

## **APEL Written Account (in conjunction with supplementary evidence).**

**“It is no longer appropriate for hospitals and maternity units to openly supply free baby products when there is no evidence to support their use. Although predominantly involving skincare and cordcare, it is important to remember that anything placed on, in or around a baby has the capacity to harm” (Trotter 2004).**

### **Introduction**

Since the introduction of degree courses for nurses and midwives and the integration of universities and nursing colleges, knowledge must be grounded in research (Robinson 1996). It is no longer appropriate to follow outdated policies and protocols, where the evidence is not available to substantiate their existence.

Midwifery research can be divided into four areas including, practice, education, management and history (Buckley 1997), although they frequently crossover. Theories are based on integrated knowledge of midwifery, which must be continually validated by ongoing research.

Changing Childbirth (DOH 1993, p 5) dictates that,

“Midwifery care must be woman centred”.

This philosophy should therefore underpin the whole of the midwifery practice. As autonomous practitioners, this also allows midwives to make full use of their knowledge and skills, making sure that they provide optimum care for mothers, babies and families.

The author, by gathering, evaluating, analysing and presenting of data, has focussed on the subjects of skincare and cordcare for the neonate. Following publication in respected peer reviewed journals, it is hoped that this new information will become grounded in midwifery theory.

“It is the responsibility of midwives to deliver care based on current evidence, best practice and where applicable, validated research where it is available”

(NMC 2002, p 3:1.2).

Research is the best way to introduce change in any given area of clinical practice and an effective way of introducing change is to produce guidelines (Mansfield 1995) that are evidence based (Grol 1993).

### **The research process.**

Before research can start, it is important to mention where the data to be analysed originates. Epistemology is the study of the forms, which our knowledge takes i.e. personal, experiential, commonsense, intuition and tradition. This is why, especially in midwifery, it is difficult to bring about change due to the entrenched views and psyche of the profession as a whole (Jackson 1994).

The 'methodology' or 'grounded theory' of research is as complex as the methods used to formulate subsequent hypotheses. Terminology may vary but most agree that 'grounded theory' enables theory to be generated from and grounded in the data, through a process of data collection and analysis (Glaser & Strauss 1967).

All research starts with a hypothesis to be proved or disproved using different tools and methods, which make up the 'research design'. The approach adopted towards this 'research design' falls into two distinct categories, qualitative and quantitative.

A qualitative approach uses words, is inductive, humanistic and answers a question that has been posed. Examples include questionnaires, taped interviews, written reports and telephone surveys. Ethnography or 'description of folk' deserves a mention alongside qualitative data because it is so closely associated. Ethnographic data involves cultural and social factors to give a holistic view of people in their physical and socio-cultural environment. It has evolved from cultural anthropology where the premise is that all humans have common attributes and characteristics that enable relationships to be established. It is especially useful within midwifery research where a deeper understanding of women can lead to quality care and influence policy (Silverman 1993).

A quantitative design uses numbers, is deductive, positivist and tests a given hypothesis. Examples include randomised controlled trials and clinical trials using differing designs. A combination of both qualitative and quantitative paradigms will bring about a truer picture than if only one was employed. This is especially the case in midwifery where there are so many moral and ethical dilemmas to overcome during the course of any research design.

An additional factor, regarding influences on policy within midwifery, is the move towards globalisation where, due to the shrinking world, and as a result of technology, society has become de-centred. The cultural differences peculiar to each and every ethnic group have come full circle and homogenised the sociological ideals of humanity. As a result, the multinational organisations have combined to exert pressure on people around the globe to buy into a common set of ideals by the power of large scale branding and marketing. This can be seen at work within the context of baby products, especially infant formula and baby skincare manufactured items. Parents buy into an 'ideal' of family life, as portrayed through advertising that has somehow become synonymous with modern life. This process can be so subtle that parents and professionals alike are unaware of its effect. This leads to the acquisition of habits and practices that are hard to break, even though their origins lack credibility. Added to this is the wide scale medicalization of birth. Throughout the 20<sup>th</sup> century birth has moved away from the home environment and into centralised units, where technology has played an increasingly pivotal role.

“Birth attendants who have only seen hospital based high interventionalist birth cannot see the effect their interventions are having on birth”

(Wagner 2001, p 213).

In the last 25 years, as a result of influences such as Leboyer (1976) and Odent (1984), birth is once again moving towards a more natural and low-tech model. Midwives have always been at the forefront of caring for women but they are now rightfully becoming the primary care givers.

