A critical review of studies of newborn discharge timing

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Authors' objectives
To examine the quality of the evidence in the published literature on the effects of brief hospitalisation on newborns and mothers.

Searching
MEDLINE was searched for English language articles using the terms 'newborn', 'pregnancy', 'labor', 'postpartum', 'early discharge' and 'not low birth weight'. Citations in retrieved articles were examined for additional material.

Study selection
Study designs of evaluations included in the review
Experimental (randomised controlled trials, RCTs) and quasi-experimental (non-randomised retrospective controlled) studies were included.

Specific interventions included in the review
Early discharge with additional interventions: home visit (within 24, 48h or 72 hours, or an unspecified time period), or multiple home visits (daily for 3 days; 3 to 4 visits during first week; on days 1, 2, 3, 5 and 10). The definition of early discharge was taken from each of the included studies, it varied from 2 to 96 hours.

Participants included in the review
Mothers who experienced hospitalisation for childbirth, and their infants, were included.

Outcomes assessed in the review
Readmission (within 1, 2 or 6 weeks, or an unspecified time period); mortality; medical problems (within 1 or 6 weeks, or in an unspecified time period); physician contacts; use of prescribed medicines; satisfaction with discharge procedures; breast-feeding; maternal physical, emotional, family and infant concerns; maternal attachment; confidence in mothering; depression; anxiety.

How were decisions on the relevance of primary studies made?
The author does not state how the papers were selected for the review, or how many of the reviewers performed the selection.

Assessment of study quality
Six characteristics that influence the validity of the conclusions were reviewed and analysed: treatment effects (readmission rates), the population from which the study sample was drawn, statistical methods, sample size, definition of early discharge, and type of interventions or interaction surrounding discharge. The author does not state how the papers were assessed for validity, or how many of the reviewers performed the validity assessment.

Data extraction
The author does not state how the data were extracted for the review, or how many of the reviewers performed the data extraction.

Methods of synthesis
How were the studies combined?
A narrative synthesis was undertaken.
How were differences between studies investigated?
The author does not state how differences between the studies were investigated.

Results of the review
The number of patients is not given in 1 study. 13 studies were included with 34,798 patients (15,599 early and 19,199 regular discharge): 3 RCTs with 323 patients (187 early, and 136 regular discharge) and 10 non-randomised controlled trials with 34,475 patients (15,412 early and 19,063 regular discharge)

All of the studies concluded that early discharge does not pose a risk for readmission to infants or mothers, except for one that suggested early discharge (less than 36 hours) may be associated with increased readmission.

No differences in diagnosed medical conditions were found between early and normal discharge (6 studies).

Of 3 studies which evaluated maternal mental health, 2 found better outcomes in early discharge compared to normal discharge, and 1 found no difference.

Five studies evaluated breast-feeding as an outcome. Three suggested that shortened hospitalisation had a favourable effect and 2 suggested a detrimental effect.

Five studies surveyed parents about satisfaction with the discharge procedures. Two reported no difference, 1 reported less satisfaction with early discharge and 2 reported more, although one of these reflected satisfaction with the individual nursing attention they received rather than the discharge policy.

These results must be interpreted with caution due to the limitations of the studies: with one exception, the studies are from hospitals where well-defined assessment and follow-up protocols have been established, potentially limiting their generalisability. Only one study had sufficient (but not large) power to assess the likelihood of rare events, such as readmission. Few of the studies reported outcomes other than readmission rates and medical conditions diagnosed within 1 to 6 weeks.

Authors’ conclusions
Early discharge, as the standard of care for well newborns, has not been well-established by empirical studies. Paediatricians and local public health officials have a responsibility to assure that the health objectives of hospitalisation are met, whether this occurs in the hospital or through other mechanisms such as routine home visiting.

CRD commentary
There are a number of details about the systematic review methodology which are not reported in this review. The search dates are unclear, and there was no attempt to identify unpublished or non-English language articles. No details about inclusion and validity criteria are reported, and insufficient information is provided on the results of the primary studies included in the review (a results column in the table of studies would be useful).

It is difficult to combine the results and provide meaningful interpretation due to the wide variation of the definition of early discharge (ranging from 2 to 96 hours), and in additional interventions (e.g. home visits), in the included studies.

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