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Sister Robson and Dr Hey comment:

We knew that the observed 20% reduction in mortality from hyaline membrane disease in babies of 1-2 kg was not significant when assessed using a simple χ^2 test; it would have taken a very much larger study to confirm such a modest, but potentially important reduction using this approach. Nevertheless, mortality was constant throughout the 1960s and the immediate decrease in annual mortality after the deliberate introduction of a different treatment policy in 1971 was significant. We reported the difference in mean annual mortality for 1971-76 and 1960-67 (Figure), but it might have been more correct to undertake a logit transformation of proportional mortality before comparing the two means; such a transformation reduces, but does not abolish, the significance of the fall.

Such arguments about the most appropriate statistical 'treatment' of the data are insignificant when compared with the insoluble hazards inherent in using historic controls in the first place. We were aware of such dangers and did not doubt that readers would be equally conscious. We looked for changes in the mean length of labour but found none: labour was as often retarded by β -adrenergic agonists as accelerated by syntocinon in the latter years of the study, and it was often difficult to define the onset of labour or the timing of full cervical dilatation accurately when labour occurred prematurely. Golding and Butler seem to imply that speed and safety are always synonymous when delivering twins but this is not so.^{1,2} We would agree that obstetric management may influence outcome at least as much as immediate care after birth and we made this point in our article, but we were unable to document any change in the incidence of toxæmia, abruption, multiple pregnancy, or caesarean delivery among babies of 1-2 kg between 1960 and 1976.

The relative merits of gestation and birthweight were not lost on the original authors:³ indeed Farr *et al.*⁴ led the world in the introduction of routine methods for estimating gestational age from an assessment of the baby's physical appearance at birth between 1966 and 1968. However, we could not be sure of the gestation of the babies born between 1960 and 1967 to mothers with uncertain menstrual dates and this was why we used weight rather than gestation. Nevertheless, we are confident that the observed change in mortality in these babies was not due to a shift in gestational age.

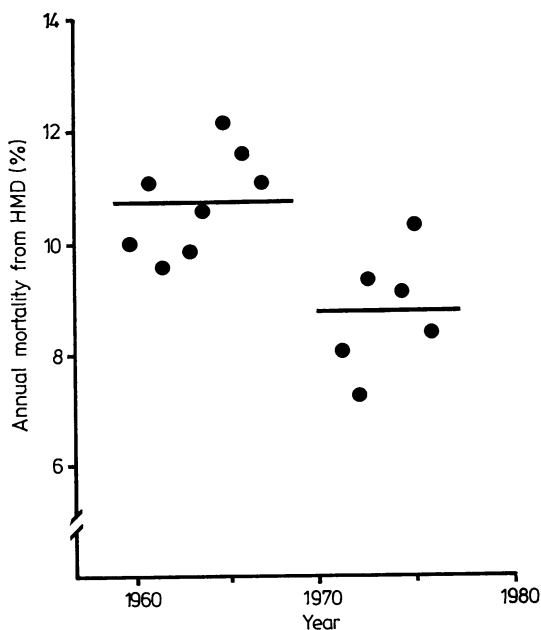


Figure Mean annual mortality from hyaline membrane disease in babies of 1-2 kg of birth before and after the introduction of elective resuscitation at delivery in 1971

Others will have to confirm the validity of our observation because we had to use an historic control group, but immediate elective intubation from birth halved mortality in babies of 0.5-1.5 kg in a recent control trial,⁵ and Professor Milner and his colleagues are now looking for evidence that brief elective intubation at birth can produce prolonged improvement in pulmonary compliance as we first documented more anecdotally 10 years ago.⁶

We did not encounter one case of pneumonia, pneumothorax, symptomatic laryngeal trauma, or cicatricial retrolental fibroplasia in any of the 800 small babies in this study and conclude that elective resuscitation of the very preterm baby and endotracheal intubation for 20-60 minutes during early transfer and stabilisation after birth is at least reasonably free of hazard and worthy of further evaluation. Its introduction in our nursery appeared to be associated with as large a reduction in annual mortality in 1971 (Figure) as the introduction, in 1977, of prolonged ventilatory support for ill babies without waiting for evidence of terminal respiratory failure (mean annual mortality for babies of 1-2 kg in 1977-81: 7.0%).