Fashions in healthcare dictate how women will birth their babies and the same is true regarding the introduction of baby products from birth. While no evidence exists to support such use, parents and professionals continue to regard them as safe and even beneficial. They retain the misguided belief that these products are a necessity to newborn skincare, actively buying up cupboards full ready for the baby's arrival. It could almost be seen as rights of passage. Comments like “We used it on all our babies” and “They smell nice” are hard to challenge and it takes courage and conviction to question what has become the socially accepted norm. We are all influenced socially, psychologically, physically and culturally and to provoke change, we must be

aware of these variables, whilst at the same time communicating new ideas. Only then can change be implemented and accepted as appropriate and relevant. Good communication is at the heart of this process.

Once a practice has been questioned, the first step is to carry out a literature review to determine a need for further research. The purpose of this review is to gain as much information on a particular subject and consider all previous work. Only then can a research design be planned. This process can be time-consuming and frustrating if approached from a disorganised standpoint.

The author, new to this field of study, spent many hours sifting through databases with little or no effect. A study day into the effective methods of systematic review and literature critique, run by Health Information Technology Training Solutions ([www.hitts.net](http://www.hitts.net)), greatly improved the efficacy of the process.

This said there are nonetheless many other forms of data, freely available to all, which can provide a broad base from which to start. These include journals, books, magazines, TV programmes, newspapers, the Internet, current guidelines/protocols, databases, MIDIRS Digest, Cochrane Database and media coverage.

### **A personal perspective**

A personal trial, based on her own children's response to a change in skincare regime, was carried out followed by a telephone survey of maternity units throughout the UK. This would hopefully ascertain whether a need for further work into this area existed.

Her two older children had used baby products from birth and suffered from spots, rashes and cradle cap as infants. After reading an article written by midwife, Grainne Brennan (1996) the author decided to use the water-only skincare regime that had been advocated, for her two youngest children in the early weeks of their life. All four siblings had been exclusively breastfed and, as far as possible, environmental factors remained constant. The only obvious change was the timing of the introduction of baby skincare products. The results were surprising although not unexpected. Both the younger children had a clear scalp and no skin conditions developed, even when products were gradually introduced over a period of weeks. Whilst the author admits these initial findings produced no conclusive evidence, they did indicate a need for

more research. Could the same results be replicated in other infants, following the introduction of a water-only regime of skincare for the first month of life? Subsequent to the personal study, a telephone survey was conducted to gather information about present practices within maternity units around the UK. Units were selected on the basis of previous knowledge of a unit or having lived and worked in a particular area. This included a cross section of large and small units from the south coast of England to the north of Scotland, which achieved a balanced overview of current practice. A mixture of both open-ended and closed questions were asked including; whether a policy was in place, did it involve the use of manufactured products, did the policy differ between neonates and term infants and did they supply free products for use when bathing babies? The results showed a diverse variation in both skincare and cordcare policies, with no distinct set of guidelines in place anywhere. This knowledge further highlighted a need for more work, if confusion was to be avoided and evidence-base guidelines introduced.

Questions now requiring an answer included:

- How does neonatal skin differ from adult skin?
- Can baby products affect the integrity of neonatal skin?
- Can the avoidance of such products in the early weeks of life result in less reported anomalies in skin function?
- Are cordcare treatments truly evidence based?
- If so, could evidence-based guidelines affect a smooth transition towards updated practice?

The most up-to-date research into this area was found to be the work of Carolyn Lund et al (1999a 1999b 2001a 2001b), which was based in neonatal intensive care units in America. Although helpful, this was not representative of best practice for the healthy term infant and highlighted a need for more research and the compilation of a new set of guidelines for parents and staff. However, the theory base on anatomy and physiology of the skin and cord did provide the evidence required to justify a change in practice.

## **The Physiology of the Skin**

The skin is the largest organ in the body and is made up of three main layers.

- The Epidermis.
- The Dermis.
- The underlying subcutaneous fatty tissue.

Within these layers lie the blood vessels, nerves, sweat/oil glands and hair follicles.

The Epidermis, or outer layer, is further divided into:

- Stratum Corneum.
- Stratum Granulosum.
- Stratum Spinosum.

The latter of these is at the junction of the Epidermis and Dermis and is where the renewal of the Basal Cells is carried out. Basal cells constantly divide and are called Keratinocytes. They can be thought of as the bricks in a wall, with the mortar between, made up of lipids (fat cells).

