Author’s response to reviews

Title: Vascular assessment habits of podiatrists in Australia and New Zealand: a cross-sectional survey

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Author’s response to reviews: see over
Thank you for your constructive feedback. It is much appreciated.

We have attempted to address each comment fully and have outlined specific changes made in the manuscript below.

**Reviewer one: Martin Fox**

The use of the word 'habits' is one that I was not sure about, but on reflection it is an appropriate term.

As this was also raised by the other reviewer we have altered the title to:

Vascular assessment techniques used by podiatrists in Australia and New Zealand: a cross-sectional survey

I'm not sure if the term 'screening' should be replaced with the word 'assessment'. There is too scant mention of the concept of 'diagnosis' - it could do with being emphasised more as a key issue, relating to potential cardiovascular and limb outcomes - early death and amputation.

Yes we agree and this has been altered in text:

*Effective routine vascular assessment is integral to improving clinical outcomes....*

And...

*Given that people with PAD are not only at higher risk of wounds and limb loss, but are at far greater risk of cardiovascular events and death [1], effective routine vascular assessment and subsequent accurate diagnosis of PAD is integral to improving clinical outcomes and to facilitate effective intervention and ongoing monitoring [2].*

There could be more discussion of the importance of subjective and objective assessment identifying presence / absence of PAD and the level of severity, which will guide podiatrists in their onward care / referrals - eg cardiovascular risk management vs limb protection.

Yes, this raises a pertinent point regarding podiatrists using a combination of subjective and objective testing methods to arrive at a diagnosis, which will guide the ongoing management of the patient. It is certainly very concerning given our results that podiatrists in Australia and New Zealand appear to have a reliance on more subjective methods to guide their diagnosis and management and a general absence of performing objective pressure measurement.

How can podiatrists arrive at a diagnosis of severity given that the most performed test is palpation of pedal pulses and Doppler use alone? How can we gauge an idea of severity without the use of pressure measurement? How can we perform annual comparative assessment using subjective assessment methods?

*Given that the signs and symptoms of PAD are frequently unrecognised or even absent [3], it is likely that relying on subjective testing methods will result in missed or late diagnosis of PAD, and/or an inaccurate diagnosis of disease severity.

and*
This study suggests that in Australian and New Zealand podiatrists there is a reliance on subjective vascular assessment testing methods such as pedal pulses palpation and Doppler examination, and a lack of use of objective measurements such as the ABI and TBI. As objective measurements not only help to identify the presence of PAD but provide indication of severity of disease, when used in combination with signs and symptoms these test play an essential role in guiding patient management and assessing risk status.

I don’t think more podiatry specific guidelines are needed per se. Podiatry summary of existing widely respected national & international PAD Guidelines might be better use of further study / development time and resources.

Thank you, yes this certainly sounds like a great idea. This has been added in text:
A podiatry-relevant summary of broad international guidelines for PAD screening may be of use to improve utilisation and accuracy of screening methods to improve patient management.

And in the discussion:
Our findings demonstrated the need for a podiatry specific summary of these broad international guidelines to assist podiatrists in their daily practice or increased awareness of the international guideline through continuing education.

Reviewer two: Michelle Spruce

It is considered that the title requires further refinement and the term “habits” does not appropriately capture the meaning of the investigation. Moreover, the title on the PIS is different to that of the research question cited in the manuscript.

The title has been altered to:
Vascular assessment techniques used by podiatrists in Australia and New Zealand: a cross-sectional survey

Greater information is required regarding the pilot phase and subsequent modifications. Of note, whilst it was stated that the pilot was administered at a CPD event is does not state the sample group or numbers.

Thank you we have altered in text to allow for further clarification:
Pilot testing of the survey was performed at a University of Newcastle continuing professional development event attended by a mix of thirty-five private and public sector podiatrists. Based on feedback from podiatrists some small amendments were made to some of the questioning methods from open ended to ordered polytomous and phrasing of the questions was slightly altered to allow for further clarity.

Further information would have been beneficial on what constituted a “gold standard” vascular assessment. In addition, it was difficult to determine if participants were expected to fulfill an ABI if palpation of pulses, trophic changes and medical history showed no indicators or PAD.
This study aimed to determine what vascular assessments were being undertaken and why. The participants were not expected to complete any specific testing, simply outline what their current practice methods were. We agree Podiatrists should be following the current international guideline for vascular screening which we have made clearer reference to this in the discussion.

However, it is likely that podiatrists are unaware of this broad guideline which recommends the use of objective pressure measurement, mainly the ABI when performing vascular assessment in populations deemed at risk of PAD. Our findings demonstrated the need for a podiatry specific summary of these broad international guidelines to assist podiatrists in their daily practice or increased awareness of the international guideline through continuing education.

