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RESEARCH GOVERNANCE

By Sue Maguire

The concept of Research Governance was introduced into the NHS as part of the NHS Plan and will be implemented over a five-year period. The standards within it apply to all research that relates to the responsibilities of the Secretary of State for Health. It covers research that is concerned with:

- the protection and promotion of public health,
- undertaken in or by the Department of Health, its non departmental public bodies, the NHS health and social care;

- which might have an impact on the quality of those services.

It is a framework for those who:

- participate in research;
- host research;
- fund research proposals or infrastructure;
- manage research;
- undertake research;
- for all managers and staff in all professional groups regardless of rank;

- and is applicable to charities as well as any other body.

There are five standards that must be complied with, most of which the NCT has been backing for many years. The standards are:

1. **Ethics** - all research is reviewed independently to ensure it meets ethical standards.
2. **Science** - it is essential that existing sources of evidence, especially systematic reviews, are considered carefully prior to undertaking research (to avoid duplication or low quality research which makes no contribution).

3. **Information** - free access to research findings in a format that is understandable to the public.

4. **Health & Safety** - all legal and statutory regulations observed and adhered to.

5. **Finance** - probity, compliance, compensation and intellectual property rights.

Systems have to be developed by March 2003 and by March 2004 there is a requirement for involvement of consumers.

So, what does this mean for the NCT? To start with it means that every Primary Care Trust (PCT) and hospital trust in England (and it only applies to England at the moment, but will probably be taken on board by the other three countries) should have a Research and Development Group that is actively implementing the framework and is informing all its staff about the process. It is an excellent time to approach a PCT or hospital and offer to be the consumer voice on the group, as recruitment of consumers has probably not begun in most areas. My own PCT is a first wave PCT so we are well on the way with our work, but we have been up and running for over two years. Many other PCTs only started on the 1st April this year and have a huge number of items to grapple with, so may not have begun their own work on Research Governance yet. I am a member of my PCT's R&D group because my own work has to be very evidence-based, and also because I am known as a member of the NCT and can bring in the consumer perspective.

We now have an excellent opportunity to become more involved in research issues and to make a difference to the quality of research that is carried out in the NHS. It also means that any research we do that involves anything to do with the NHS must be carried out to the same standards, whether at branch or UK level.

With grateful acknowledgement to Toni Hewitt, our Research Governor, for her assistance in providing me with the information I needed, and for sharing an office with me.

HOT TOPICS

As mentioned last issue, herewith a few suggestions for inclusion on MSLC agenda:

1. Who's who in the maternity/gynaecology service. It is useful to have an idea of the reporting structure and organisation of your hospital trust and where they stand within the Region. This is particularly relevant in view of the new changes within PCTs and PCTs. It is also very useful for new members and lay members of MSLCs.

2. Recruitment and retention of staff/family friendly policies.

3. **Modernising Maternity Care - a Commissioning Toolkit for PCT in England.** All MSLC chairs should have had a copy of this and it is a very useful discussion document. (Scotland had a similar document about a year ago).

If anyone has any suggestions for next month's Hot Topics, please email me at:

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NCT EVIDENCE BASED BRIEFING

When Can Babies Start On Solids?

By Patricia Wise & Rosie Dodds

INTRODUCTION

This article complements the information sheet for parents, **When Do I Start My Baby On Solids?**, by giving the sources of the evidence referred to there. The aim of the information sheet is to build parents' confidence in being guided by their baby's behaviour in showing signs of readiness for solids rather than following the calendar.

The COMA report, **Weaning and the Weaning Diet**¹, published for the Department of Health in 1994, recommended that "the majority of infants should not be given solid foods before the age of four months, and a mixed diet should be offered by the age of six months". This has subsequently often been interpreted as meaning that solids should be introduced at four months, although the report clearly states that the recommendation was to introduce solids between four and six months. It gives a later minimum starting age than the previous reports, in 1980 and 1988, which had stated that some babies might need to start a mixed diet at three months. In practice, however, many babies are introduced to solids earlier than recommended - the Infant Feeding 2000 report² found that some 24% of babies in the UK had started on solids by three months. Formula fed babies were generally started earlier - 28% by three months compared with 12% of breastfed babies.

WHAT THE EXPERTS CURRENTLY SAY

During 2000-2001, the World Health Organisation undertook a rigorous systematic review of published scientific literature on the optimal duration of exclusive breastfeeding. In May 2001, the World Health Assembly³ adopted the conclusion of this Expert Consultation, which emphasised "exclusive breastfeeding for six months as a global public health recommendation, with the provision of safe and appropriate complementary foods, and continued breastfeeding up to two years of age or beyond." The Department of Health in England supported this with a statement backed by the Scientific Advisory Committee on Nutrition (SACN), the successor to COMA, that exclusive breastfeeding for six months is nutritionally adequate. The COMA recommendation of a minimum starting age of 17 weeks (four months) was reiterated⁴.

