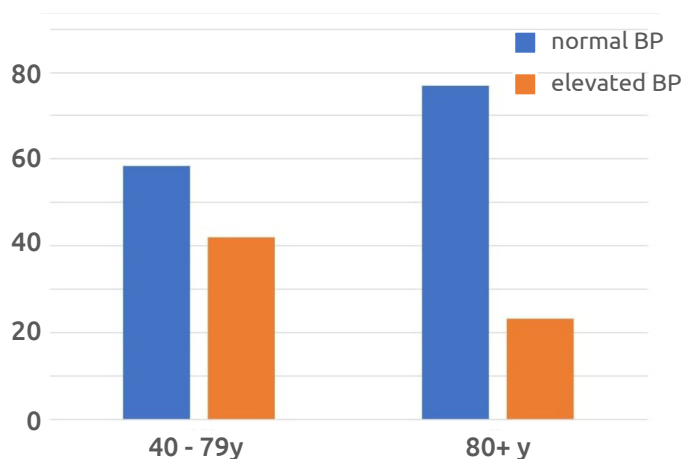


Figure 2 Figure showing percentage of patients on anti-hypertensive treatment with normal or elevated SBP according to age

Around half of all patients, 50.9% (n=85), were documented to have been on anti-hypertensive treatment, 84.7% (n=72) were aged between 40-79 and the remaining 15.3% (n=13) were aged above 80. In those patients aged between 40-79 who were documented to have been on anti-hypertensive therapy, 58.3% (n=42) had a SBP that was within the appropriate range whilst in those aged over 80 who were documented to have been on anti-hypertensive treatment, 76.9% (n=10) had a SBP that was within the appropriate range (Figure 2).

In this audit, management of elevated blood pressure was classified into 4; blood pressure monitoring, changes in anti-hypertensive treatment, no blood pressure management and other forms of management including bloods, ECG and lifestyle

changes. Taking into consideration patients aged 40-79 who have an elevated SBP (≥ 140) (n=45), the commonest form of management was blood pressure monitoring, which was done in 51.1% (n=23), followed by other forms of management including bloods and lifestyle changes.

In patients aged 80 or above who are not on treatment and have a high SBP (SBP ≥ 140) (n=11), most patients did not receive any management for their BP (54.5%, n=6). In those patients who are aged over 80 and are on treatment but have a high SBP (≥ 150) (n=3), most patients were managed with blood pressure monitoring (66.7%, n= 2) (Figure 3). In some cases, the total number of managements exceeds the number of patients because some patients were managed in more than one way.

DISCUSSION

Results of this audit show that in general, screening of blood pressure is still relatively low in community clinics, with less than a quarter of patients having their blood pressure checked. Additionally, the greatest predominance of blood pressure screening was noted to be in females, with cultural factors possibly contributing to this.

As can be seen from the results, in the population cohort aged between 40-79, blood pressure was poorly controlled when compared to the cohort aged 80 or above. Additionally, this can also be seen in those who are on treatment, as patients aged 40-79 who are

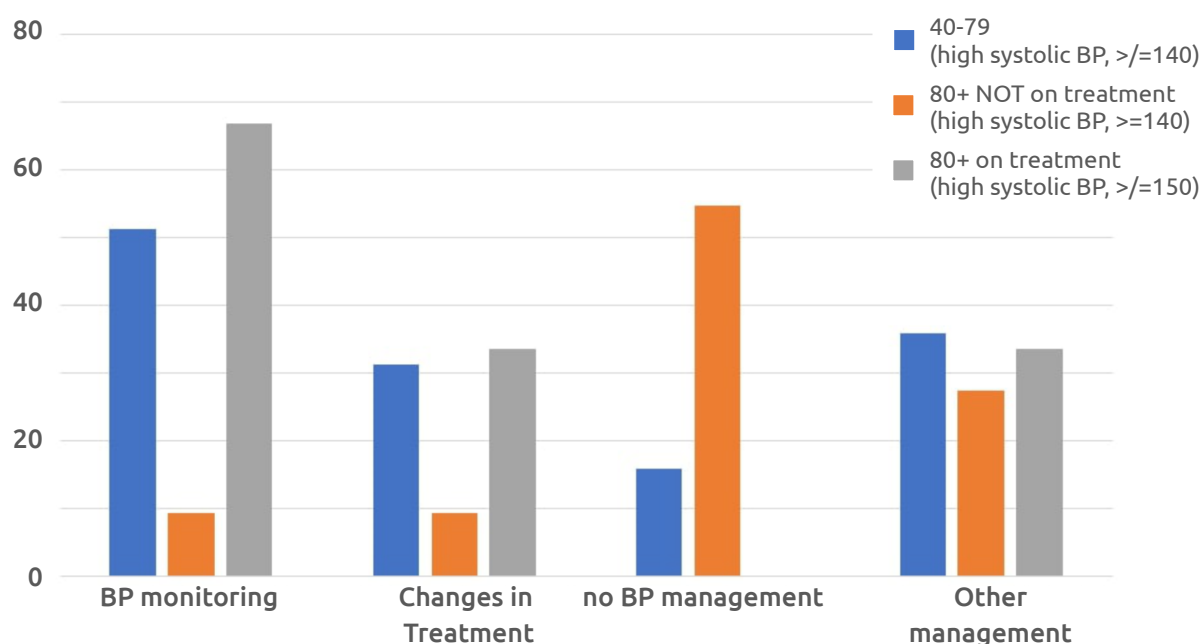


Figure 3 Figure showing the management of patients with high systolic blood pressure according to the different age groups

SUMMARY BOX

- We recommend that blood pressure monitoring is carried out in all patients aged above 40, at first medical contact, which in many cases are the community health clinics.
- Clinicians should be made increasingly aware of the different appropriate blood pressure targets in patients, according to their age and whether or not they are on treatment.
- As per the 2019 guidelines on hypertension, clinicians should provide appropriate treatment to hypertensive patients which can include home/ambulatory blood pressure monitoring, investigations to look for end-organ damage and the use of anti-hypertensive medications.

on treatment were noted to have blood pressures which were more poorly controlled than those aged 80 or above and are on treatment. This indicates that as patients get older, clinicians are more likely to screen and treat effectively high blood pressure.

In this audit, this is also reflected in the blood pressure management. This is because a greater proportion of patients aged 80 or above had home or ambulatory blood pressure monitoring when compared to those aged between 40-79.³

However, other forms of management including lifestyle changes and blood tests to look for end-organ damage (as is recommended by the NICE guidelines) were poorly applied in all population cohorts.

The first limitation of this audit is that the data is retrospective. Additionally, the data collected from EPR may not always have been documented appropriately, possibly leaving out necessary information including blood pressure readings and drug history of patients. Another limitation of the audit is that most data processing was done using systolic blood pressure. However, in clinical practice, diastolic blood pressure is as equally important to take into consideration.

CONCLUSION

Hypertension is a common medical condition with multiple possible sequelae. Patients' first medical contact are often the community health clinics and screening of blood pressure on first medical contact will help early identification and management of high blood pressure, enabling primary prevention of numerous medical complications. As emphasised in this audit, the 2019 NICE guidelines on hypertension should serve as a standard to clinicians, enabling them to manage hypertension accordingly, involving blood pressure monitoring, lifestyle changes, investigations and medications.⁴

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