Author’s response to reviews

Title: Barriers to diabetic foot care in a developing country with a high incidence of diabetes related amputations: an exploratory qualitative interview study

Authors:

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Version: 4 Date: 31 May 2015

Author’s response to reviews: see over
Dear Dr Goudge,

We would like to thank the reviewers for taking the time to provide us with very insightful comments on our manuscript which we are happy to address to improve the quality of our work. We have reviewed each comment and made suitable adjustments to the manuscript. Each comment, and how we have addressed it, is listed and described below. We hope that we responded to your satisfaction. Please do not hesitate to contact us if you have any queries. With many thanks for considering our revised manuscript.

Yours sincerely,

Cornelia Guell, PhD

Reviewer 1:

This exploratory qualitative study aimed to explore barriers to foot care, from the perspectives of health care professionals and patients in Barbados, country with a very high rate of diabetes related amputations. The interesting aspect related to how these two groups prioritise foot care in their respective contexts. It is well written, the research question is both important and clearly defined, the necessary ethical considerations have been accounted for, the results are presented adequately and the interpretation of the data is well balanced. As mentioned below I was intrigued by some of the findings/suggestions. I have a couple of minor comments that require responses and minor revision.

1 It would be helpful to provide some background as to which aspect of care the various cadres of health professionals in the clinic provide ie some description of current role delineation.

**RESPONSE:** Thank you for this suggestion; we have added the following to Methods, Study participants page 5, lines 106-114: “The nurses’ role included measurement of weight and blood pressure, patient education on diabetes, including foot care, foot screening, and a referral for 3 or 6-monthly HbA1c test. Doctors, as general practitioners, saw patients for medication review and adjustment, which included treatment for hypertension and cholesterol, and to a lesser extent also patient education. The podiatrists saw diabetes patients with and without known foot problems to conduct foot sensation testing, nail care, to advise on footwear, as well as to provide treatment for calluses, and provide after-care post-amputation; severe trauma such as nail punctures were referred for surgical treatment to the local hospital.”

2 How were the 2 clinics selected – are they in any way similar to/ different from the other clinic on the island.
RESPONSE: Added to Methods, Study participants page 5 lines 103-106: The two polyclinics were purposively chosen, with the help of the NCD focal point at the Ministry of Health, to reflect areas of different socio-economic status. One polyclinic was in a relatively well off, or ‘middle-class’, rural area, and the other was in an urban, more socially deprived neighbourhood.

3 References should be given for the statement “This study complements previously published qualitative work on the diabetic foot, which has tended to focus on personal beliefs and behaviours……”.

RESPONSE: We added references on page 4, line 70.

4 The major deficiency lies in the small number of patients interviewed. I understand that the sample was selected purposely but there is little doubt that the study would be strengthened by having a larger sample of patients (in the context of a qualitative study) in the continuum of no foot problems to those who have had an ulcer/amputation. This is addressed by the authors in the discussion and the use of the term exploratory in the title and aim.

RESPONSE: We appreciate the reviewer's concern and their recognition that this concern is acknowledged and addressed in the title and discussion.

5 I was surprised by the lack of emphasis on blood pressure and lipids as evidenced in the Dr interviews. Would the authors please expand on this in the discussion as this is contrary to current guidelines.

RESPONSE: Yes, this is an interesting observation by the reviewer. Our initial questions were deliberately broad, wanting to hear from the interviewees about how they approached diabetes care, and then how foot care fitted into that. Most doctors, but not nurses, did also refer to hypertension and cholesterol medication but only one doctor included this in their ‘priorities of numbers’ narrative by referring to targets, and s/he said: “But by constant education, one to one and giving talks to them, there has been improvement over the years, so our aim is to get that HBA1C under 7%, to get the blood pressure down to 130/80 or less if they’re hypertensive and to get their cholesterol and lipids under control, get that LDL under 2 down to 1.8, so our medication, our education, the counseling by the nutritionist, all are aimed for those targets. And of course if they’re obese we aim to get them to lose weight and come down to a normal BMI but those aims are challenging we try hard, we do succeed with some patients but I’m afraid the majority is a struggle, so we just have to press on.”

We did not feel confident including this quote in the results because this was the only specific reference to blood pressure and lipid targets, whereas reference to glucose control targets was much more pronounced. We have therefore added the following to the discussion on page 16, line 361 to page 17, line 363, which is: “In fact, only one interviewee spoke about targets for blood pressure and lipid control, although of course we must emphasise that our study population was small and not intended to be representative in a quantitative sense. Nonetheless……”

6 The most intriguing finding was that the “Patients’ focus on glucose control and numbers could also be adapted in helping them to understand the stages of diabetic foot disease and ‘at risk feet’ categories”. The authors do allude to the possibility of adding this to the “numbers that are relevant for patients. This is an interesting concept that requires further exploration- ie what are the most relevant aspects of diabetes care for which numbers can be generated and at the same time remain meaningful and not overwhelming to patients in different health care settings, with differing levels of numeracy/or even those with high levels of numeracy.
RESPONSE: A very interesting comment by the reviewer; we take the point that this focus on numbers could get a little out of hand. However, our participants were generally highly educated, and our participating podiatrists pointed out that the 0-3 risk category system for foot problems is actually very simple. We added on page 10, line 215: “…if health professionals would adopt the – very simple – numbering of risk categories…”

Reviewer 2:

This paper identifies by means of qualitative methods (interviews with health care professionals and patients) several barriers and facilitators to diabetic foot care within the health care system of Barbados, a developing island state in the Caribbean. Three broad themes are identified: the priority of glycemic control, changing professional roles and the reliance on self-care.

