

EDUTORIAL

Questionnaires for Surgical Research: Not Always a Simple Option

Questionnaires are used in a wide variety of research projects. They offer an objective means of learning about the preferences, attitudes, practices, and behaviour of both patients and clinicians. In some areas, such as quality of life, exercise, and diet, there are robust and well-validated questionnaires readily available, usually in several different languages. If so, use these, or modifications of them rather than design your own. In other areas (patient preference, patient satisfaction, availability of services, or training), validated questionnaires are unlikely to be available. Good-quality research demands that where a new questionnaire is developed, it must be validated and conducted within a proper ethical framework, in order to optimise obtaining reliable data with a good response rate (target response rate, to minimise non-responder bias and maintain statistical power, of 65% for self-completion questionnaires or 75% for interviews or administered questionnaires). Short questionnaires, simple language, clear layout, and financial incentives all improve response rates. The use of unvalidated questionnaires is widespread and can detract from the reliability and generalisability of the findings: sadly there are several recent examples in this journal.

Accordingly, if you are going to include a survey in your research, wherever possible seek expert advice and (preferably) use previously validated questionnaires. If existing questionnaires are not appropriate, you need to proceed in a scientific manner, again seeking expert advice.

- First, the aims of the research questionnaire must be clear and broken down into measurable objectives.
- Second, the background to the questionnaire (information provided) should summarise clearly and briefly what is known and unknown about the topic, where necessary in language appreciated by patients or other target audiences. Patients and providers may have very different concerns about treatments offered/provided and their views need to be harnessed as you develop both the background information and the questionnaire (which may require ethical approval).
- Third, you need to consider how you will reach a representative sample of your target audience (administration of paper survey, postal survey, internet survey, telephone or mobile phone survey, etc.), together with the minimum response rates required to obtain the required information. For instance if you are looking for changes over time, the questionnaire should be administered at different time points (appropriately selected for each investigation), rather than rely on retrospective recall of information. For all surveys you

need good design to optimise response rates; do not make the questionnaire too long.

- Then, you should consider the ethical and research governance issues raised by your study. If sensitive, person-identifiable data are collected, these must be anonymised or pseudo-anonymised. All studies published in this, and most other journals, require ethical approval for the development of questionnaires with patient input and for administration of questionnaires to patients.

New survey questionnaires should be developed using a literature review, external consultation with experts, previously validated questionnaires, and user input (patients and/or physicians, etc.). It is helpful to organise the questionnaires into different themes covering current perspectives, items of importance, and one about the demographics of the informant: this process is usually accomplished through one-to-one or focus group interviews, with the informants coming from across the demographic spectrum. For either interviews or focus groups, it is best to use an experienced interviewer or leader. After this process and formulation of your pilot questionnaire, there are two further steps before using it for your research. First, the pilot questionnaire should be retested in a small group of patients/users, to check that it is easily understood, easy to complete, and nothing important is missing: further small modifications may be needed. Second, it is useful to send the pilot questionnaire for further outside expert review.

Test the final version of the questionnaire on a few appropriate subjects, before using it in your main research study.

The organisation of questionnaires into different themes will facilitate analysis of the returned questionnaires. Think about how you will analyse the data before you start collecting it.

Questionnaires can be used for stand-alone research, as pilot information for both observational studies and randomised trials, as well as within these and other research areas.

If you still want to develop a new research questionnaire, there are several helpful resources available,^{1–3} with McColl et al. being the most detailed.³

REFERENCES

- 1 Boynton PM, Greenhalgh T. Selecting, designing and developing your questionnaire. *BMJ* 2004;**328**:1312–5.
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- 3 McColl E, Jacoby A, Thomas L, Soutter J, Bamford C, Steen N, et al. Design and use of questionnaires: a review of best practice applicable to surveys of health service staff and patients. *Health Technol Assess* 2001;**5**(31):1–256.