

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Research Priorities in Regional Anaesthesia Education and Training: An international Delphi consensus survey
AUTHORS	Chuan, Alwin; Ramlogan, Reva

VERSION 1 – REVIEW

REVIEWER	George Shorten UCC Ireland
REVIEW RETURNED	28-Mar-2019

GENERAL COMMENTS	<p>The authors have set out to summarise topics relevant to training and education in regional anaesthesia and to prioritize them in terms of “research importance”. This was undertaken using a Delphi questionnaire method, with three rounds and engaging 38 participants. In all, 82 topics were identified (across seven categories: simulation, curriculum, knowledge translation, assessment of skills, research methodology, equipment, and motor skills) of which 13 were deemed essential research priority.</p> <p>The objectives addressed are important and a thorough examination of the research priorities for training/education in RA is timely. The manuscript is clearly written and presented in logical and comprehensible form. The use of the EPICOT format is a strength.</p> <p>It would be useful to understand what exactly is meant by “research importance”. As this is a focal point of the study, a definition would be helpful. It would also enable a reader evaluate conclusions relating to each topic’s level of priority.</p> <p>Methods.</p> <p>The description of the domain(s) of topics intended for inclusion in the study is confusing. The objective refers to topics relating to “education in regional anaesthesia” ; in compiling their list of topics the authors began by consulting the Nix article “that encompasses research activities in RA education”. I imagine several topics which are important to the education (of RA) but are not the necessarily the subject of research.</p> <p>“The criteria for nomination was an established researcher or active contributor in RA education, evidenced by authorship of RA education journal articles and textbooks, directors of RA training programs, or as a member of national or international education committees and</p>
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	<p>education working groups.” These criteria are somewhat ambiguous – does “education journal” refer to education generally, medical education or RA education? Similarly, is membership of an international education committee sufficient evidence of expertise in RA education? Would an educational psychologist with expertise in psychomotor skills (but no knowledge of RA) be considered an expert by these criteria? There is also a case to be made for including current anaesthesia trainees and patients in the sample selected ; these might bring expertise of a different type to that of the professional experts.</p> <p>The search(es) strategy used did not include “peripheral nerve blockade” or “neuraxial blockade”. It is conceivable that relevant articles, or trials which focused on these topics were inadvertently omitted.</p> <p>The selection of the threshold (median score of ≥ 6, and for which $\geq 60\%$ of the panel scored ≥ 6.) applied for inclusion of a topic in the final round requires justification or explanation.</p> <p>Results. “Topics were categorised into seven themes”. It would be useful to understand how this grouping was done. The relationship between topics and categories is itself important in terms of understanding how the authors interpret the experts responses. A “group concept mapping” approach is one means of eliciting expert opinion on how different but related topics interact with one another.</p> <p>Minor comments.</p> <p>Introduction. “ Clinical expertise is in turn is..” typographical error Introduction. “ these mandatory skillsets have increased” - this is not clear : requirement has increased, the number of skills (or skillsets) have increased, the practice has increased? Introduction. “.. current diversity of education topics in RA education.” A redundancy.</p>
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REVIEWER	Dr Oliver Boney Health Services Research Centre, UK National Institute of Academic Anaesthesia
REVIEW RETURNED	10-Apr-2019

GENERAL COMMENTS	<p>1) Generation of your 74 research topics is clearly described, 2 authors involved. Not totally clear how you reached consensus when any differences between authors occurred (your report just says 'differences between authors were jointly discussed to reach consensus' - you might consider explaining that in slightly more detail, but not essential).</p> <p>2) Well described Delphi process, high participation rate, clear in/out criteria. (Might just be worth clarifying whether respondents in rounds 2 and 3 were shown the median/mean scores from all other participants, or just their own previous scores, etc.)</p> <p>3) Classification by theme is always pretty subjective, but I think you've done a good job of putting your research q's into clear 'boxes'.</p> <p>Overall a well described study that will hopefully lead to better targeted research in RA education.</p>
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VERSION 1 – AUTHOR RESPONSE

Reviewer(s)' Comments to Author:

Reviewer: 1

Reviewer Name: George Shorten

Institution and Country: UCC Ireland

Please state any competing interests or state 'None declared': None

Please leave your comments for the authors below

The authors have set out to summarise topics relevant to training and education in regional anaesthesia and to prioritize them in terms of “research importance”. This was undertaken using a Delphi questionnaire method, with three rounds and engaging 38 participants. In all, 82 topics were identified (across seven categories: simulation, curriculum, knowledge translation, assessment of skills, research methodology, equipment, and motor skills) of which 13 were deemed essential research priority.

The objectives addressed are important and a thorough examination of the research priorities for training/education in RA is timely. The manuscript is clearly written and presented in logical and comprehensible form. The use of the EPICOT format is a strength.

It would be useful to understand what exactly is meant by “research importance”. As this is a focal point of the study, a definition would be helpful. It would also enable a reader evaluate conclusions relating to each topic’s level of priority.

The paragraph explaining the instructions to participants has been made clearer with quotations from the scoring sheet, page 8 in the methods. In particular, the numerical score of 8 to 10 was reserved for “essential” research priority, while a score of 4 to 7 was described to participants as “intermediate”.

Only topics which scored 8 or higher were then reported as top priorities for RA education research in Table 1. We have also added the following sentence in the Results, page 12, “For all tables, topics are arranged in order of highest to lowest overall median score, and then by order of proportion of participants who scored at least 6 in Round 3.” to further clarify that a reader can easily recognise the level of priority

Methods.

