

## SUPPLEMENTARY FILE 2

# Recommendations for the Conducting and REporting of DElphi Studies (CREDES) and how these will inform the primary cam morphology (PCM) Delphi Study

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## Recommendations for the Conducting and REporting of DELphi Studies (CREDES) and how these will inform the primary cam morphology (PCM) Delphi Study

### Recommendation

#### Rationale for choosing the Delphi technique

1. Justification.  
“It is important to justify the choice of the Delphi technique as a method of systematically collating expert consultation and building consensus. It is also important to keep its constructivist nature in mind.”

*PCM Delphi Study:* we justified the choice of the Delphi technique in the study protocol document.

#### Planning and design

2. Planning and process.  
“The Delphi technique is a flexible method. It can be adjusted to the respective research aims and purposes. Any modifications should be justified and be applied systematically and rigorously.”

*PCM Delphi Study:* we explain the three stages of the PCM Delphi Study in the study protocol document.

3. Definition of consensus.  
“Define an a priori criterion for consensus (unless not reasonable due to the explorative nature of the study). This includes a clear and transparent guide for action on (a) how to proceed with certain items or topics in the next survey round, (b) the required threshold to terminate the Delphi process and, (c) procedures to be followed when consensus is (not) reached after one or more iterations.”

*PCM Delphi study:* we define an a-priori criterion for consensus (Table 4 and data analysis section of the study protocol document), including how to proceed with certain items in the next survey round, and facilitate discussion (stage 3) relevant to areas of tension and dissent.

#### Study conduct

4. Informational input.  
“Carefully review all material provided to the expert panel at the outset of the project and throughout the Delphi process; pilot the process in advance in order to examine the effect on experts’ judgements and to prevent bias.”

*PCM Delphi Study:* we provide information on all material provided to the expert Delphi panel (recruitment section of the study protocol document).

5. Prevention of bias.  
“Researchers need to take measures to avoid directly or indirectly influencing the experts’ judgements. Consider to entrust an independent researcher with the main coordination of the Delphi study if one or more members of the research team have a conflict of interest.”

*PCM Delphi Study:* the Delphi Study Steering Committee will provide oversight to this Delphi study. 'The study steering committee included members of the YAHIR Collaborative. Avoiding the "GOBSAT" ("good old boys sat around a table") approach[22] the steering committee ensured a representative Delphi panel, and a robust Delphi study process. Interpreting 'diversity' as more than representation of certain demographic groups, the steering committee ensured a diverse and informed Delphi panel, representing six multi-profession stakeholder groups, including previously minoritised groups relevant to this research field (e.g., women, athletes, patients and the community, participants from the Global South). This study's online Delphi method, with a specific focus on anonymity and access to adequate topic-specific resources, supported a more equitable and inclusive process.' (Supplementary File 3: Steering Committee Terms of Reference).

6. Interpretation and processing of results.  
"Consensus does not necessarily imply the 'correct' answer or judgement; (non)consensus and stable disagreement provide informative insights and highlight differences in perspectives concerning the topic in question."

*PCM Delphi Study:* the Delphi Study Steering Committee provide oversight to the planning and conduct of the Delphi exercise, including the final synchronous (online) discussion of the Delphi Rounds' results with careful attention to dissent and ambiguity. We also performed and reported: (1) a thematic analysis of individual and group feedback; (2) Intra-class Correlation Coefficient and its 95% Confidence Interval for each statement as an indication of stability; (3) dissent analysis (bipolarity of group opinion, outlier analysis, and stakeholder group analysis)

7. External validation.  
"Consider an external board or authority to review and approve the final Delphi study results (e.g., draft of the resulting guidance) before it is published and disseminated."

*PCM Delphi Study:* we state in the dissemination section of the study protocol document that "we will ask international professional bodies (e.g. International Society for Hip Arthroscopy; British Association of Sport and Exercise Medicine; International Federation of Sports Physical Therapy) to participate in and endorse the consensus". Furthermore, the Young Athlete's Hip Research Collaborative's members are from many international organisations.

## Reporting

8. Purpose and rationale.  
"Define the purpose of the study and demonstrate the appropriateness of the use of the Delphi technique as a method to achieve the research aim. Provide a rationale for the choice of the Delphi technique as the most suitable method."

