

Postal Surveys: A Review of Articles Published in the Medical Journal of Malaysia Between 1991 - 2000

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Summary

Postal surveys are becoming an increasingly popular method of conducting research in Malaysia. However, the response rates from these surveys have not been well studied. All postal surveys published in the Medical Journal of Malaysia between 1991 - 2000 were therefore reviewed to provide an overview of the response rates that may be expected, and to assess if this is a valid method of conducting research here. The response rates of postal surveys ranged from 30 - 87.5%. Seven of 13 postal surveys (54%) had a response rate of less than 50% and only 2 of 13 (15.4%) had a response rate of more than 70%, raising doubts on the use of postal surveys as a research tool.

Key Words: Postal surveys, Response rates

Introduction

In 1999, we conducted a postal survey to assess the practice of cemented total hip replacements in Malaysia and received an initial response rate of 25%¹. This response rate was significantly lower than a previous study (66%) conducted in the United Kingdom². We highlighted this difference in response rate and raised the question whether postal surveys were a worthwhile method of conducting research in Malaysia and invited other investigators who had previously performed postal surveys to share their experiences³. A year following the publication of this letter, there has not been any correspondence in the Medical Journal of Malaysia on this matter.

We have therefore reviewed all the postal surveys that have been published as original articles in the Medical Journal of Malaysia between 1991 and 2000 to provide an overview of the response rates that might be anticipated from these surveys, and to try to evaluate postal surveys as a research tool in Malaysia.

Materials and Methods

The Medical Journal of Malaysia was chosen for review because it remains the most widely read, locally published, general medical journal in Malaysia. The 10-year period between 1991 and 2000 was chosen for review. The articles in the

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journals were divided into original articles, case reports and short communications while editorials and review articles were excluded. All studies which were based completely or partially on postal surveys, and which had reported a response rate were included in the review. Postal surveys were defined as surveys where the self-administered replies or questionnaires were returned by post to the investigator.

The year of the study, the aim of the study, the targeted respondents and the response rates of each study were analysed to identify factors that may affect the response rates.

Results

Details of the breakdown of the types of articles published in the Medical Journal of Malaysia between 1991 and 2000 are shown in Table I. All the postal surveys were published as original articles only and none were published as short communications or as case reports. Less than one percent (0.87%) of all original articles published between 1991 and 1995 and 4% of all original articles published between 1996 and 2000 were based on postal surveys.

The details and the response rates of the postal surveys reviewed are shown in Table II. Of the 12 original articles using postal survey, 2 were published between 1991 and 1995 and 10 published between 1996 and 2000. Two of the articles published⁶⁷ were in fact based on one postal survey study, and for the purpose of analysis, is considered as only one postal survey. In Lim *et al's* study¹⁰, questionnaires were in fact posted to 3 groups of respondents and for the purpose of analysis for this review, we considered it as 3 postal surveys. Therefore, a total of 13 postal surveys were included for analysis. The response rates ranged from 30 - 87.5% (refer Table II). Seven of 13 postal surveys (53.8%) had a response rate of less than 50% and only 2 of 13 (15.4%) had a response rate of more than 70%.

The number of surveys was too small, and the targeted respondents and the objectives of the studies were also too diverse for any trends to be observed in the response rates due to these factors.

Discussion

More original articles and short communications were published between 1996 and 2000

Table I
Articles Published in the Medical Journal of Malaysia between 1991 and 2000

Year	Original Articles	Short Communication	Case Reports	Postal Surveys
1991	38	-	21	2
1992	37	-	14	-
1993	50	-	23	-
1994	47	-	34	-
1995	56	-	22	-
1996	55	3	21	3
1997	40	3	18	1
1998	51	3	21	2
1999	49	2	27	2
2000	53	4	22	2
TOTAL	476	15	223	12

Table II
Details of the Postal Surveys Published between 1991 and 2000

Authors	Year	Objective of Survey	Targeted Respondents	Response Rate (%)
Khoo EM & Goh TK ⁴	1996	Profile of GP participating in undergraduate teaching	General practitioners	87.5
Zulkifi A & Rogayah J ⁵	1998	Choices of speciality amongst doctors	Applicants of speciality course	71.8
Sararaks S & Jamaluddin R ⁶	1997	Job satisfaction amongst government doctors	MOH doctors	69.4
Sararaks S & Jamaluddin R ⁷	1999	Demotivating factors amongst government doctors	MOH doctors	69.4
Miranda AF & Miranda S ⁸	1991	Quality of life and long term survival	Patients discharged from ICU	56.1
Khoo EM ⁹	2000	Service profiles and practice facilities	General practitioners	51.1
Lim TO <i>et al</i> ¹⁰	1998	Attitude towards kidney donation	'Opinion leaders' Doctors Politicians	51.0 40.0 Poor
Cheah <i>et al</i> ¹¹	1996	Behaviour of children of schizophrenic parents	School teachers	46.2
Norzila <i>et al</i> ¹²	2000	Improvement in knowledge after asthma education	Paramedics	38.3
Tan CC <i>et al</i> ¹³	1991	Health & safety aspect of works in the industry	Sawmill managers	35.2
Khoo TH <i>et al</i> ¹⁴	1999	Compliance with monitoring standards	Anaesthesiologist	32.8
Ravindran J & Leow CH ¹⁵	1996	Practice on prophylactic oophorectomy & HRT	O & G specialist	30.0
GP-general practice ICU-intensive care unit		HRT-hormone replacement therapy O & G-obstetrics & gynaecology		MOH-Ministry of Health

