
RESEARCH NOTE

INCORPORATING DATA FROM DISSERTATIONS IN SYSTEMATIC REVIEWS

Andrew J. Vickers

Memorial Sloan-Kettering Cancer Center

Claire Smith

King's College School of Medicine and Dentistry

Abstract

Objectives: To determine whether unpublished dissertations are an important source of trials for systematic reviews.

Methods: In a review of infant massage, we identified 17 dissertations. We recorded whether each dissertation was included in the review and, if so, whether it contributed data to any analyses.

Results: Thirteen dissertations were excluded, 11 because of poor reporting of methodology. Three dissertations were also published as journal papers. The data from the remaining dissertation were not included in any analysis. Reviewing data on the Cochrane Library, only one of 878 reviews included data from a dissertation that might have changed a review's conclusions.

Conclusions: Searching for and retrieving unpublished dissertations involves considerable time and effort and appears to influence the conclusions of a review only rarely.

One of the principles of systematic review is that all studies pertinent to a review should be subjected to systematic analysis. Accordingly, most reviewers believe that unpublished data should, where appropriate, be included in reviews (1). However, there is little information on the practicalities of obtaining unpublished data or on the extent to which the inclusion of such data alters the findings or conclusions of a review.

We have recently completed a Cochrane Collaboration review of massage for premature infants (5). During the review we identified, retrieved, and analyzed a relatively large number of unpublished doctoral and master's theses. Our experiences may be of value to those considering the incorporation of one particular type of unpublished data, dissertations, into systematic reviews.

METHODS AND RESULTS

We first became aware of the possibility of unpublished dissertations describing controlled trials on premature infant massage while searching Psycinfo, which lists some theses. Subsequently, we undertook systematic searches of *Dissertation Abstracts International* (Appendix 1). We found further references by checking the citation lists of retrieved articles.

Table 1 describes the flow of theses through the study. Almost all dissertations were excluded on the grounds of no or improper randomization. Some methods of treatment

Table 1. Identification and Exclusion of Dissertations

Total dissertations identified	17
Excluded from review	13
Reason for exclusion:	
Patients	1
Treatment	1
Randomization	11
Unconcealed randomization	5
Nonrandomized	3
Method of treatment allocation not stated	3
Dissertations also published as a journal paper	3
Original dissertations included in review	1

allocation were highly unusual, involving a mixture of randomization, minimization, and researcher edict. In many cases, the method of treatment allocation was insufficiently clear and we attempted to contact the authors for further information. This presented considerable practical problems. We sometimes found ourselves in the situation of trying to trace the author of a dissertation published 20 years previously who had left the host institution after completing the degree and who may have married and changed her name.

No data from any thesis were entered into any of the main analyses for the review. Exclusion of thesis material does not affect our findings or conclusions.

DISCUSSION

The considerable time, effort, and expense of identifying, retrieving, and analyzing dissertations made no difference to our review. We checked issue 4 of the 1998 Cochrane Library to see which of the other 878 reviews incorporated review data. Excluding our massage review, 24 reviews claimed to search for dissertations, of which five appeared to have identified at least one: three as an included study and two as a study excluded from review. Of the Cochrane reviews incorporating dissertations, one was a review of a single study that was published both as a thesis and in a journal (3), and one included a dissertation in three of four meta-analyses, but this contributed at most a 7% weight (4). In a third review (2), a trial available only as a dissertation was featured in a number of important analyses, sometimes as the only trial, sometimes as one of only two or three. We conclude that only in one of 878 reviews would the incorporation of thesis data affect the conclusion of a review.

We would argue against any conclusion that searching for theses is wasteful and should not generally be considered. First, it is not clear that our experience can be generalized to all future reviews. It does not follow that, because dissertations did not change the results of our review, no dissertations could change the outcome of any review. Second, systematic reviews are important for reasons other than their recommendations for clinical practice. With respect to our own study, a strong case had been made in the nursing literature for the implementation of premature infant massage. We demonstrated that much of the evidence on which this recommendation was based was of extremely poor quality. Moreover, we were able to show how and why particular studies did not constitute acceptable evidence. We hope that our review will go some way toward improving the level of scholarship and the quality of research in infant massage. Third, research not only needs to be rigorous, it must also be seen to be rigorous. We systematized an enormous quantity of the research literature, including all studies that had been used by proponents to promote premature infant massage. Our conclusion that there are currently insufficient data to recommend massage is therefore less susceptible to criticisms of bias or that of ignoring pertinent material.

We recommend that researchers preparing systematic reviews should: a) allocate time and resources to the identification, retrieval, and analysis of dissertations; and b) be prepared for the eventuality that dissertations do not change the findings or conclusions of a review.

REFERENCES

1. Cook, D. J., Guyatt, G. H., Ryan, G., et al. Should unpublished data be included in meta-analyses? Current convictions and controversies. *JAMA*. 1993, 269, 2749–53.
2. Hofmeyr, G. J. Abdominal decompression for suspected fetal compromise/pre-eclampsia (Cochrane review). In *The Cochrane Library*, issue 4. Oxford: Update Software, 1998.
3. Lauzon, L., & Hodnett, E. Caregivers' use of strict criteria for the diagnosis of active labour in term pregnancy (Cochrane review). In *The Cochrane Library*, issue 4. Oxford: Update Software, 1998.
4. Stroke Unit Trialists' Collaboration. Organised inpatient (stroke unit) care after stroke (Cochrane review). In *The Cochrane Library*, issue 4. Oxford: Update Software, 1998.
5. Vickers, A. J., Ohlsson, A., Lacy, J. B., & Horsley, A. Massage therapy for premature and/or low birth-weight infants to improve weight gain and/or to decrease hospital length of stay (Cochrane review). In *The Cochrane Library*, issue 4. Oxford: Update Software, 1998.

APPENDIX 1

Illustration of Searching *Dissertation Abstracts International Ondisc*

Dissertation Abstracts International Ondisc is published by University Microfilms International (UMI) and features abstracts of doctoral dissertations submitted to UMI by 550 institutions in North America and worldwide.

The library's holdings go back to 1861 and are updated quarterly. There are currently about 1.4 million dissertations published. The information is held on six separate databases, each holding theses for a particular time period. It is possible to select and search more than one database at a time. Articles can be printed or saved to disk as a full record or the citation only. Details of availability and an order number are also included.

Most of the dissertations published by UMI can be purchased in Microform for about \$46 or as bound or unbound paper copies. The bound copy is available in soft (\$57.50) or hardback form (\$69.50) and takes 3 to 4 weeks to be delivered. Unbound copies will be delivered in 5 to 7 working days for a charge of \$57.50 or within 2 to 3 weeks for \$30.

Further details are available at <http://www.lib.umi.com/dissertations/>.