The clinical effectiveness and cost-effectiveness of heated humidified high-flow nasal cannula compared with usual care for preterm infants: systematic review and economic evaluation

Record Status
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Citation

Authors' objectives
Respiratory problems are one of the most common causes of morbidity in preterm infants and may be treated with several modalities for respiratory support such as nasal continuous positive airway pressure (NCPAP) or nasal intermittent positive-pressure ventilation. The heated humidified high-flow nasal cannula (HHHFNC) is gaining popularity in clinical practice. To address the clinical effectiveness of HHHFNC compared with usual care for preterm infants we systematically reviewed the evidence of HHHFNC with usual care following ventilation (the primary analysis) and with no prior ventilation (the secondary analysis). The primary outcome was treatment failure defined as the need for reintubation (primary analysis) or intubation (secondary analysis). We also aimed to assess the cost-effectiveness of HHHFNC compared with usual care if evidence permitted.

Authors' conclusions
There is a lack of convincing evidence suggesting that HHHFNC is superior or inferior to usual care, in particular NCPAP. There is also uncertainty regarding whether or not HHHFNC can be considered cost-effective. Further evidence comparing HHHFNC with usual care is required.

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