It is this barrier, which allows the retention of fluids within the Epidermal cells, which remain plump and therefore prevent the introduction of micro organisms, chemicals and allergens. When intact, this 'wall' regulates temperature, acts as a barrier to infection, balances water/electrolytes, stores fat and insulates against the cold. The skin is also a large tactile area, for the interpretation of stimuli.

The Stratum Corneum itself is made up of 10-20 microscopic layers in an adult and the term infant. In premature infants, this number drops to between 2-3 layers. In extremely premature infants, of less than 23 gestational weeks, this layer may be virtually non-existent. ( Holbrook 1982, Nonato 1998). Consequently, the risk to these babies is even higher.

Babies are born with an alkaline skin surface, with an average pH of 6.34 (Peck & Botwinick 1964). However, within days, the pH has fallen to about 4.95 (acid). This is known as the 'Acid Mantle' and is the skins protector. The development of this 'Acid Mantle' happens within days irrespective of gestational age, which is probably a direct result of the skins exposure to air, instead of amniotic fluid (Harpin & Rutter 1983, Evans & Rutter 1986). However, The Stratum Corneum is still much thinner in the pre-term infant,

especially in the 23-33 week age range. Therefore it would seem sensible to take extra care during this period to avoid any undue damage.

The introduction of Baby Bath products, wipes and creams etc, along with the exposure to urine and faeces, could disrupt this delicate protective barrier and lead to problems for the term infant, including eczema, or allergic reactions (Peck and Botwinick 1964, Berg et al 1986, Cetta et al 1991).

### **The Physiology of Cord Care**

The umbilical cord is a unique tissue consisting of two arteries and one vein covered by a mucoid connective tissue known as Wharton's jelly, which is covered by a thin layer of mucous membrane (a continuation of the amnion). During pregnancy the placenta provides all the nutrients for fetal growth and removes waste products simultaneously through the umbilical cord.

Following delivery, the cord quickly starts to dry out, harden and turn black (A process called dry gangrene). This is helped by exposure to the air. The umbilical vessels remain patent for several days, so the risk of infection remains high until separation.

Colonisation of the area begins within hours of birth as a result of non-pathogenic organisms passing from mother to baby via skin-to-skin contact.

Harmful bacteria can be spread by bad hygiene; poor hand washing techniques and especially by cross infection by health care workers.

Separation of the umbilical cord continues at the junction of the cord and the skin of the abdomen, with leucocyte infiltration and subsequent digestion of the cord. During this normal process, small amounts of cloudy mucoid material may collect at the junction. This may unwittingly be interpreted as pus. A moist and/or sticky cord may present, but this too is part of the normal physiological process. Separation should be complete within 5-15 days, although it can take longer. The main reasons behind prolonged separation include the use of antiseptics and infection.

Antiseptics appear to reduce the number of normal non-pathogenic flora around the umbilicus. This reduction in leucocytes prolongs the healing process and hinders cord separation.

After the cord has separated, a small amount of mucoid material is still present until complete healing takes place a few days later. This means that there is still a risk of infection, although not as great as in the first few days.

Many studies have been carried out to compare differing treatments and their effect on infection rates, colonization and length of cord separation. (Barr 1984, Mugford et al 1986, Salariya 1988, Verber 1992, Medves 1997). The overall results conclude that the more the cord is treated, the longer it will take to separate. Prolonged cord separation rates are also associated with reduced colonization levels. This would suggest that a certain level of colonization, is actually a healthy sign and not necessarily a pre-cursor to infection.

This data not only proves that the skin of the neonate is thinner and more permeable than that of the adult but also that cordcare needs to be updated in line with World Health Organization recommendations (WHO 1999).

### **Proposed New Guidelines for Baby Care**

Carolyn Lund et al (1999a; 1999b; 2001a; 2001b) have carried out the most comprehensive study into the care of neonatal skincare. 51 American acute-care settings for premature and full-term neonates were included in their trials. The objective was to test the effectiveness of evidence-based clinical practice guidelines on selected clinical outcomes for newborns. Baseline observations of skin condition, care practices and environment of newly admitted neonates were collected by specially trained site co-ordinators. This was followed up by post-implementation observations. The results can be summarised as follows:

- Uniformity of Care practices nationally.
  - Overall improved skin integrity.
  - Reduced bathing using little or no products.
  - Increased emollient use.
  - No increase in infection rates.
  - Identification of risk factors, leading to early introduction of appropriate treatment.
- (Lund et al 2001b)

The guidelines implemented by Lund (2001b) were primarily aimed at premature or sick neonates in the acute hospital setting. With this in mind, the author has written a new set of guidelines, aimed at the healthy term infant, with some reference to premature and sick infants. [A Specific Policy, within the Neonatal Unit (NNU) will be introduced separately]. Collaboration between

midwifery, medical and paediatric staff has led to the approval of these guidelines within NHS Ayrshire & Arran.

