



Mark Nelson
Tania Winzenberg

Blood pressure devices

Research supports their use in general practice

Should you be using that new blood pressure device on your desk – or is it still in its box? Feedback from focus group sessions suggested that general practitioners were suspicious of the oscillometric blood pressure devices distributed by the High Blood Pressure Research Council of Australia (HBPRCA) as they give 'high' and 'unstable' readings.¹

Before the HBPRCA distributed the devices they ensured due diligence on the devices' validity and reliability but wanted to conduct further research around the devices. A call for ideas ended with the GP-led group from the Menzies Research Institute at the University of Tasmania successfully gaining a grant to investigate the impact these devices would have on the measurement and management of blood pressure in general practice. The idea was that because the devices had a digital display they would eliminate digital preference (where 80% of recorded blood pressures end in '0' and 20% in '5') and therefore stop the rounding down of numbers and subsequently improve blood pressure management.

The group from the Menzies Research Institute conducted a clinical trial in practices in and around Hobart. In half the practices all the mechanical blood pressure devices were replaced with oscillometric devices; the other half of the practices were kept as control practices. The doctors were given 1 week to familiarise themselves with the devices and then all the practices were audited for blood pressure recording and management over the following week. In essence, the results showed that the group's hypothesis was partially wrong and that the GPs were partially right.²

Research is like that, it gives you unexpected results. The group was wrong in that, even though

the devices largely eliminated digit preference, what intensified GP management was the blood pressure level itself. The GPs were right in that the oscillometric devices read higher than the mechanical devices. However, the distributions shown in *Figure 1* indicate that the normal distributed GP oscillometric measurements on the right is superior to the skewed distribution of GP mechanical measurements on the left. The outcome therefore is that you should be using the oscillometric devices, so get them out of their boxes and onto your desk!

The outcomes of one research project led to another. Ankle Brachial Index Determination by oscillometric method IN General practice (ABIDING)³ is a National Health and Medical Research Council study that the same research group is completing in Victorian general practices. The ABIDING study seeks to expand the clinical usefulness of oscillometric devices. Peripheral arterial disease (PAD) is an important contributor to the burden of disease in our patients and is a strong predictor of subsequent stroke and myocardial infarction. One of the most simple and useful parameters to objectively assess lower extremity arterial perfusion is the Ankle Brachial

Index (ABI), the ratio of ankle to brachial systolic blood pressure. The ABI is a neglected measure because it currently requires Doppler ultrasound equipment to measure ankle blood pressure. However, oscillometric devices can reliably measure blood pressure in the lower limbs and so allow GPs to use an instrument designed to identify an individual risk factor for cardiovascular disease (high blood pressure) as a diagnostic tool for generalised arteriopathy – PAD. It can become the 'poor man's angiogram'.

The ABIDING study aims to provide the evidence needed to support this additional utility for these devices in general practice and give GPs even more reason to take advantage of the presence of these devices in their practices.

Authors

Mark Nelson MBBS(Hons), MFM, FRACGP, FAFPHM, PhD, is Chair, Discipline of General Practice, School of Medicine, University of Tasmania and Senior Fellow, Menzies Research Institute Tasmania, University of Tasmania. mark.nelson@utas.edu.au

Tania Winzenberg MBBS, PhD, FRACGP, MMedSc(ClinEpi), is Senior Research Fellow, Menzies Research Institute Tasmania, University of Tasmania.

Conflict of interest: none declared.

References

- Howes F, Hansen E, Williams D, et al. A qualitative study of barriers to initiating treatment in hypertension and treating to target levels in primary care. *Aust Fam Physician* 2010;39:511–6.
- Nelson MR, Quinn S, Bowers-Ingram L, et al. Cluster randomised controlled trial of oscillometric versus manual sphygmomanometer for blood pressure management in primary care (CRAB). *Am J Hypertens* 2009;22:598–603.
- National Health and Medical Research Council. Ankle Brachial Index Determination by oscillometric method IN General practice (ABIDING) study. ACTRN 12609000744257.

correspondence afp@racgp.org.au