In January 2002, a Cochrane review⁵ on the optimal duration of exclusive breastfeeding was published. This concluded that there was no objective evidence of a "weaning's dilemma" in developing countries, which refers to "the choice between the known protective effect of exclusive breastfeeding against infectious morbidity and the (theoretical) insufficiency of breast milk alone to satisfy the infant's energy and micronutrient requirements beyond four months of age." No problems with growth were observed in either developing or developed countries for babies breastfed for six months or longer, although every baby must be considered individually.

The results of a large randomised trial in Belarus confirmed that exclusive breastfeeding for six months reduces the risk of gastrointestinal infection considerably. Individual studies indicated a reduction in the risk of atopic conditions such as eczema but no significant differences were found overall in babies started on solid foods around four months compared to six months of age.

There is little research on the introduction of solids to formula fed or mixed fed babies. It could be that formula fed babies the signs of readiness should be taken as the determining factor, as with breastfed babies. Alternatively, it could be that solids need to be started earlier to compensate for the deficiencies of formula and bottle-feeding, such as the unchanging taste and poorer jaw development. It is not known whether varying the age of introducing solids makes any significant difference to micronutrient levels.

One randomised study in the US found that solids replace formula as there was no net increase in energy intake, whether solids were introduced at three months or six months⁶, so there is no growth advantage in starting solids early or late. A further randomised study in Honduras found that solids did not displace formula milk⁷. However, there was still no difference in growth between the two formula fed groups.

ADVANTAGES OF WAITING TO AROUND SIX MONTHS

Reviews of the literature on three aspects of the developmental readiness of babies for solid foods with respect to physiological maturing were published in April 2001⁸. These aspects were development of the baby's immune system, maturation of the gastrointestinal tract and oral development in relation to coping with the transition from a purely liquid diet to semi-solid and solid foods. Suppression of fertility in the mother as a result of breastfeeding was also considered. The expert review team concluded that although there is a great deal that is still not known, most full term babies are probably ready to start solids near six months or perhaps a little beyond.

There is a reduced risk of bacterial contamination when solid foods are introduced later, however the baby has been fed.

UNPROVEN CONCERNS ABOUT WAITING TO SIX MONTHS

Concern is sometimes expressed that babies will not learn to chew if the introduction of solids is later than six months. This window of opportunity idea appears to have arisen from a paper presenting case studies of children who remained on a liquid diet for many months, some of whom had developmental delays or disabilities⁹. A hypothesis was

propounded suggesting that "if children are not given solid foods to chew at a time when they are first able to chew, troublesome feeding problems may occur." This has since been quoted as evidence and inappropriately extended to babies with normal development. A much larger, more recent, observational study in Bristol found that feeding difficulties were more common at both six months and 15 months in children who were first given lumpy foods at or after 10 months of age compared to children who first had lumpy food at nine months or earlier¹⁰. This indicates that some reverse causation is at work - some children might have been given lumpy foods at an older age because they were more difficult to feed, as opposed to feeding difficulties developing because the children were introduced to lumpy foods later.

In fact there is a lack of evidence to support the idea that starting solids at around six months is more likely to be associated with the baby being a fussy eater. Indeed, a randomised comparison of breastfed babies started on solids at either four months or six months in Honduras found no difference in appetite or food acceptance as reported by the mothers¹¹.

RISKS OF STARTING SOLIDS EARLY

The walls of the newborn baby's intestines are permeable to large molecules, such as non-human proteins. Also babies' capacity to release the protective immunoglobulin IgA in gut secretions is immature at first; and they are therefore susceptible to intestinal infections and to allergies⁸.

Professor Alder reported focus group discussions aimed at identifying the range of attitudes and beliefs influencing the timing of introducing solid foods. Mothers believed their babies had shown behaviour indicating readiness for solids and were aware of the recommendation to wait until four months but did not know the reasons. There was little appreciation of the potential influence on long-term ill health¹². Yet longitudinal studies have indicated risks of eczema, and wheeze and latent heart disease in childhood if solids are started early. A Scandinavian study found that not giving solid foods before six months to children from atopic families greatly reduced the risk of eczema at 12 months¹³. The Dundee Infant Feeding Study found that solids introduced before 15 weeks increased the probability of wheeze during childhood¹⁴. Unpublished data from this group also indicate that babies who are introduced to solid food too soon also show greater signs of latent heart disease in their teenage years¹⁵. Of the 159 children tested, 20% had above-average levels of cholesterol and blood sugar. The same number also had abnormalities of the blood vessels, a condition which is a major cause of heart attacks.