The description of the domain(s) of topics intended for inclusion in the study is confusing. The objective refers to topics relating to “education in regional anaesthesia”; in compiling their list of topics the authors began by consulting the Nix article “that encompasses research activities in RA education”. I imagine several topics which are important to the education (of RA) but are not the necessarily the subject of research.

The Nix article was a review of evidence for teaching regional anaesthesia, and used 16 different search string terms as stated in page 7. Our methods, while using this review as the initial basis, was broader as we performed searches of other databases, a Google search for grey literature using extra search terms, and hand –search of returned articles to find other relevant articles. We also provided opportunities for participants (experts in RA education) to nominate other topics they felt were important but not yet included in the Round 1 list, during which they provided an extra 8 topics. Therefore, we believe that our final list of 82 generated topics are a good representation (albeit not necessarily exhaustive) of the research interests in the RA community.

“The criteria for nomination was an established researcher or active contributor in RA education, evidenced by authorship of RA education journal articles and textbooks, directors of RA training programs, or as a member of national or international education committees and

education working groups.” These criteria are somewhat ambiguous – does “education journal” refer to education generally, medical education or RA education? Similarly, is membership of an international education committee sufficient evidence of expertise in RA education? Would an educational psychologist with expertise in psychomotor skills (but no knowledge of RA) be considered an expert by these criteria? There is also a case to be made for including current anaesthesia trainees and patients in the sample selected ; these might bring expertise of a different type to that of the professional experts.

We have previously noted in our limitations that our group of RA experts is a subset of the entire RA community (page 15). We agree that other groups may have different opinions on the relative value of priorities; we have included this extra information “nor did we include anaesthesia trainees or public representatives who may harbour different weightings for the research priorities due to their unique perspectives” into the limitations paragraph (page 15). We have also modified the methods paragraph (page 6), results (page 11), and discussion (page 15) to remove ambiguity that our 38 included participants were indeed all anaesthetists who have pedigree in publishing in anaesthesia journals on regional anaesthesia educational topics, and/or members of anaesthesia education committees, practice regional anaesthesia in academic centres and involved in teaching of trainees.

The search(es) strategy used did not include “peripheral nerve blockade” or “neuraxial blockade”. It is conceivable that relevant articles, or trials which focused on these topics were inadvertently omitted. While the specific words “peripheral” and “neuraxial” were not included in our search parameters, we did use the MESH keyword “regional anaesthesia” (both UK and USA spellings) that does encompass all techniques (specifically, the keyword included all other daughter terms including local, spinal, epidural, nerve blockade, autonomic block, brachial plexus and cervical plexus). This was then merged with the education keywords to narrow the search to relevant articles. As a result, the majority of educational trials identified in our study were performed in the context of peripheral nerve blocks, with one article on training for ultrasound-guided neuraxial blocks. This has been added to our methods, page 7.

The selection of the threshold (median score of ≥ 6 , and for which $\geq 60\%$ of the panel scored ≥ 6 ,) applied for inclusion of a topic in the final round requires justification or explanation.

This was pre-defined, high threshold to only select the top priority topics for further consideration. All topics that reach this threshold must be at least “important or essential” research, and be considered so by the absolute majority of participants. This explanation has been included in the methods, page 8.

Results. “Topics were categorised into seven themes”. It would be useful to understand how this grouping was done. The relationship between topics and categories is itself important in terms of understanding how the authors interpret the experts responses. A “group concept mapping” approach is one means of eliciting expert opinion on how different but related topics interact with one another. We thank you for this useful suggestion, and this has been added to our limitations, page 16

Minor comments.

Introduction. “ Clinical expertise is in turn is..” typographical error

Introduction. “ these mandatory skillsets have increased” - this is not clear : requirement has increased, the number of skills (or skillsets) have increased, the practice has increased?

Introduction. “. current diversity of education topics in RA education.” A redundancy.

Thank you, these corrections have been made to the introduction page 4

Reviewer: 2

Reviewer Name: Dr Oliver Boney

Institution and Country: Health Services Research Centre, UK National Institute of Academic Anaesthesia

Please state any competing interests or state 'None declared': None declared

Please leave your comments for the authors below

1) Generation of your 74 research topics is clearly described, 2 authors involved. Not totally clear how you reached consensus when any differences between authors occurred (your report just says 'differences between authors were jointly discussed to reach consensus' - you might consider explaining that in slightly more detail, but not essential).

The differences were primarily in the wording of the EPICOT statement, and was for the purpose of reducing ambiguity and improving clarity of the research question asked. This extra information has been included in the methods, page 8.

2) Well described Delphi process, high participation rate, clear in/out criteria. (Might just be worth clarifying whether respondents in rounds 2 and 3 were shown the median/mean scores from all other participants, or just their own previous scores, etc.)

Respondents were indeed shown the median, IQR, and percentage of those who scored ≥ 6 , at the end of Rounds 1 and 2. However, these were aggregate scores as individual scores were de-identified. This extra information is inserted in the results, page 9.

3) Classification by theme is always pretty subjective, but I think you've done a good job of putting your research q's into clear 'boxes'.

Overall a well described study that will hopefully lead to better targeted research in RA education.

Thank you for the feedback

VERSION 2 – REVIEW

REVIEWER	George Shorten University College Cork, Ireland
REVIEW RETURNED	10-May-2019
GENERAL COMMENTS	The revision is satisfactory and the concerns raised in the previous review have been addressed. I believe the manuscript is now suitable for publication.