

## Main Articles

# A review of ENT consultant postal questionnaires

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### Abstract

In recent years, there appears to have been an increase in the number of postal questionnaires being received by ENT consultants. Questionnaires with unsound methodology waste the time of those who send and receive them, as inferences cannot be made from their results. In this study, a review was performed on a sample of 19 questionnaire studies published in two ENT journals between January 1998 and December 2002. Each study was given a 30-point score, based on the quality of its methodology. The average score assigned to each study was 32 per cent, suggesting that the quality of methodology was generally poor. These results should serve as a warning to those embarking on and those interpreting research of this kind.

**Key words:** Questionnaires; Health Care Surveys; Data Collection; Postal Services

### Introduction

Questionnaires are a form of data collection that is time and cost-effective. There appears to be a general consensus among ENT consultants that they are increasingly receiving requests to complete such postal questionnaires. Questionnaires of accident and emergency departments have been found to have poor

methodology descriptions, making them difficult to reproduce.<sup>1</sup> The aim of this study was to analyse the methodology of a sample of questionnaire-based studies published in current ENT literature and to establish the validity of the data obtained.

### Materials and methods

The *Journal of Laryngology and Otology* and *Clinical Otolaryngology* were hand-searched for consultant postal questionnaires from January 1998 to December 2002 inclusive. This yielded 21 studies, two of which were subsequently rejected: one was rejected because the questionnaire had been e-mailed as well as posted and the other because the consultant questionnaire did not form the main part of the study. Thus 19 studies were available for inclusion in this review, all of whose methodologies were scrutinized.<sup>2–20</sup> Fifteen specific criteria were devised to critically appraise the studies (Table I). Each criterion was in the form of a question to which there was either a 'yes' or 'no' answer. A zero score was given for a negative answer and a score of two points for a positive answer. An exception was criterion K (*see below*), for which one point was awarded for partial inclusion.

TABLE I

CRITERIA USED TO EVALUATE METHODOLOGY OF STUDIES

- |   |  |
|---|--|
| A | Is there reference to literature in the introduction of the study?                       |
| B | Was a random sample used?  |
| C | Was the sample size required for the study calculated beforehand?                        |
| D | Was the response rate greater than 60 per cent?  |
| E | Was a pilot study carried out?   |
| F | Were strategies used to increase response rate such as....                               |
| G | ....(1) Stamped addressed envelopes/postcards?   |
| H | ....(2) Brevity?   |
| I | ....(3) Confidentiality?   |
| J | ....(4) Reminders?   |
| K | Was ethics approval stated?  |
| L | Were the statistical methods used appropriate and adequate and were they reported fully? |
| M | Inadequate: 0 point, partial: 1 point, full: 2 points.                                   |
| N | Was a copy of the questionnaire included in the paper?                                   |
| O | Were all of the findings presented?  |
| P | Was the data collection period stated?   |
| Q | Were doctors' years of experience taken into account?                                    |

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With reference to Table I, the reasons these 15 criteria were chosen were as follows:

- A. It is important to perform a literature search prior to embarking on a research project, in order to justify the need to carry out the research in the first place.<sup>21</sup> The papers whose introductions included a literature review of the subject surveyed were therefore awarded two points.
- B. In order to carry out a survey on a certain population of people such as ENT consultants, a sample needs to be selected. This sample should be chosen in a random manner to reduce the chance of bias.<sup>22</sup>
- C. The appropriate sample size should be calculated in advance of undertaking a survey.<sup>23</sup> This is calculated following a pilot study, which should indicate the extent to which practices or opinions differ. The bigger the difference the smaller the sample size needed to detect it.
- D. Ideally the proportion of responders should be at least 60 per cent in order for meaningful inferences to be made.<sup>6</sup> For the purposes of this review the response rate was taken as the number of responses that were actually analysed: incorrectly completed questionnaires were not included.
- E. Piloting the final draft of the questionnaire on a small sample of the study population should ensure that the questions are easily understood and do not inadvertently offend.<sup>24</sup> Piloting a questionnaire is also a step towards establishing the validity and reliability of the questions asked.
- F-I. Certain strategies may be employed to increase the response rate of a questionnaire: these include the use of stamped addressed envelopes and keeping questions short and concise.<sup>24</sup> In addition, confidentiality should be assured and reminders should be sent within 2 to 3 weeks of the initial mailings.<sup>22</sup> If it was not evident from the questionnaire itself, or from the text of an article, that these strategies had been used, a score of zero was given.
- J. Permission to conduct a study should be sought from the local research ethics committee. Ethical approval may be withheld if flaws in study design are evident.<sup>25</sup>
- K. The statistical methods used in the study should be appropriate. The studies included were analysed by a statistician according to their appropriateness and the extent to which they were fully reported.
- L. Including a complete copy of the questionnaire used in a study enables the study to be reproduced. These were assessed for the clarity of the questions posed and their overall layout. Studies that either included a summary of the questionnaire, or omitted to include it in any form, scored zero.
- M. Publishing all of the findings in a study eliminates selectivity of reporting. This was also separately assessed.

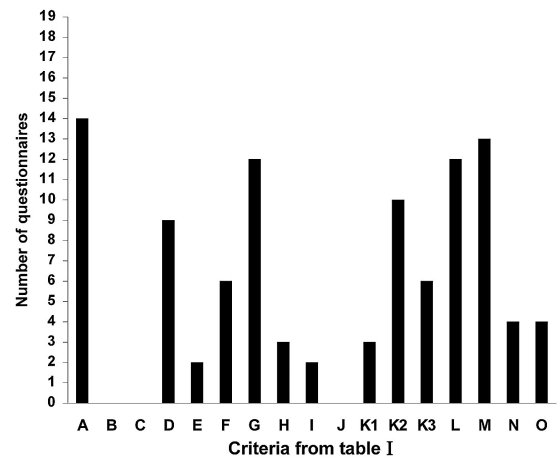


FIG. 1

Number of questionnaires satisfying each criterion from Table I. K1: Inadequate statistical analysis; K2: Partial statistical analysis; K3: Full statistical analysis.