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Refeeding after acute gastroenteritis

Sir,

Dugdale *et al.*¹ compared the results obtained in two groups of infants suffering from acute diarrhoea who were submitted to either a rapid or a graduated refeeding regimen, and concluded that weight loss during the first 24 hours of refeeding was less and the length of hospital stay after milk introduction was shorter in the first group. However, the P values of the differences ($0.1 > P > 0.05$) are widely considered to be either not significant or on the threshold of significance.

The data concerning the number of days in hospital after refeeding are confusing as 7 (25%) of 28 infants in the first group and 3 (9%) of 32 in the second group had to go back to clear fluids because of recurrent vomiting or diarrhoea, which means that in an appreciable number of infants (17%) milk introduction was tried more than once.

Dugdale *et al.* gave no indication of the nutritional status of their patients; however in view of the fact that the mean age was about 22 months in both groups, and that 61% of the infants had mild or non-evident signs of dehydration (weight loss $< 5\%$), we can infer that diarrhoea was generally not severe. They stated that in developing countries children with acute diarrhoea are left on milk, particularly if breast fed; this is so because the biological and nutritional properties of human breast milk make it uniquely suitable both in health and disease (except in the case of some inborn metabolic diseases). Its high lactose content, which might have been an inconvenience during acute diarrhoea or soon after it, is not harmful in practice. The same is true for infants with cows' milk protein-sensitive enteropathy for whom breast milk is usually the best feeding alternative despite the frequent coexistence of lactose intolerance.² However, in the non-breast fed infant with acute gastroenteritis and malnutrition it is thought best to interrupt, or decrease, the use of a lactose formula.³

Severe diarrhoea and delayed recovery are more likely to occur in the first months of life particularly in malnourished infants.⁴ The problem is not when and how to refeed an older and well nourished child or infant with mild gastroenteritis, but how to treat the young or malnourished infant who has severe diarrhoea. In this case there are no strict rules and the physician may have to vary the procedure concerning the reintroduction of a formula in order to avoid delaying recovery.

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Dr Dugdale and co-workers comment:

We agree with most of the points made by Dr Salazar de Sousa.

We regret that we did not give data on the nutritional status of the children. The usual methods based on weight-for-age or weight-for-height can be misleading in the presence of dehydration. However, none of these children showed clinical evidence of malnutrition.

Some gastroenterologists, and texts on the subject, suggest that early introduction of milk in children with gastroenteritis is contraindicated as being potentially harmful to the child.^{1,2} Our study was designed to show that rapid reintroduction was possibly beneficial, not harmful. The statistical method used tested the hypothesis that rapid refeeding gave weight gains that were different from those with standard treatment, and showed that there may be a significant difference favouring rapid refeeding. If we were to test the hypothesis that rapid refeeding was demonstrably *worse* than standard treatment, then the level of statistical significance favouring rapid refeeding would be high. Therefore using these criteria on this group of children we have demonstrated that rapid refeeding is not worse than standard treatment, and may, perhaps, be better. We conclude that this form of management of acute gastroenteritis is an option in western-style communities. It is significant that as long ago as 1962 Darrow³ made the point that giving milk early may demonstrate an existing malfunction rather than cause it.

Although we did not consider gastroenteritis in malnourished children, we have experience of this problem. In developing countries it is common practice to continue breast feeding children with gastroenteritis but to stop breast-milk substitutes. If breast milk is tolerated under these conditions and improves the outlook for the child, it is possible that breast milk substitutes would also help. We know of no study which has tested this but we believe that such data are sorely