A colourful and informative fold-out leaflet has also been designed for parents which includes the following advice:

- Before and after carrying out any baby-care, especially cord care, it is important to wash hands thoroughly.
- First baths will be carried out using plain water and cotton wool. This will help to protect the delicate skin while it is vulnerable to germs, chemicals and water loss. A baby comb can be used to gently remove any debris from thick hair after delivery. Please bring a baby comb into hospital with you.
- It is best to leave the delicate area around the eyes untouched. If it does become sticky, please notify a member of staff and they will advise you. The ears and nose should also be left alone and cotton buds should be avoided.
- Vernix (the white sticky substance that covers your baby's skin in the womb) should always be left to absorb naturally. This is nature's own moisturiser.
- Premature baby's skin is even more delicate, so it is important to withhold all products until their due date. The staff in the neonatal unit (NNU) will be happy to advise you.
- If your baby is overdue, his/her skin may well be dry and cracked. This is to be expected, as the protective vernix has all been absorbed. Don't be tempted to use any creams or lotions as this may do more harm than good. The top layer of the baby's skin will peel off over the next few days, leaving perfect skin underneath. Use plain water only for the first month.
- Cord care for the healthy term baby: Keep this area clean and dry. The best way to achieve this is to leave the area alone. After the first bath in plain water, pat dry with a clean towel. Fold the nappy back at each change, until the cord falls off. In the first few days, it is advisable to top'n'tail your baby to allow the cord to dry out. Wet Cotton wool can be used if the area becomes soiled, otherwise leave it alone. There is no

need to use any wipes or powders. The cord clamp may or may not be removed, depending on hospital policy. If the cord or surrounding area does become red or smelly, notify a member of staff. This advice is based on the World Health Organization (WHO) recommendations published in 1999.

- Cord Care for the sick or premature baby: This may differ slightly, due to the increased risk of infection. Antiseptic solutions and/or powders may be used for the first few days. Otherwise cord care should be the same as for any other baby. Be guided by staff in the NNU and they will advise you on the best possible care for your baby.
- Continue bathing your baby with plain water for the first month, before *gradually* introducing baby products. By this time the skin's natural barrier will have developed. These products should be free from colours and perfumes and used sparingly.
- Baby wipes should also be avoided for the first month. Once introduced, try to use ones, which are mild and free from alcohol and strong perfumes.
- Shampoo is not necessary when your baby is under a year old. Once you have introduced baby products, simply rinse your baby's hair in the bath water solution.
- A thin layer of barrier cream can be used, if required, on the nappy area.
- If after a few weeks you wish to use a moisturiser, choose products that are emollient based. These will not dry out the skin, but they will give it some protection.
- Wash all baby clothes and bedding in non-biological washing powder. Fabric conditioners, if used, should be mild and free from colours and strong perfumes.
- Feeding: Breastfeeding is obviously the best choice for your baby as it gives some protection against allergies developing. However, whether you breastfeed or formula-feed, remember to take care when introducing a mixed diet. This should not be attempted before six months, as recommended by the World Health Organization (WHO)

2001). Avoid any wheat (gluten) based products for the first six months as these could trigger an allergic response in the baby's immature digestive system. Stick to rice-based cereals instead. Cow's milk should not be given as a drink until a year old. However, milk in cooking and milk products (yoghurts and fromage frais) can be introduced from six months. Eggs are best left until 9 months. Nuts should be avoided for at least the first year, but can present a choking hazard until the age of five. The Dietician will be happy to advise you further; if necessary (this information was included to maintain consistency within the local weaning strategy).

#### The Premature or Sick Infant.

The reasons behind change of practice for these vulnerable infants are due to the higher risks of nosocomial (hospital acquired) infection, the increased number of carers and the infants compromised immune system.

#### **Research Update**

Although the work of Carolyn Lund (Lund et al 1999a, 1999b, 2001a, and 2001b) and the Association of Women's Health, Obstetric and Neonatal Nurses and the National Association of Neonatal Nurses (AWHONN/NANN) provides the benchmark for best practice in neonatal skincare, there are many worthy projects ongoing in the UK.

