Author’s response to reviews

Title: Does the Diabetes Specialist Nursing workforce impact the experiences and outcomes of people with diabetes? A hermeneutic review of the evidence

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Author’s response to reviews:

Authors: The authors thank the reviewers and the editor for their time reviewing our paper. We have taken into consideration all of your suggestions and updated our manuscript accordingly. Please see below for a response to each point. A revised manuscript with tracked changes has been submitted for visibility of the amendments.

Reviewer 1 Comments

An interesting and relevant topic for consideration that will be of interest to broad readership. The paper is based on a project that was designed to evaluate DISNs funded by Diabetes UK. The authors have created a strong case to support further understand the role and contribution of DISNs. There are however a number of methodological issues that warrant further consideration.

The review questions are included in the appendix- not clear why and they would be better placed in the main text

Authors: The review questions are in Table 1.0 which does feature in the main text along with Table 1.1 and Figure 1. The submission guidelines for the journal request that the tables and figures are put separately at the end of the main text. This paper contains no appendices.

The review is set to focus on in-patient DISNs. However the search terms are broad and not specific enough to identify this set of data. The criteria for inclusion is not clear in terms of what
was found, study locations and or decisions around how the 8697 reduced to 545 and then to 45. A PICO table or something similar is therefore required.

Authors: The search terms are broad in order to encompass the diabetes inpatient specialist nurse role, which is often reported on within broader papers on diabetes specialist nursing in general. A sentence has been added to clarify this p4:

However, literature focusing solely on inpatient diabetes nursing is limited, and DISNs are often written about within broader papers on DSNs. Therefore broader papers on DSNs were included and abstracts were analysed to establish relevancy to the review questions.

Authors:

The methods section has been amended to make this reduction in papers clearer, including amending the sentence p4:

Authors: In total, including those identified through snowballing, 45 publications were identified as relevant and specific to the review questions.

The scope of the search is very broad dating back to 1990, and although a rational was provided, it is unclear what if anything this added to the interpretation of the role. Several systematic reviews have been published, including previous work specifically exploring the role of DSNs that could have been used as a reference point.

Authors: The authors respect this point on including research dating back to 1990, however the three papers that are included from the 1990s are all on the educative role of DSNs and provide an understanding of the evolution of this educator role, in particular with inpatients and in hospital settings. Furthermore, we did include Loveman et al.’s systematic review [34] however this did not detail the educative role of DSNs in hospital. Additionally, the nature of hermeneutics as a methodology provides context without conforming to the expectancy of recency in literature, and therefore insights are gained from older literature.

Authors: We appreciate that the reasons for including research back to 1990 may not have been thoroughly enough explained. We have added a line on this p4:

Search parameters were limited from 1990 - 2018 in order to encompass seminal papers which focus on the direction of the DSN role, and to understand the evolution of the role, in particular as an educator in hospital settings.
Dates of search - not provided - need to be added

Authors: A sentence has been amended p4: An initial exploratory search of literature was carried out in May 2018…

Authors: and a sentence has been amended p4: Search parameters were limited to 1990-2018

No reported quality appraisal of included articles or the content source e.g. grey etc. Unclear why some review articles have been included - no rationale provided. Limitations of the data set in terms of methodological underpinning not mentioned.

Authors: Quality appraisals are not a commonplace part of hermeneutic reviews, this is due to the interpretative nature of hermeneutics. Additional table 1 has been added to illustrate which literature review questions review papers answered and thus their reasons for inclusion. A line has been added p4:

Further details on these papers and their relevance to review questions can be found in Additional File 1.

Limited details on any study has been provided and no supporting table has been included. This is fundamental to underpinning the article.

Authors: Additional table 1 has been added in order to provide these further details.

Unclear the basis for claims regarding cost effectiveness as only mentioned by 1 paper. Again a table could help map the study specifics in much greater detail to help the reader.

Authors: The authors agree that Kerr’s (2011) paper is the only one that focuses primarily on cost effectiveness, however, we would suggest that references 2, 5, 30, 31, and 39 also support the cost effectiveness of DSNs, showing perhaps smaller but nonetheless relevant case studies. The authors agree on the necessity of a table detailing the studies, and refer to additional table 1.

International context and or study findings are absent despite reporting search for studies across the world.

Authors: In additional table 1 the authors have added a column on the country where the research took place in order to make this clearer.
Although authors claim to focus on inpatient DSN papers from the community and general practice are included to substantiate claims of the role- this is somewhat misleading and text needs to be revised accordingly.

Authors: Literature solely focussed on inpatient DSNs was limited and in many cases broader papers on DSNs encompassed inpatient nursing and were therefore included. A line has been added to the paper to clarify this and to make this clearer: p4: However, literature focussing solely on inpatient diabetes nursing is limited, and specifics are often within broader papers on DSNs. Therefore broader papers on DSNs were included and abstracts were analysed to establish relevancy to the review questions.

Strengths and limitations of the review not included.

Authors: Strengths and limitations have been added after the discussion p10:

Strengths and limitations

This review clarifies and details the role and impact of Diabetes Specialist Nurses, a role that lacks a national accreditation framework and title protection in the UK. It offers breadth and synthesis of knowledge, it is of worldwide literature. The limitation in literature fields only allows some depth to the analysis. There is a risk of oversimplifying the literature at this scale.

