

Letters

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Use of evidence in hypertension guidelines

In their review of the use of evidence in hypertension guidelines, Parker and Glasziou point out that failure to measure blood pressure in both arms may lead to delay in diagnosis or inadequate treatment of high blood pressure.¹ However, only 30% of GPs agree with recommendations to measure blood pressure in both arms, and even fewer actually do it. Similarly, it is important to see if patients who take their own blood pressure at home adhere to recommendations, both measuring and recording their readings correctly.

Assessing the reliability of patients' reports of home blood pressure measurements is crucial to see whether self-monitoring can be used by health professionals to provide precise estimates of the true blood pressure.² Possible disadvantages of this technique include reporting bias and unsupervised alteration of medication. Newer blood pressure monitors offer the advantages of built-in printers or internal storage of all blood pressure measurements, which can be subsequently downloaded.³

We are completing recruitment for a Stroke Association funded trial of home blood pressure monitoring in 360 hypertensive stroke patients.⁴

Intervention patients are given a blood pressure monitor, shown how to use it, and asked to record their blood pressure once a week taking three readings each time. In Spring 2009 we conducted a pilot study to examine the reliability and accuracy of patients' blood pressure recordings and the degree to which patients might selectively record readings,

therefore misreporting their blood pressure. We compared the actual readings downloaded from the blood pressure monitor with those recorded in the patient booklet over the previous month.

We found that most patients were recording their blood pressure accurately, and the measurements recorded were true readings. Although participants may be taking extra readings when their blood pressure was above target, there appeared to be little selectivity in the recording of blood pressure measurements. This is in line with a previous UK study from primary care.⁵ It suggests that stroke patients who are shown how to monitor their own blood pressure at home generally do it reliably and according to guidelines, an example that GPs who only ever take blood pressure in one arm might consider following!

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Hypertension guidelines

We were interested to read Parker and Glasziou's assessment of previous hypertension guidelines and their advice on the measurement of both arms, to identify an inter-arm difference.¹ We have also researched this subject,² and found that the advice to measure both arms can be traced back, almost verbatim, over 70 years.³ The ESH 2007 guidelines, however, took a significant step in attributing an inter-arm difference to peripheral vascular disease for the first time.⁴ Unfortunately, the weight of evidence supporting this statement was not assessed in that guideline, exemplifying Parker and Glasziou's argument. We have sought clarification of this evidence, but requests to the guideline's authors have not received a response. Consequently, we have been conducting our own systematic review of the evidence associating an inter-arm difference with peripheral vascular disease. Preliminary results of our meta-analysis suggest a significant association of a systolic inter-arm difference >10 mmHg or >15 mmHg with peripheral vascular disease (OR = 5.25, 95% CI = 2.85 to 9.70 and OR = 6.46, 95% CI =

4.85 to 8.61 respectively, both $P < 0.001$). Seemingly this is exactly the sort of evidence base to justify measuring both arms, but all studies included in the analysis were of populations at existing high vascular risk, for example, referrals to angiography services. We cannot discover an evidence base that permits extrapolation of the guideline statement to the general population of which it is aimed.

Parker and Glasziou also raise the important issue of how to measure an inter-arm difference. We have found that prevalence of an inter-arm difference is over-estimated without a robust measurement technique.² While this is of epidemiological importance we have found repeated simultaneous measurements to be a barrier to recruitment in primary care⁵ and this approach has been criticised as impractical.⁶ To overcome this we have compared the use of a single sequential pair of measurements to our gold standard simultaneous technique in 187 subjects in primary care with type 2 diabetes. Preliminary findings in 187 subjects have shown a high negative-predictive value of 0.97 in excluding a systolic inter-arm difference > 10 mmHg.⁷ Consequently, the vast majority of subjects who do not have an inter-arm difference can be identified within a single consultation, and only the 10–20% remaining will need further assessment. The validity of this approach, and the clinical implications of detecting an inter-arm difference in subjects at low cardiovascular risk, both require further study.

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Authors' response

We agree with Adjei-Gyamfi *et al* that the reliability of home blood pressure monitoring is crucial to its success. This requires attention to both the sphygmomanometer and the measuring technique. Given around 5% of patients will have a 10 mmHg or more difference between their arms, then an initial check for inter-arm difference is important. However, assessing inter-arm differences reliability requires simultaneous blood pressure measurement, and so this will need to be done in their GP's office rather than at home. At home the patient should then use the arm with the higher blood pressure. Clark and Campbell's suggestion that a single simultaneous pair of measurements may be sufficient to rule out high inter-arm differences appears an important step in making this check practical. However, as they suggest, both the technique and the implications are in need of further research and future blood pressure studies should incorporate dual arm measurement as part of the protocol.

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Nurse practitioners

A recent pilot study published in the January edition of the *BJGP* examined nurse practitioner management of acute in-hours home-visit or assessment requests.¹ The very positive conclusions from this study will not be surprising for anyone working with a nurse practitioner. What is surprising is that the study did not define what is meant by the term 'nurse practitioner'. In the present situation, this is essential. There is no protected or regulated title of nurse practitioner — indeed anyone (not even registered nurses) may call themselves a nurse practitioner.

Most would assume that a nurse practitioner is a nurse who has undergone further training in order to enable her to be able to assess, diagnose, and treat patients. However, it is impossible to say exactly how much or what type of extra training the nurse practitioner has done. As there is no regulated title, there is no specific training. Training courses do of course exist, but they are not mandatory. These courses range from Masters or BSc level (as in the case of the author of this study) to a few days on physical examination carried out by private companies.

It seems ludicrous at a time when GPs in particular are being asked to provide more and more evidence of their fitness to work as GPs in the form of extended training, changes to examinations, and re-accreditation, that there is a group of nurses working in the NHS doing very similar work, with similar outcomes, and patient satisfaction,² with nothing more mandatory than a registered nurse qualification.

Patients are confused and their safety is put at risk by this situation where there