compared to the period between 1991 and 1995 (263 and 229 respectively). This may indicate an increasing interest in research and thus greater submissions of papers in the past five years. During these two 5-year periods, there has been a 5 times increase in postal surveys. This suggests that in terms of research methodology, research based on postal surveys might be attracting more interest among researchers.

According to Babbie¹⁶, for a postal survey to be adequate for analysis and reporting, the survey must achieve a response rate of at least 50%. A response rate of greater than 60% was good and a response rate greater than 70% is a very good representation of the studied group. Goudy¹⁷ also concluded that a response rate of more than 70% minimised bias and was a good representation of the studied group. Based on these figures, 54% of

all the postal surveys performed may be inadequate for analysis and only 15% had a very good response. These response rates would raise questions on the use of postal surveys as a research tool. What are the factors that may affect this variation in response rates?

In the 3 studies with the highest response rates^{4,6}, the relevance and interest in the study may have played a role in the high response rates. The studies by Khoo and Goh⁴ and Khoo⁹ on the service profiles of general practitioners showed that the response rate achieved in the general practitioners that participated in undergraduate teaching was considerably higher than that of general practitioners as a group. The study was more likely to be of interest to those general practitioners that participate in undergraduate teaching than those who were not involved. In addition, they had greater motivation to reply due to their involvement in the academic programme. Mayer and Pratt¹⁸ had previously reported on this involvement of the targeted respondents as a positive factor in achieving a good response rate. The large number of government doctors that continue to leave the public service for private practice suggests that despite the improvements made, there remains a lot of dissatisfaction within the public service. Thus, a study that investigates the level of job satisfaction and the demotivating factors of government doctors^{6,7} is likely to strike a chord with the doctors, and ensure an adequate response. The same can be said of the study on the areas of specialisation of choice of doctors⁵.

The nature of the study, which may appear to be threatening and intrusive, will affect the response rates adversely¹⁹. In the 3 studies with a low response rate¹³⁻¹⁵, the nature of these postal surveys may account partly for the low responses. In Tan *et al's*¹³ survey of sawmill managers on the health and safety aspects in their industry, the questions even when very well phrased, may still appear to be a sensitive issue to some managers and this may deter

participation in the study. Khoo *et al*¹⁴ and Ravindran and Leow's studies¹⁵ on the practice patterns of specialists may also appear to be intrusive to the respondents.

The types of questions ('closed' or 'open' questions) and the length of the questionnaires have been reported to influence response rates^{19,20}. However, there were inadequate details of the questionnaires used in the postal surveys for us to comment on whether these factors could have affected the response rates.

Although reminders and re-sending questionnaires are known to improve the response rate and a 50% gain has been suggested with a second mailing²⁰, the extent of this improvement has not been well studied in Malaysia. In Tan *et al's*¹³ study, the response rate increased from 21% to 35.2% after a reminder letter was sent to the non-responders. Khoo *et al*¹⁴ reported an increase in response rate from 27% to 32.8% after re-sending the questionnaires to only a subgroup of non-responders of the studied population. Khoo & Goh⁴ reported an increase from 62.5% to 87.5% after the non-responders were contacted by telephone and a questionnaire was re-sent. Despite a reminder, the overall response rate of 51% for opinion leaders and 40% for doctors in Lim *et al's*¹⁰ study were considered inadequate and the results were therefore not analysed. The response rate for politicians was so poor that a reminder was deemed a futile effort. Sararaks and Jamaluddin^{6,7} reported an overall response rate of 69.4% following repeated mailings of the questionnaires and telephone reminders. Both these papers unfortunately did not state by what extent the reminders improved the overall response rate. The response rate of our postal survey improved from 25% to 35% following a reminder and a second questionnaire³. Although it is not possible to draw any firm conclusions from this review, we hope that by reporting these figures, it may serve as a guide to future researchers faced with this vexing question of a low initial response rate.

Conclusions

The number of original articles published based on postal surveys have increased over the years. However, the response rate of 54% of postal surveys done locally in the past 10 years may not be adequate for analysis, raising doubts on the

use of postal surveys as a research tool. Greater attention and consideration needs to be paid to the nature and the design of the study, as well as the targeted respondents before embarking on a postal survey.

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