DO BABIES GET ENOUGH IRON?

The Cochrane review concluded the data on iron status were conflicting but suggests that there may be a need for iron supplementation where newborn babies have sub-optimal levels. The most significant factor appears to be birthweight as this correlates with iron reserves. A study by Dewey et al in Honduras¹⁶ concluded that babies with a birthweight greater than 3000g and breastfed for six months have a low risk of iron deficiency. Iron drops were recommended from two to three months onwards for babies with a birthweight less than 2500g. However, it is important to assess each baby individually. A study by Piscane found that no babies exclusively breastfed for seven months or longer were

anaemic¹⁷. Nevertheless, the age at which they start on solid foods is only one factor influencing the prevalence of anaemia among babies; anaemia in the mother and routine early clamping of the umbilical cord may also make a difference^{16,18}. An investigation of the iron and zinc levels of formula fed babies found levels were adequate (extra minerals are added to formula to allow for the wastage resulting from low absorption) and independent of when solids were introduced¹⁹.

SIGNS OF READINESS

By waiting for these, the baby will be more actively involved in the process of trying solids. It seems commonly to be believed that having solids will help a baby to sleep longer at night but Heinig in 1993 reported virtually identical sleeping times. (729 versus 728 min/day) in their study⁷.

HOW TO START

If started at 17 weeks, babies generally need pureed foods and a gradual introduction to solids to help them cope, but there is a lack of research on the most appropriate way in which to introduce solids at six months. Anecdotally, they are likely to be able to cope with more lumpy in food straight away and with soft finger foods.

Very little is known about the impact of the way in which various foods are introduced but a recent study has shown that the risk of coeliac disease in children under two years is reduced if gluten is introduced gradually and not only are the babies still being breastfed, but breastfeeding continues²⁰.

CONCLUSION

Starting solids is an individual decision dependent on various factors. Waiting until six months, as recommended by the World Health Organisation, is feasible and has many advantages. In fact it is the norm in many countries, including several in Europe (Norway, Sweden, Germany).

References

1. Department of Health. Weaning and the Weaning Diet. Report of the Working Group on the Weaning Diet of the Committee on Medical Aspects of Food Policy. Report on Health and Social Subjects No 45. 1994 HMSO, London.
2. Hamlyn B, Brooker S, Oleinikova K, Wands S. Infant Feeding Survey 2000. BMRB International. 2002. London. The Stationery Office. - see www.doh.gov.uk/public/infantfeeding/report.htm
3. 54th World Health Assembly Resolution. May 2001.
4. www.sacn.gov.uk/meetings/sep01/mins.htm (accessed 09.08.02)
5. Kramer MS, Kakuma R. Optimal duration of exclusive breastfeeding (Cochrane Review). In: The Cochrane Library, Issue 1, 2002. Oxford: Update Software.
6. Mehta KC, Specker BL, Bartholmew S, Giddens J, Ho ML. Trial on Timing of Introduction to Solids and Food Type on Infant Growth. Paediatrics 1998 Sept; 102(3 Pt 1): 569-73.
7. Heinig MJ, Nommsen LA, Peerson JM, et al. Intake and growth of breast-fed and formula-fed infants in relation to the timing of introduction of complementary foods: the DARLING study. Acta Paediatr 1993, Dec; 82(12): 999-1006.
8. Wellstart. Reviews of the Relevant Literature Concerning Infant Gastrointestinal, Immunologic, Oral Motor and Maternal Reproductive and Lactational Development. April 2001. Eds. AJ. Naylor, AL Morrow.
9. Illingworth RS, Lister J. The critical or sensitive periods, with reference to certain feeding problems in infants and children. J Pediatr. 1964, 65, 839-848.
10. Northstone K, Emmett P, Nethersole F & the ALSPAC Study Team. The effect of age of introduction to lumpy foods eaten and reported feeding difficulties at six

and 15 months. J Hum Nutr Dietet. 2001, 14; 43-54.

11. Cohen RJ, Rivera LL, Canahuati J, et al. Delaying the introduction of complementary food until six months does not affect appetite or mother's report of food acceptance of breast-fed infants from six to 12 months in a low income, Honduran population. J Nutr 1995 Nov; 125(11): 2787-92.
12. Anderson, A.S., Guthrie, C; Alder, EM. et al. Rattling the plate - reasons and rationales for early weaning. Health Education Research. August 2001; 16(4): 471-9.
13. Kayosaari, M. & Saareinen, V. "Prophylaxis of atopic disease by six months' total food elimination". Acta Paed. Scand. 1983, 72:411-414.
14. Wilson AC, Forsyth JS, Greene SA, et al. Relation of infant diet to childhood health: seven year follow up of cohort of children in Dundee infant feeding study. BMJ 1998, 316; 21-25.

