Issues for debate

Including systematic reviews in PhD programmes and candidatures in nursing — 'Hobson's choice'?

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ABSTRACT

Nowadays, gathering and synthesising evidence, i.e. conducting systematic reviews, is considered an important part of any health service research endeavour. Reviewing the literature, however suggest that it is not yet common that PhD students/doctoral candidates publish systematic reviews or even include a high quality review of the literature as a part of their PhD programme or candidature. Implying that systematic reviewing skills might not be acquired by going through an education on a postgraduate level. Additionally, scholars debating systematic reviews 'to be or not to be' as a part of research training seem to be sparse, especially within the field of nursing. In this issue for debate, we would like to propose that the absence of systematic reviews' in this context might severely hamper the 'up and coming' researchers as well as the research conducted. We envisage that this lack can have a negative impact on international nursing practice, and therefore propose that systematic reviews should be considered, whenever appropriate, as a mandatory part of any PhD programme or candidature. We believe that abilities in systematic reviewing will be a sought after research skills in the near future. Including systematic reviews would promote i) refined, well-grounded adequate research questions, ii) PhDs with broad and elevated methodological skills, iii) an increased level of evidence based nursing praxis. However, to make this a reality, supervisors, PhD students, and candidates would need to understand the value of this kind of research activity. Finally, lobbying University faculty boards and grant providers that are not inclined to view literature reviews as 'proper' research or as an important part of health service research, needs to be put on the agenda.

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Introduction

Systematic reviews of the literature are increasingly standing out as a key research activity within health care. Despite this, the publication of reviews within nursing is still scarce (Yarcheski et al., 2012). The ability to conduct systematic reviews should be considered an essential methodological skill both with regards to the design of high-quality research programmes and synthesising existing research findings i.e. accumulating evidence for clinical practice. It would therefore be logic if systematic literature reviewing were a mandatory part of the methodological training in PhD programmes and candidatures (hereinafter PhD programmes), regardless of subject. Surprisingly enough, a review of the literature in nursing implies that it is not yet standard that PhD students/doctoral candidates (hereinafter PhD students) publish a systematic review or even include a high quality review of the literature as a part of their PhD programme. However, discussions concerning the importance of literature reviews in connection to PhD programmes are emerging within the field of education in North America (Boote and Beile, 2005) as well as in Australia (Pickering and Byrne, 2013), indicating that this is a timely topic to debate in relation to postgraduate education in nursing. Others (Griffiths and Norman, 2005; Rahm Hallberg, 2009) have highlighted that research reports and submitted scientific publications nowadays appears to not be built on full reviews of the literature. Adding further on to our concerns about the absence of a general public debate regarding systematic reviews 'to be or not to be' in PhD programmes in nursing. Thus, we will in this paper advocate for the benefits of conducting and integrating a systematic review as a fundamental part of a PhD programme in nursing. To underpin

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parts of our proposal we will present anecdotal evidence from a brief survey sent out to a group of European PhD students as well as the result from a database search in the National Bibliographies aiming to explore the incidence of systematic reviews in, as an example, Scandinavian PhD theses.

Background

As a starting point, it is of importance to briefly reconsider the history and definitions of the key term for this paper, namely the systematic review. The history of the systematic review dates back to the 1930s, when the statistician Fisher started combining *P*-values from several hypothesis tests into one. The technique was increasingly used during the years to follow, and in 1976 the term meta-analysis was first used by the US statistician G. V. Glass (Chalmers et al., 2002). However, researchers within the health care field were surprisingly late in taking on and utilising this advancement in methodology. One important and advancing step was the launch of the Cochrane collaboration in the 1990s, and combined with an increased interest in evidence-based practice, meta-analyses can nowadays be said to be an essential and integral part of modern health service research. A parallel track was the development of meta-synthesis, the counterpart for textual data. This was first used by Glaser and Strauss in the 1970s within their work on dying and other transition processes (Zimmer, 2006). The method started being used within nursing research in the late 1990s. Methodological accounts of how to conduct mixed method reviews have only very recently emerged, and one of the first papers dealing with this in more detail being Harden and Thomas (2005). Thus, in health service research during the second half of the 20th century there has been a tenacious development of methods to gather and synthesise different types of research evidence i.e. numerical and textual research findings.