*PCM Delphi Study:* we discuss the aim and objectives of this Delphi Study and the appropriateness of the use of the Delphi technique in the study protocol document.

9. Expert panel.  
"Report the selection criteria for expert panellists and provide transparent information on recruitment of the expert panel, sociodemographic details, including information on

expertise regarding the topic in question, (non)response and response rates over the ongoing iterations.”

*PCM Delphi Study:* we report the selection criteria of expert panellists in the study protocol document. We report and provide transparent information on recruitment of the expert panel, sociodemographic details, including information on expertise regarding the topic in question, (non)response and response rates over the ongoing iterations.

10. Description of the methods.  
“The methods employed need to be comprehensible; this includes information on preparatory steps (How was available evidence on the topic in question synthesised?), piloting of material and survey instruments, design of the survey instrument(s), the number and design of survey rounds, methods of data analysis, processing and synthesis of experts’ responses to inform the subsequent survey round and methodological decisions taken by the research team throughout the process.”  
  
*PCM Delphi Study:* we describe the Delphi Study methods in detail in the study methods (Supplementary File 1)
11. Procedure.  
“Provide a flow chart to illustrate the stages of the Delphi process, including a preparatory phase, the actual ‘Delphi rounds’, interim steps of data processing and analysis, and concluding steps”  
  
*PCM Delphi Study:* Figure 1 illustrates the stages of the Delphi process, including a preparatory phase, the actual Delphi rounds, interim steps of data processing and analysis, and concluding steps
12. Definition and attainment of consensus.  
“It needs to be comprehensible to the reader how consensus was achieved throughout the process, including strategies to deal with non-consensus”  
  
*PCM Delphi Study:* we report how consensus was achieved: a priori consensus definition (Table 2), consensus results (Table 4 and Supplementary File 5). We describe our strategies to deal with non-consensus/dissent in the Methods section and report in the Results section (Qualitative analysis of panellists’ comments and feedback, and dissent analysis)
13. Results.  
“Reporting of results for each round separately is highly advisable in order to make the evolving of consensus over the rounds transparent. This includes figures showing the average group response, changes between rounds, as well as any modifications of the survey instrument such as deletion, addition or modification of survey items based on previous rounds.”  
  
*PCM Delphi Study:* we report the results of each round separately to make the evolving of consensus (or not) over the rounds transparent (Table 4 and Supplementary File 5). We provided all panellists, using the DelphiManager® software, with figures (Histograms) showing the average stakeholder group response between round 1 and round 2. We did not modify the survey instrument after round 1 (no deletion, addition or modification of survey items based on previous rounds).

14. Discussion of limitations.  
“Reporting should include a critical reflection of potential limitations and their impact on the resulting guidance.”  
  
*PCM Delphi Study:* we reflect in the discussion section on potential limitations and their impact on the final results
15. Adequacy of conclusions.  
“The conclusions should adequately reflect the outcomes of the Delphi study with a view to the scope and applicability of the resulting practice guidance.”  
  
*PCM Delphi Study:* the Delphi Study Steering Committee provided oversight to the rigorous reporting of results (to avoid “spinning” when reporting and discussing results) and ensured that conclusions adequately reflect the outcome of the Delphi Study.
16. Publication and dissemination.  
The resulting guidance (e.g., on good practice in palliative care) should be clearly identifiable from the publication, including recommendations for transfer into practice and implementation. If the publication does not allow for a detailed presentation of either the resulting practice guidance or the methodological features of the applied Delphi technique, or both, reference to a more detailed presentation elsewhere should be made (e.g. availability of the full guideline from the authors or online; publication of a separate paper reporting on methodological details and particularities of the process (e.g. persistent disagreement and controversy on certain issues)). A dissemination plan should include endorsement of the guidance by professional associations and health care authorities to facilitate implementation”  
  
*PCM Delphi Study:* we discuss the extensive dissemination of this Delphi Study’s results (involving the YAHIR Collaborative’s Patient and Public Involvement Group) in the Discussion section of this protocol paper: Webinar 9 to 11 of the *Oxford-Aspetar-La Trobe Young Athlete’s Hip Webinar Series* and the *YAHIR Collaborative’s Symposium and Research Meeting* planned for 22-23 September 2022 in Oxford.