United Kingdom Oscillation Study: long-term outcomes of a randomised trial of two modes of neonatal ventilation

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Plain English summary

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Background

One in 200 babies in the UK is born extremely prematurely, that is before 29 weeks of gestation. Advances in neonatal care have meant that 75% of such babies survive, but many have long-term breathing problems and difficulties at school. The majority of such babies require breathing support from birth. Our aim was to determine if the breathing support technique used immediately after birth influenced breathing problems and school performance in children born extremely prematurely.

Methods

Children entered into a multicentre, randomised trial, the United Kingdom Oscillation Study, were assessed when aged between 11 and 14 years. The children had been randomised to receive either high-frequency oscillation (HFO) or conventional ventilation (CV) within 1 hour of birth. At 11–14 years of age, they underwent comprehensive lung function and cardiac assessments. Respiratory, health-related quality of life and school performance assessment questionnaires were completed by the children, their parents and their teachers.

Results

Three hundred and nineteen children were assessed; 160 had been supported by HFO. On average, the children in the HFO group had significantly better breathing test results than those in the CV group and their teachers reported them to have better achievements in art and design, information technology, and design and technology.

Conclusion

These results demonstrate that use of HFO rather than CV immediately after birth in extremely prematurely born infants is associated with better breathing and educational outcomes at 11–14 years of age.
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This report

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