15. news.bbc.co.uk/1/hi/uk/scotland/1141261.stm (accessed 09.08.02)

16. Dewey KG, Cohen RJ, Rivera LL, Brown KH. et al Effects of age of introduction of complementary foods on iron status of breastfed infants in Honduras. Am.J.Clin.Nut.1998, 67: 878-84.
17. Piscane, A. et al. Iron status in breastfed infants. J.Pediatr. 1995 Sept, 127(3): 429-31.
18. Kattelman, K., Ho, M. and Specker, B. Effect of timing of introduction of complementary foods on iron and zinc status of formula fed infants at 12, 24 and 36 months of age. J Am Diet Assoc 2001 Apr; 101(4): 443-7.
19. Mercer JC. Current best evidence: a review of the literature on umbilical cord clamping. MIDIRS Midwifery Digest 2002; 12(2): 249-57.
20. Ivarsson A, Hernell O, Stenlund H, Persson LA. Breast-feeding protects against coeliac disease. Am J Clin Nutr 2002, May; 75(5): 914-21.

Included with this edition of **New Digest** is a copy of **When Do I Start My Baby On Solids?**

The full version of the Current Awareness Bulletin (on which Research Roundup is based) is available on-line from http://www.onelist.com/community/nct_research

Please read abstracts critically in the context of your wider knowledge and experience. Do read the publication in full if it is relevant to your work. You may be able to obtain these through your local public library or your nearest NCT tutor may be able to help. The NCT library may be able to supply photocopies (within the terms of current copyright regulations) but this will be subject to staff availability and there may therefore be a delay in our ability to supply. Where photocopies are provided we would appreciate a donation towards the costs of providing the Library and Information Service (LIS). The LIS will try to prioritise support for NCT tutors, registered reps and specialist workers. Photocopies can be obtained from other, larger libraries: MIDIRS (0800 581 009) or the Royal College of Midwives library (020 7291 9220/9221). There are charges for these services.

CHILD

Health

ID 405 - Barnetson RS7, Rogers M. Childhood atopic eczema. BMJ 2002; 324 (7350): 1376-9.

Atopic eczema is a common condition affecting more than 10% of children and rising. It usually presents in the first year of life and when severe it is extremely disabling and may also cause major psychological problems. It is a complex condition; precipitating factors include inhaled allergens, food allergy and intolerance, and irritants. The treatments include dealing with dryness of the skin, use of wet dressings, avoidance of allergens, topical corticosteroids, antibacterials and immunosuppressants, and/or oral medications. [Author]

ID 471 - Sutcliffe AG. Health risks in babies born after assisted reproduction. BMJ 2002; 325 (7356): 117-8.

Outcome studies of in vitro fertilisation are relatively few to date and hampered by difficulties such as high cost, ethical

considerations, recruitment of appropriate controls, and unwillingness of some parents even to tell their children how they were conceived, let alone bring them for assessments. Early studies were small, uncontrolled, and had other methodological errors. In contrast, the pace of advances in the treatment of infertility has been rapid. The eldest individuals born after in vitro fertilisation are now young adults, and 1% of children in developed countries are now conceived through in vitro fertilisation. Ultimately when this first generation of children born after in vitro fertilisation grow up, they will become a sizeable subgroup of the population. It is therefore regrettable that it has taken 20 years before an attempt was made to quantify the risk of congenital anomalies to children conceived by in vitro fertilisation. In vitro fertilisation carries an increased risk of higher order births with their attendant risk of major morbidity. Other critical issues seem to be the risk of higher perinatal morbidity (related largely to complications of multiple pregnancy), the longer term risk of neurodevelopmental disadvantage, and the postulated risk of the in vitro environment causing an increase of diseases affected by genomic imprinting. Whether children born after in vitro fertilisation have normal fertility will be a sensitive issue to investigate. [LG]

Illnesses

ID 403 - Oddie S, Embleton ND. Risk factors for early onset neonatal group B streptococcal sepsis: case-control study. BMJ 2002; 325(7359): 308.

Objectives: To quantify risk factors for and the prevalence of early onset group B streptococcal sepsis in neonates in a geographically defined population. Design: Cases were collected prospectively for two years from April 1998 and compared with four controls each, matched for time and place of delivery. Prematurity (odds ratio 10.4, 95% confidence interval 3.9 to 27.6), rupture of the membranes more than 18 hours before delivery (25.8, 10.2 to 64.8), rupture of the membranes before the onset of labour (11.1, 4.8 to 25.9), and intrapartum fever (10.0, 2.4 to 40.8) were significant risk factors for infection. Had the interim recommendations on best practice issued by the Group B Streptococcus Working