Minor essential revisions

1) In my opinion the authors make a too big point out of educating the reader what qualities are sought after in data for qualitative studies. One may expect the reader to know that a representative sample (representative of what, then?) is next to useless in qualitative research and that a sample in which we find many differing experiences is far richer on information. I assess the authors’ 20 interviews as quite adequate for their purpose. I notice that they do not use saturation as a criterion to stop their interview sequence, and they do not claim to have found an exhaustive (of some sort) list of barriers/facilitators. As qualitative samples come, I do not see much weakness in the present sample. Strengths and weaknesses of the study sample should be discussed from a qualitative viewpoint, not with references to a quantitative, frequentist viewpoint.

RESPONSE: We appreciate the reviewer’s comments and recognise that we might have been too careful in pre-empting concerned by a more quantitative audience. This tendency to pre-empt criticism from a more quantitative audience is based on the authors’ experience of working within clinical schools/faculties. However, in response to the reviewer we removed the reference to a representative sample on page 6, line 122. The sentence now reads simply: “In selecting the sample for this study, our aim was to purposefully gain access to a range of experiences and social and clinical contexts in a diverse, information-rich sample.”

2) Slightly unclear, but that is how I understand it, diabetic foot care in this paper includes both treatment of ulcers and prophylaxis. With prophylaxis, patients (especially) may not be aware that they had problems (e.g. difficult access to health care specialists) because they did not use the service, notably when they did not have foot problems.

RESPONSE: We understand the reviewer’s concern that the patient sample might have been quite heterogeneous in terms of specific foot problems and therefore needs for care. As an exploratory study we wanted to include a diverse set of experiences. Regular foot assessment, with appropriate management, should be an essential element of both diabetes care in a clinic setting and diabetes self-care. Our podiatrist participants narrated that most podiatry appointments were with people without problems to check for foot sensation or provide services such as nail cutting, e.g. a podiatrist’s quote: “It goes from seein’ a patient who is newly diagnosed to seein’ a patient who has an ulcer or who has, is bein’ seen after an amputation. So it goes from newly diagnosed with no problem and with good sensation, the lowest patient to the very high risk patient, and all the different, ahm, categories in
between, callus, deformity, you name it.” Upon request from reviewer 1, we added a description of care roles of health professional participants on page 5, lines 106-114, which we hope helps to clarify this point.

3) Tight glycemic control may be unlucky as, for example, the ACCORD trial shows. This could be mentioned. This could be a motivator to prioritize other treatment and prophylaxis modalities.

**RESPONSE:** We thank the reviewer for highlighting this issue. The interpretation of the ACCORD study, alongside ADVANCE, VADT, and the older UKPDS remains an area of debate. We have added and referenced a sentence on page 17, line 367-369 as follows: "In addition, randomised controlled trial evidence suggests that tight glycaemic control may either have no benefit on cardiovascular risk, or may even in some patients increase risk."

4) The limited access to certain services, here podiatry, may be an issue in many areas of the health care system; especially in developing countries. Is it?

5) The particular setting of Barbados sets it apart from certain other developing countries. I assume that Barbados is relatively compact, e.g. no vast wilderness or mountain areas with poor access to health care services, and that the diet may be fish based which would protect from heart disease? How much can the results in this paper be generalized?

**RESPONSES to 4&5:** Very limited access to podiatry is reported to be an issue in most developing countries, and it is the case that Barbados is a small, relatively compact island. It may be the case that the diet in Barbados offers some protection from heart disease, as fish is widely eaten, but so is chicken, pork, and cheese (in ‘Macaroni pie’ – an accompaniment to many meals). The limited evidence from available population based surveys (e.g. a Ministry of Health WHO STEPs survey conducted in 2008) suggests that intake of fresh fruit and vegetables is very low (less than 10% of adults eat 5 or more portions per day), which would be associated with an increased risk. There is currently a detailed survey of diet in progress in Barbados and we would rather not speculate on how healthy or not the diet is.

We have re-written the paragraph before the conclusion a little to reflect the issues of podiatry access in developing countries and the compactness of the island on page 18, line 392-396: "Finally, our findings highlighted the inescapable barrier of limited access to podiatry services, a situation reported to be common to the vast majority of developing countries (Unwin, 2008). Barbados has roughly one podiatrist in the public health system for every 10,000 people with diabetes. Although government clinics are geographically accessible and care is free at the point of use, patients needed nonetheless to be proactive in negotiating the appointments system, thus tending to favour access for patients with the time, motivation and skills to do this."

Reviewer 3:

This is a small descriptive study with limited data to report and to analyze in a scientific way. Reporting thoughts and wishes does not offer scientific knowledge and offers little help in sorting out the problem of the diabetic foot.
RESPONSE: We were very sorry to read that the reviewer does not value qualitative research as a scientific method that has value in providing insights and generating hypotheses that complement what is obtainable from quantitative research. We are heartened by the positive reviews of the two other referees.