Routine gastric residual volume measurement to guide enteral feeding in mechanically ventilated infants and children: the GASTRIC feasibility study

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Disclaimer: This report contains transcripts of interviews conducted in the course of the research and contains language that may offend some readers.

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Plain English summary

The GASTRIC feasibility study

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Plain English summary

Nurses looking after babies and children on intensive care units in the UK usually pass a tube and aspirate whatever food or fluid is in the baby's stomach before they give a feed. The idea is to ensure that the stomach is not overdistended with food and prevent the baby vomiting or, worse, aspirating food into the lungs. However, there is little justification for this practice. It is rarely done in many other countries. It may not be pleasant for the child and perhaps is unnecessary.

Some experts have suggested that the policy should be evaluated in a randomised controlled trial. This would mean allocating a large number of children at random to either have the stomach aspirated before feeds, or not. Such a trial would be a major undertaking and we are unsure if parents or staff would be willing to allow children to participate.

The aim of this study was to see if it is possible to conduct such a large trial in the UK. Two surveys (of 119 units) showed us that regularly measuring the stomach contents when starting and increasing feeds is common practice for both newborn and older children in UK intensive care units. However, in some countries, such as France, this practice is rarely done.

We asked 31 parents and 51 health-care professionals about a future study. Overall, parents were supportive of a trial if it was explained to them well by a knowledgeable and caring professional, and if they were approached at the right time. Some concerns were expressed about not picking up complications early if gastric residual volume was not measured.

Health-care professionals were also mainly positive about a future trial, but mentioned similar concerns about not picking up complications early and the difficulty of changing a long-standing routine practice. Parents suggested study outcomes that were important to them. These, along with other outcomes, were voted on in a further survey of 106 professionals and at face-to-face meetings involving 41 participants. Overall, our findings suggest that a trial is feasible to perform and acceptable to parents.

However, because of differences in both treatments and important outcomes between children's intensive care units and newborn baby intensive care units, two trials would be needed, one in each type of intensive care unit.

These two trials will test whether or not the benefits of not measuring gastric residual volume (e.g. improved calorie intake) outweigh the potential harms (e.g. delayed diagnosis of complications).

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This report

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