Protocol

Reporting E-Delphi Studies (REDS) in health research: development of a preferred items checklist

Mara Pereira Guerreiro[1]*, Katie MacLure[2], Simone Santos[3], Derek Stewart[2] on behalf of the REDS team

1. Lisbon Nursing School & Instituto Superior de Ciências da Saúde Egas Moniz, Portugal
2. School of Pharmacy & Life Sciences, Robert Gordon University, Scotland, UK.
3. Universidade Federal de Pernambuco- Recife, Pernambuco, Brazil.

*contact author (mara.guerreiro@esel.pt | mara.guerreiro@egasmoniz.edu.pt)

Introduction

The Delphi method has been employed in many areas of health research.(1) It is defined as a multi-staged survey among an anonymised panel of independent participants, interspersed by controlled feedback. Each stage, commonly designated as a round, builds on the previous one; the purpose is generally to achieve consensus on the topic under scrutiny. The panel is comprised of experts, who may include "any individual with relevant knowledge and experience of a particular topic.",(2) when appropriate panels may include expert patients and carers.

Standardised guidelines for reporting, defined as "a checklist, flow diagram, or explicit text to guide authors in reporting a specific type of research, developed using explicit methodology",(3) are available for numerous study designs.(4) They are acknowledged as important in helping reviewers and readers in assessing research quality; if considered during an early phase of a study, they may also contribute to a more transparent and/or rigorous design.

A research guideline for Delphi studies was published in 2000.(5) While offering reporting guidelines, this work provides mainly a reflection on the appropriateness of using the Delphi method, its preparation, data collection and analysis. It was based on the authors' experience and dilemmas when using and reporting these studies, informed by a narrative review. Little attention was paid to the electronic Delphi, or e-Delphi, which in our digital age, commonly replaces its traditional paper counterpart.

Guidance on reporting the Delphi method for selecting healthcare quality indicators is also available,(6) but many Delphi studies in health research are outside this scope. For example, Delphi studies have been used in numerous other topics, such as defining and prioritising barriers or facilitators to interventions or practice changes,(7) developing consensus statements for diseases and drug-therapy,(8) deriving questionnaire items,(9) determining different policy options or planning their outcomes.(10)

Finally, guidance has been offered to develop reporting guidelines, in an attempt to overcome inappropriate processes.(3) Thus, there is a need to develop new reporting guidance for electronic Delphi studies using commonly accepted and robust methods.

Our aim is to fill this gap by developing preferred reporting items for e-Delphi studies in health research.

Methods

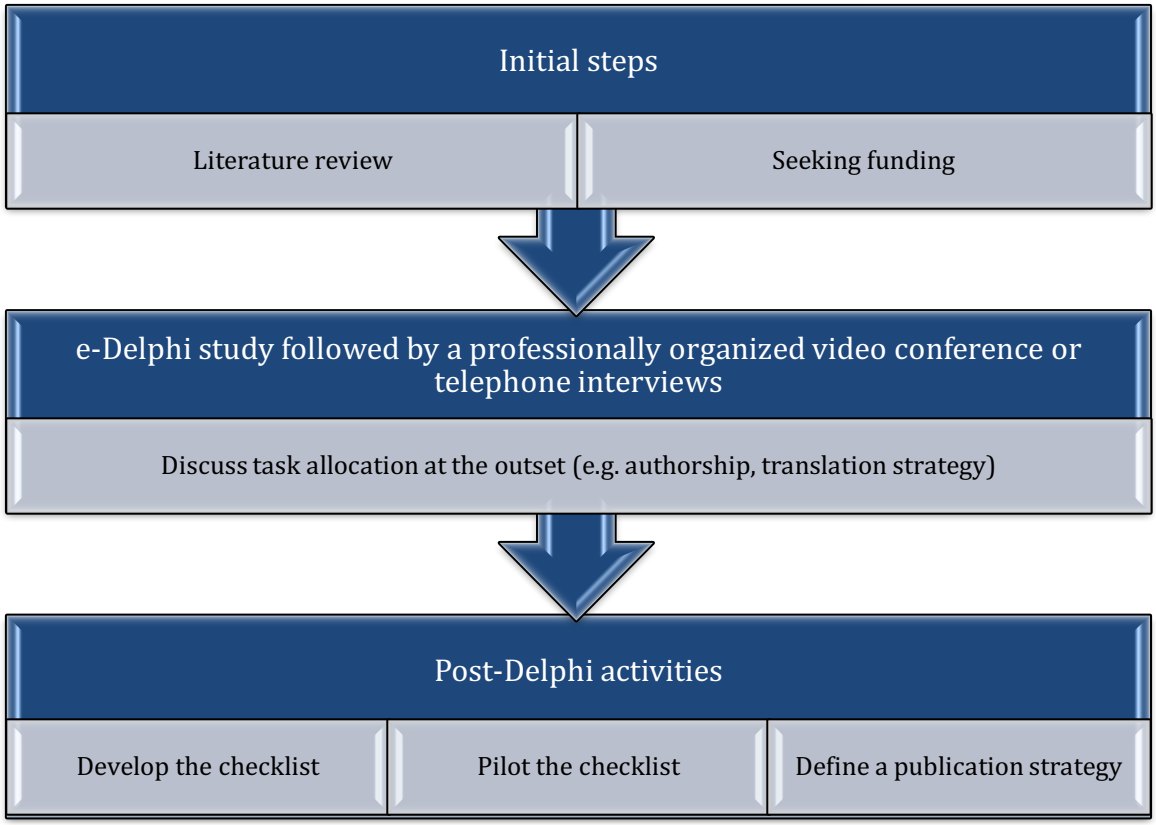
An overview of the methods, adapted from the steps recommended by Moher et al.(3), is depicted in Figure 1.