Given the primary aim of the study less than 50% of the questions appear to relate to this strand (7 questions): “The first seven questions elicited demographic and descriptive data from the participants. Questions eight to fifteen related to clinicians vascular assessment habits and sixteen and seventeen related to provision of patient education.”

Given the anonymous nature of the survey and limitations of the software program, and to obtain the demographic information 7 questions were required to cover the scope of demographic variables that we considered were likely to influence decision making. Our intention was to keep the survey brief to allow busy clinicians to complete the survey in full. The nature of the 8 questions relating to vascular assessment were sufficient to determine the current techniques most commonly employed by Podiatrists to perform vascular assessment. We agree that the way our secondary aim was worded did not clearly identify the importance of demographic information to this study. This has been clarified.

The secondary aims of this study were to investigate factors influencing lower limb vascular assessment practices including levels of clinical experience and education, practice location and resources and to establish perceived barriers to performing lower limb vascular assessments Podiatry practice.

Data pertaining to the “Case Study” appears not to be discussed, thus this should be included.

Due to the large amount of qualitative data collected as part of the case study inclusion of this information would have made this paper complex. We have omitted this data to ensure the clinical implications of this research are clear to non-researching clinicians.

The following has been added in text:

A short case study with three questions made up questions eighteen, nineteen and twenty. and

Due to the large amount of qualitative data gathered by the survey, it was decided to exclude the short case scenario from the results of this paper.
A clear justification/rationale for the selection of the questions should be provided, which is aligned to international guidelines for PAD screening.

Our intention was not to lead clinicians to answer on what they should be doing based on current international guidelines, but rather try to elicit what they were doing on a daily basis and compare this with the recommendations. Therefore, whilst we included all non-invasive screening tests, which are included in the AHA guideline as answering options, we also included some which are not, and also gave clinicians the opportunity to list tests that were not an answering option. Given we had no real indication of what clinicians may be doing in clinic, we felt this was necessary to accurately capture current use of assessment techniques. Further, this study intended to identify demographic barriers to performing vascular assessment to allow these to be addressed in the future.

The data produced appears to be confusing with ABI results alternating between 34.2% and 53% - however, this could be the writing style and not the data produced.

Of the entire sample, 34.2% reported performing ABI on a regular basis. However, when examining the public and private practitioner data separately, it showed that public podiatrists performed the ABI 53% of the time. We have made this clearer in text by more clearly identifying that 34.2% refers to the whole sample, by adding the word “all respondent:

Use of vascular pressure measurement was substantially lower with 34.2% (n=129/377) of all respondents reporting regularly using ABIs and 19.4% (n=73/377) using TBIs

More detail is required regarding missing data sets as this makes comprehension of statistical analysis challenging

We updated the statistics section and clarified our reporting of the breakdown of respondents for descriptive statistics as per below...

Four hundred and forty seven podiatrists were recruited in total, however the number of responses varied slightly per question with some respondents not answering all questions, and some questions allowed for multiple answer options. Overall percentages are reported as the percentage of the total number of participants who answered an individual question and the total number of respondents for the question provided.

In data analysis:
Missing data were excluded case wise.

The figures appear to be genuine but the results they are drawn from are confusing and the statistical analysis requires further confirmation or detail to make an accurate analysis

We agree the statistics were presented in a confusing manner. We have altered the tables to make for easier interpretation. We have also altered this in text.
Some statements must be referenced i.e. “Podiatrists also have reported time constraints and lack of financial reimbursement as barriers in performing ABI, with approximately half of practitioners reporting using ABI regularly”

Thank you, this has now been referenced, apologies for this oversight

Some references appear to be a little old and could capture some the literature in the Cochrane Library.

Thanks for the comment I have included some general updated references in the general area of PAD however in this specific area of vascular assessment in podiatry there has not been any recent relevant additions, so the most relevant references have been included.

There are some bold statements which may need to reflect the limitations of the study and its ability to extrapolate to the wider profession in Australia and New Zealand

Some statements have been softened in text within the discussion and conclusion

“Given that the signs and symptoms of PAD are frequently unrecognised or even absent [3], it may be likely that relying on....”

“Our findings suggest there may be a need for a podiatry specific...”

“....suggests that continuing education provision may be particularly beneficial in rural areas”

“although our study only include a small proportion of practicing podis in australi and NZ, our findings suggest there is a lack of consistency in the profession regarding our approach to lower vascular assessment. Our results indicate there is greater scope for use of objective assessment techniques within the profession.

There is the potential that the survey conducted did not capture the aim of the study as ambiguity exists between the title given to the participants (PIS) ”Vascular assessment techniques amongst Podiatrists” ] and the manuscript submitted.

The title of the study has been changed to match the PIS and we believe accurately aligns with the the aim of the study

Some references are required and grammatical revisions should be undertaken.

Thank you this has been completed

1. Andras A FB: Screening for peripheral arterial disease. Cochrane Database of Systematic Reviews 2014(4).