As there seems to be a somewhat muddled terminology in the field, this paper adheres to the definition of systematic reviews suggested by Polit and Beck (2012), using the word systematic review as an umbrella term for different approaches (methods) used to review the literature. Producing a systematic review is one way of gathering the best available evidence for a highly specific research question by identifying, selecting, and appraising relevant research, with the purpose of synthesising research in a systematic, replicable way. Within this viewpoint, the systematic review is an umbrella term that can include reviews of either or both textual and numerical data (i.e. qualitative and quantitative methodologies). The common denominator for all systematic reviews is the ambition to create a comprehensive understanding that is bigger than the sum of its parts (Polit and Beck, 2012). This allows studies with small sample sizes to still play an important role as a part of the overall evidence, even though their individual sample sizes were considered too small to stand on their own feet. From a pragmatic PhD programme perspective, the systematic review is also about synthesising research in a systematic way, but with the purpose of being informed about evidence or present status in the area of interest.

Depending on the type of data reviewed, a systematic review could be classified as a meta-analysis, a meta-synthesis, or a mixed studies review (Polit and Beck, 2012). A meta-analysis basically builds upon adding effects from several randomised controlled trials and clinical controlled trials into a common effect size by the use of sophisticated statistical methods. The meta-synthesis, also known as meta-ethnography, meta-summary, or meta-study, is the counterpart for textual data, where results from qualitative studies are synthesised and/or integrated. Meta-syntheses are more than just summaries of prior qualitative findings. They contain a discovery of essential features of a body of findings, and characteristically, a transformation that yields new insights and interpretations. The mixed studies review, finally, also known as mixed methods review, systematically integrates results and findings from studies using both quantitative, qualitative, and mixed-methods strands into a whole. As a relatively new methodology, mixed studies reviews could be conducted by several approaches, referred to as segregate, integrated and contingent. In the segregated approach, two separate syntheses are merged in the end; in the integrated approach, qualitative and quantitative studies are used in parallel to extend each other; in the contingent approach, finally, the syntheses are applied stepwise.

Why conducting a systematic review?

Within a PhD project, there are several reasons for reviewing the literature. As a starting point, a broad overall review of the research area at *foci* is needed. In addition, there is often one of the included research questions that turn out to be suitable for a more thorough review, and this should be accomplished as a systematic review and if possible also published. Thus, we suggest that PhD students actually can draw large benefits from conducting and publishing a literature review as a part of a thesis.

The first benefit gained by using a systematic review as a starting point for a PhD project would be refining and optimising the research question(s) by highlighting missing areas of knowledge. Thorough and systematic reviewing of the research literature will for example help to prevent unnecessary replication by aggregating existing data and allowing a more comprehensive understanding of the issue at hand. Further, the general literature review is considered an essential indicator of the quality of a PhD thesis (Cleary et al., 2012). Hence, refining central parts of the broader general review by instead conducting a systematic review could eliminate what Griffiths and Norman (2005) describes as a somewhat haphazard selective review approach where "scholars are required to seek out evidence to support their points and are thus encouraged to selectively quote findings" (p. 374)"

Secondly, performing a systematic review provides an excellent opportunity to improve at critically appraising published scientific papers. This is a core skill in general nursing education (Knowles and Gray, 2011), but indeed of great importance for PhD students' future careers as researchers, PhD supervisors and reviewers of grant applications and scientific papers. Within a PhD programme, it would be reasonable to argue that this exercise well could be accomplished by means of a systematic review. Appraising the papers in the review also gives basic knowledge of a plethora of research designs that might not be commonly used by any researchers at the students' department. This will better equip the future researcher to choose the most appropriate design, instead of the most familiar, for a certain research question, which in the long run have the ability to improve the quality of nursing research.

Thirdly, acquiring the skill to perform systematic reviews is imperative for a future researcher. As Richards and Borglin point out (2011), nursing, like medicine, is a profession that to some degree lack evidence for many of its current practices. The systematic review stands out as a crucial instrument for the creation of knowledge within the evidence-based movement. As a consequence, it is highly likely that the ability to perform systematic reviews as a basis for evidence-based nursing will be an increasingly sought-after skill among nurse researchers, both within the academic and the policy-making fields.

Apart from our three main arguments above, it is clear that there is a constant need for good quality systematic reviews of existing research that can be used by clinicians and policy-makers. The benefit is of course not only for the education of PhD students or for