As part of the initial steps, we will conduct a systematic review on the use of the e-Delphi, with the aim of critically appraising, synthesizing and presenting the available evidence on this method in health research. We decided to focus on the e-Delphi to narrow the scope of the systematic review; additionally, this modality is increasingly adopted.

To help with developing the preferred items checklist we plan to conduct an e-Delphi study. To participate in the e-Delphi in the role of experts we envisage inviting corresponding authors of articles included in the systematic review, editors of the journals in which these studies were published and authors of methodological texts on

the Delphi. Statisticians may also be considered for this expert panel. Content experts should comprise at least a quarter of the panel.(3)

Figure 1 Methods to develop a preferred item checklist for e-Delphi studies



Existing expertise in team will be important to successfully carry out this project, particularly in what respects to Delphi studies (9,11–16) and systematic reviews (17–20). External funding will be sought as part of the initial steps.

References

1. Keeney S, Hasson F, McKenna H. The Delphi Technique in Nursing and Health Research. Chichester: Wiley-Blackwell; 2011. 208 p.
2. Cantrill J a., Sibbald B, Buetow S. The Delphi and nominal group techniques in health services research. Int J Pharm Pract. 1996 Jun;4(2):67–74.
3. Moher D, Schulz KF, Simera I, Altman DG. Guidance for Developers of Health

Research Reporting Guidelines. PLoS Med. 2010;7(2):e1000217.

4. Altman DG, Simera I, Hoey J, Moher D, Schulz K. EQUATOR: reporting guidelines for health research. Lancet. Elsevier; 2008 Apr 5;371(9619):1149–50.
5. Hasson F, Keeney S, McKenna H. Research guidelines for the Delphi survey technique. J Adv Nurs. 2000 Oct 28;32(4):1008–15.
6. Boulkedid R, Abdoul H, Loustau M, Sibony O, Alberti C. Using and reporting the Delphi method for selecting healthcare quality indicators: a systematic review. PLoS One. 2011 Jan;6(6):e20476.
7. Hopf YM, Francis J, Helms PJ, Haughney J, Bond C. Linking NHS data for pediatric pharmacovigilance: Results of a Delphi survey. Res Soc Adm Pharm. 2016;12(2):267–80.
8. Maher TM, Whyte MKB, Hoyles RK, Parfrey H, Ochiai Y, Mathieson N, et al. Development of a Consensus Statement for the Definition, Diagnosis, and Treatment of Acute Exacerbations of Idiopathic Pulmonary Fibrosis Using the Delphi Technique. Adv Ther. Springer; 2015 Oct;32(10):929–43.
9. Guerreiro MP, Plácido M, Barros CT, Coelho A, Graça A, Gaspar MJ, et al. A national e-Delphi towards the measurement of safe medication practices in Portuguese hospitals. Eur J Hosp Pharm. 2016;ejhpharm-2016-000955.
10. Syed AM, Hjarnoe L, Krumkamp R, Reintjes R, Aro AR. Developing policy options for SARS and SARS-like diseases - a Delphi study. Glob Public Health. 2010;5(6):663–75.
11. Guerreiro M, Samuels T. Consensus methods can help to form opinions in pharmacy research. Pharnacy Pract. 2006;(March):46–50.
12. Guerreiro MP, Cantrill JA, Martins AP. Validação de Indicadores para Cuidados Primários em Portugal. Acta Med Port. 2007;20:107–30.
13. West LM, Diack L, Cordina M, Stewart D. Applying the Delphi technique to define "medication wastage." Eur J Hosp Pharm; 2015;22(5):274–9.
14. Pfleger DE, McHattie LW, Diack HL, McCaig DJ, Stewart DC. Developing consensus around the pharmaceutical public health competencies for community pharmacists in Scotland. Pharm World Sci. 2008;30(1):111–9.
15. Tonna A, McCaig D, Diack L, West B, Stewart D. Development of consensus guidance to facilitate service redesign around pharmacist prescribing in UK hospital practice. Int J Clin Pharm. 2014;36(5):1069–76.
16. Al Shemeili S, Klein S, Strath A, Fares S, Stewart D. A modified Delphi study of structures and processes related to medicines management for elderly hospitalised patients in the United Arab Emirates. J Eval Clin Pract.

2016 ;22(5):781–91.

17. McIntosh T, Stewart D, Forbes-McKay K, McCaig D, Cunningham S. Influences on prescribing decision-making among non-medical prescribers in the United Kingdom: systematic review. Fam Pract. 2016 (in press).
18. Paudyal V, Hansford D, Cunningham S, Stewart D. Community pharmacists' adoption of medicines reclassified from prescription-only status: a systematic review of factors associated with decision making. Pharmacoepidemiol Drug Saf. 2012;21(4):396–406.
19. MacLure K, Paudyal V, Stewart D. Reviewing the literature, how systematic is systematic? Int J Clin Pharm. 2016;38(3):685–94.
20. West LM, Diack L, Cordina M, Stewart D. A systematic review of the literature on "medication wastage": an exploration of causative factors and effect of interventions. Int J Clin Pharm. 2014;36(5):873–81.