Conclusion is vague and non-specific and would benefit from greater clarity of the specifics that have been identified. The evidence in terms of the value the role has is there but needs greater articulation in terms of the UK and further afield.

Authors: The conclusion has been added to as below in order to improve clarity and specificity p10/11:

Conclusion

A clarification of DSNs’ role is necessary for understanding and improving diabetes inpatient care. The literature reviewed here would support a continued and increased provision of diabetes specialist nurse services in the UK. DISNs have a diverse and expanding role that is critical to diabetes care. This review has revealed the mechanisms by which DSNs impact diabetes patients’ experiences, with a focus on those in hospital. These methods mechanisms include education of patients and professionals [18], direct patient care and reducing inpatient harms
[30], reducing length of stay and hospital admissions [49], and increasing patient satisfaction [45]. These are suggested to be associated with improved patient outcomes. This educative role is of particular significance in increasing both patient and other staff self-efficiency, which has positive consequences in the areas detailed. Efforts should be made to clarify and promote the value of the DSN role in both the UK and further afield.

Reviewer 2 comments

Does the Diabetes Specialist Nursing workforce impact the experiences and outcomes of people with diabetes? A hermeneutic review of the evidence

Review

Thank you for the opportunity to review your work. Any paper which seeks to clarify the value and complexity of nursing roles is important. I enjoyed reading this paper. I believe it can be improved with the following changes and clarifications:

P4, L11-12 refer to table with questions here in the text.

Authors: A line has been added p4: The questions of this literature review are detailed in Table 1.0.

P4: Methods The use of a hermeneutic framework is interesting and useful. However, there are instances where what is written does is not consistent: L37 you state that only peer-reviewed papers were included, yet line 46-47 you also note the inclusion of grey literature, reports and position statements which are unlikely to have had a formal peer review. This requires some clarification.

Authors: The methods section has been amended to make this clearer p4:

Results were limited to peer-reviewed papers only. This delimited the results to 545 papers.

After abstracts were established as relevant, papers were read, re-read and analysed as in the hermeneutic approach [14]. Citations were analysed and snowballing (also known as reference
tracking: using references to identify additional papers of relevance) was used to expand the search of literature. Understanding of individual texts was built in the context of the whole body of literature as described by the hermeneutic circle [14]. In total, including those identified through snowballing, 45 publications were identified as relevant and specific to the review questions, including grey literature, academic papers, reports, position statements and NaDIA.

L48 'it'. Please clarify what reached saturation

Authors: A point of saturation is reached when additional publications make only a marginal contribution to further understanding, according to Boell & Cecez-Kecmanovic. We have added a line to clarify this in the text p4:

The hermeneutic circle was broken and left at the search stage, when a point of saturation had been reached [14]. This is when additional papers make only a marginal contribution to further understanding [14].

L48-50 Please clarify why you have written that the hermeneutic circle was broken and left at the search stage. Surely by reviewing the literature you have moved from the search and acquisition circle of the hermeneutic framework to the analysis circle. This needs to be addressed.

Authors: This method is an inductive one and the authors recognise that the iterations of searching and analysis could be infinite. The inescapability of the hermeneutic circle means that this review has focused on the search. The authors decided to leave the circle at this juncture (having moved back and forth between the two) as a point of saturation had been reached. The themes here are not exhaustive but provide a break in the cycle of searching and analysis. This has been further detailed in the text to make this clearer p4/5:

The hermeneutic circle was broken and left at the search stage, when a point of saturation had been reached [14]. This is when additional papers make only a marginal contribution to further understanding [14]. The themes that emerge here are not exhaustive but provide a break in the cycle of searching and analysis. It is recognised that many of these themes can be further explored and expanded upon.

P4 L45. It is clearly stated that 45 papers were reviewed. However, the 45 papers are not clear either in text or in the reference list. An illustrative table containing the author details and then a column for each of the themes (or questions) and a tick to show which paper explored which theme/question would be useful for the reader to have a better sense of the literature and how papers addressed the key issues.
Authors: The authors appreciate this very constructive and beneficial idea. A table has been constructed with the papers that were reviewed and the literature review questions, and is included in the additional file. A line has been added p4:

Further details on these papers and their relevance to review questions can be found in Additional File 1.

P4: Results This section should provide the reader with stronger links to the literature review questions shown in table 1 and how the themes link to those questions.

Authors: This has been addressed in the text p5:

A number of themes emerged from the review of evidence. These were identified by the authors from recurrent topics in the literature, framed around the findings from successive NaDIAss. The themes have been separated into the actions DSNs take: patient education, staff education, direct patient care, psychological care and the outcomes of DSN interventions: a reduction in inpatient harm and length of stay, and improved patient satisfaction. These themes are divided in this way as a reflection of the literature review questions which centred around the interventions and the outcomes of DSNs’ interventions. Challenges in practice will be identified and discussed.

P16 Figure 1 should say that it has been adapted from Boell and Cecez-Kecmanovic (2010).

Authors: This has been added to Figure 1.

If these aspects are addressed this paper will be improved and this important topic further highlighted through publication.

Authors: To note, the only other changes made to this manuscript other than those outlined above are page 6 reference 30 has been amended to 37 and page 8 reference 20 has been amended to reference 8 (these errors were found when addressing your points and were likely due to changing referencing style to Vancouver when preparing manuscript for submission). These can be seen in the ‘tracked changes’ file.

We hope that we have addressed your points to your satisfaction and thank you for your time and comments on our paper.