

Perils of systematic reviews

Jeremy Grimshaw provides a useful report card on the first 10 years of the Cochrane Collaboration.¹ In addition to showcasing its virtues, he describes existing gaps and outlines challenges for the future. However, Grimshaw did not discuss the perils of publishing a systematic review when no eligible studies can be found for inclusion.

A recent Cochrane review of support for women and families after a perinatal death² illustrates the problem. The authors of that review described the availability of data as “sparse” and “variable.” None of the published studies met their quality criteria for inclusion. In their discussion, the authors appropriately identified the limitations of the study but then went on to conclude that the lack of trials was further complicated by “the provision of an empathic caring environment, and strategies to enable the mother and family to accept the reality of the death, as part of standard nursing and social support in most of the developed world.”² However, the basis for that conclusion is questionable, and evidence exists to contradict the proposition.³⁻⁶ Indeed, among health care professionals, there contin-

ues to exist a sense of discomfort with this subject matter that frequently spills over into the care provided, which is often inadequate and can actually be detrimental.⁶

Conclusions from reviews that include no high-quality studies must be considered carefully and should be well substantiated by other evidence. Ill-informed conclusions presented in the Cochrane database can have an important steering effect on both practitioners and researchers who use review findings.

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[The author responds:]

Ariella Lang and Nancy Edwards comment on a Cochrane systematic review of support for women and families after perinatal death.¹ That review highlighted that although such support is now part of standard nursing and social practice in most of the developed world, there is little evidence to support or refute the perceived benefits of the intervention. The authors of the review also noted that this aspect of standard care raises practical issues for future randomized trials. Nevertheless, they concluded that “Methodologically rigorous trials are needed in order to assess whether it is worth spending additional resources on care provided by professionals with specialised skills in managing bereavement, in comparison to that available when good routine perinatal care is provided by normally skilled sensitive professionals.” Lang and Edwards have identified a number of studies that appear to demonstrate

that women's and families' experiences of current standard practice are often unsatisfactory. I do not think that these 2 views are necessarily discordant. It is possible that although bereavement counselling is standard, women and families do not optimally benefit from such counselling. This would appear to support the claim of Chambers and Chan¹ that further rigorous trials are needed.

I strongly disagree with the notion expressed by Lang and Edwards that systematic reviews with no or few rigorous studies are unhelpful. Such reviews point out the limitations of the current evidence base, define the future research agenda and identify the most critical elements for future randomized trials. For example, Chambers and Chan commented that "further trials should ensure that the range of outcome measures is clearly defined and is assessed by standard psychometric tools, as far as possible validated for the purpose, that data [are] numerically complete and appropriately presented and that adequate follow-up is possible."

As described in my commentary,² one unique element of Cochrane reviews is that readers are encouraged to send feedback; reviewers are required to respond to such feedback and update their reviews if appropriate. I would encourage Lang and Edwards to submit such feedback if my response has not adequately addressed their concerns.

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Infant mortality in Alberta and all of Canada

CMAJ recently drew attention to Alberta's high infant mortality rate and implicated babies from neighbouring provinces, multiple births and "a large First Nations population that experiences higher rates of alcohol and tobacco use."¹ However, as the Canadian Perinatal Surveillance System has consistently maintained, infant mortality comparisons are compromised if they do not account for differences in birth registration practices, especially those pertaining to live births at the borderline of viability.²⁻⁶ For instance, an increasing temporal trend in the registration of live births less than 500 g (without a corresponding increase in other low-birth-weight categories) was deemed responsible for the increase in Canada's infant mortality rate in 1993.²

The registration of live births less than 500 g and less than 24 weeks gestation is more meticulous in Alberta than elsewhere in Canada (Table 1).^{2,7,8} Such differential registration (of a subgroup at very high risk of infant death) explains Alberta's poor infant mortality ranking and also the increase in mortality rates in Alberta (in 2002) and in Canada (in 1993 and 2002).

Although more detailed analyses are warranted, it is evident (and ironic) that the province with good birth registration practices is being singled out for criticism. On the other hand, Ontario, which has a dismal record in terms of registering births, is rarely mentioned by the news media. Problems in Ontario include under-registration of births (especially among vulnerable subpopulations such as single mothers) because of fees for birth registration,⁹ missing birth registrations for 25% of infant deaths⁶ and delays in reporting that affect the timeliness of Canadian vital statistics and surveillance reports.

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Table 1: Numbers and rates of infant deaths and live births with birth weight less than 500 g or gestational age less than 24 weeks in Alberta and all of Canada^{2,7,8}

Year	No. of infant deaths	Infant mortality rate (per 1000 live births)	Live births < 500 g		Live births < 24 wk	
			No.	Rate (per 10 000 live births)	No.	Rate (per 10 000 live births)
Alberta						
2000	244	6.6	48	13.0	81	21.9
2001	210	5.6	43	11.4	66	17.5
2002	283	7.3	62	16.0	103	26.6
Canada						
1992	2431	6.1	202	5.1	339	8.5
1993	2448	6.3	329	8.5	411	10.6
2000	1737	5.3	261	8.0	423	12.9
2001	1739	5.2	266	8.0	445	13.4
2002	1762	5.4	327	10.0	502	15.3