- N. Sufficient time should be given to the recipients of questionnaires to complete and return them in order to increase the response rate.
- O. It is important to know the number of years of experience the doctors involved in completing a survey have had in order for the reader to make an informed decision regarding the results and conclusions.

## Results

The number of questionnaires that satisfied each criterion from Table I is shown in Figure 1. The total number of points awarded to each study was converted into a percentage and is illustrated in Figure 2. The average percentage score for methodology ranged from 10–60 per cent, with a mean of 32 per cent and a median of 30 per cent.

The source of consultant lists was identified to be the Royal College of Surgeons in England in one case, the Scottish Otolaryngological Society in another case, the British Association of Otolaryngologists and Head and Neck Surgery (which is based in the Royal College of Surgeons

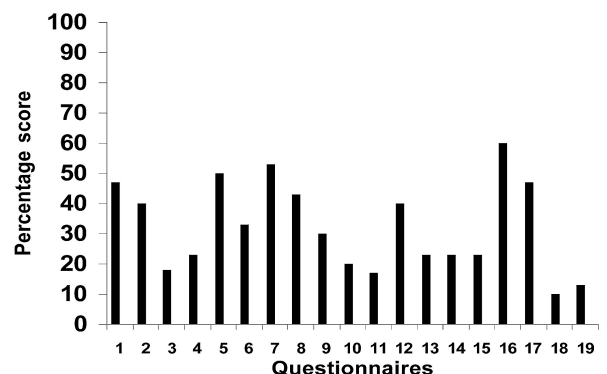


FIG. 2

Percentage scores for each questionnaire.

England) in 14 cases and not stated in three cases. The method of obtaining contact details was not stated in any case.

The response rate of questionnaires ranged from 18–100 per cent, with a mean of 62 per cent. The response rate could not be calculated in one case, as the number of questionnaires sent had not been stated.

## Discussion

This study examined the quality of questionnaires published in two ENT journals over 5 years. The overall quality was poor, suggesting that insufficient time was spent in their preparation and completion. In particular suitable ethical approval was notably absent from all the studies included. Every hospital and university has an ethics or a research and development committee appointed to decide on issues such as whether or not a particular questionnaire is a worthy data collection instrument. The fact that not one study stated that this permission was granted makes the reader question whether there was any need to carry out the research in the first place.

Random sampling was not carried out in any case. Most of the studies carried out in the UK ( $n = 18$ ) surveyed doctors registered with associations such as the British Association of Otolaryngologists and Head and Neck Surgery. Otolaryngologists are not obliged to register with these associations and their members may not necessarily be representative of the entire population of ENT consultants or doctors. These studies were therefore considered to have used convenience sampling. The only study not carried out in the UK also scored zero for criterion B, because the questionnaires were even more biased, having been sent to personal contacts of the author.

The minimum sample size required for a study to have statistically significant findings was not calculated in any study. The number of doctors on the aforementioned lists determined the sample sizes used in the 16 studies that identified the source of their consultant lists. Only two studies in the present review piloted the questionnaires prior to posting them to the target population. There is no way of knowing that the rest of the questionnaires were actually easy to understand and were unambiguous, which makes one question their findings.

The data collection period was only stated in four studies. This means that potential respondents may not have been given enough time to reply. Strategies to increase response rate, such as reminders, were also poorly reported and the general lack of such strategies could be responsible for nine studies reporting a response rate of less than 60 per cent. It is certainly not possible to make reliable inferences from or to give credibility to the findings of such studies.

The seniority of the respondents was taken into account in only four cases. This information is important, as it indicates whether there is a difference in opinion or practice between newly qualified and more experienced practitioners.

Statistical analysis of data was generally well done, although only six studies (32 per cent) used entirely appropriate statistical methods that were fully reported. Other criteria which were satisfied in the majority of studies were those concerning the surveying of previous studies in the same area (A), the inclusion of the questionnaire used (L) and the completeness of the reporting of the data collected (M). It is reassuring to see that the majority of authors justified the need to do their study by referring to literature in the introduction of their papers, showed their questionnaires in their entirety and presented all findings.

- **ENT consultants appear to be increasingly receiving requests to fill out postal questionnaires**
- **A review of 19 questionnaire-based studies published over 5 years in two ENT journals indicated that flawed methodology was evident to some extent in all the papers surveyed**
- **The authors conclude that the names and addresses of members of learned societies or institutions should not be available for such surveys unless proper questionnaires have been compiled and unless proper ethical committee approval has been sought**

In conclusion, flawed methodology is evident in all 19 studies published in the two ENT journals over a 5-year period. This implies that valuable time and effort is being wasted completing such questionnaires. The findings of studies whose methodology is flawed are of limited value and should be interpreted with caution. The authors of questionnaire-based studies should ensure that guidelines for questionnaire design are followed, so that the questionnaires yield useful information that can be applied to clinical practice.<sup>23,24</sup> We would also suggest that, in future, the bodies providing the list of consultant names to authors of such research should ask that the questionnaires that are to be used, and the ethical committee approval or application, should be submitted for assessment prior to the provision of a list of members to be used in such surveys and in correspondence. The list of names should otherwise be withheld, in order to ensure that future surveys have proper validity and are worthy of publication.

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