In his work, Professor Michael Cork (Cork et al 2003a, 2003b) has looked into the adverse effects of emollient use in children, alongside targeted health education by specialist dermatology nurses. This highlights the potential for problems arising; following seemingly innocuous changes in practice (the American study led to a post-guideline increase in emollient use) and reinforces the importance of properly managed treatments.

Prof. Jean Golding and the ALSPAC study team looked at the prevalence of food allergy and intolerance in the under sevens (Northstone K et al 2002).

They also (Lack et al 2003) researched the link between arachis (peanut) oil used in skin treatments and the subsequent development of peanut allergies in children. Over recent years baby skin massage has become widespread. In light of this and the suggested link between allergies and peanut oil, it would be worth considering the use of products that *do not* include ingredients derived from nuts and/or nut oils for the early weeks/months of life. Although

these studies are not directly related to the neonate, they do highlight the importance of evidence-based guidelines that are easy to follow and are implemented with support from qualified staff. They also emphasize the need for great care when choosing products for treatment and dietary advice, all of which have the potential to harm as well as heal.

### **Publication and its consequences**

The authors resulting articles on skincare and cordcare were accepted for publication in the RCM Midwives Journal (Trotter 2002 & 2003). A follow-up article combining skincare and cordcare and the introduction of proposed new guidelines was subsequently published in the British Journal of Midwifery (Trotter 2004).

Once published in a peer reviewed professional journal, there is a higher chance that the information will be disseminated and acted upon by other experts in their field. However, with thousands of articles, trials, studies and randomly controlled trials being accepted for publication, there is a need for criteria-based standards within research. Much of the best research in the field of midwifery, as well as the most respected and rigorously applied, can be found in Midwives Information and Resource Service (MIDIRS) and the Cochrane Collaboration Pregnancy and childbirth Database. The latter includes systematic reviews, abstracts of reviews of effectiveness, a controlled trials register and a methodology database, which is frequently updated.

In 1993, the Scottish Intercollegiate Guidelines Network (SIGN) was established by the Medical Royal Colleges to provide evidence based guidelines for NHS Scotland. The equivalent body in England and Wales was established as a special health authority in 1999 and is called the National Institute of Clinical Excellence (NICE) Guidelines. It is responsible for publishing national guidelines for those using the NHS.

The road to change and innovation is not easy but, with careful attention to detail and ongoing communication between other experts in the field, it is possible to effect a change of practice that will benefit all concerned.

Over the past two years the author has enjoyed an ongoing dialogue with Michael Cork, Professor of Dermatology at the University of Sheffield and Jean Golding, Professor of Paediatric & Perinatal Epidemiology at the

University of Bristol. Prior to each article, the author sought the advice and input of these respected experts in their field. By doing so, the resulting work was not only in line with latest research but also achieved greater credibility.

Collaboration continues within the authors' local health organisation and lengthy negotiations between Midwives, Neonatologists, Dieticians, Practice Development Staff, Clinical Effectiveness Staff and Clinical Risk Managers have led to the drafting of new guidelines, as seen in the attached portfolio. These have since been ratified and are now policy. With assistance from the graphic design department, a colourful and informative leaflet has been introduced to staff and parents, detailing the best way to care for the skin of a healthy term infant.

Student midwives and trained staff are updated by the author using a PowerPoint presentation, also included in the portfolio, and the message is being spread further afield by the use of poster presentations at local and national level. The Poster was presented to the RCM Midwives Conference in Cardiff in May 2004, where over 100 leaflets were given out. These will now be making their way to all corners of the UK where the information can be disseminated to other units. The overall response was extremely positive, with professionals agreeing that the time had come to update present policy in line with evidence-based guidelines.

The author has made contact with the Department of Health, by letter, to Lord Warner, Under Secretary of State for Research and Development. The Health Development Agency, Health Education Board for Scotland and the Practice development manager at Royal College of Midwives Headquarters are also aware of this ongoing study. As a result of 'letters to the editor', commenting on the article about neonatal skincare (Trotter 2004), a special correspondence page was published (BJM 2004) in July 2004, alongside a press release. This led to media interest and consequently an article appeared in the Glasgow Herald on 5<sup>th</sup> August 2004 (see supplementary evidence) further highlighting the subject. By bringing this to the attention of various organisations, the new knowledge can begin to bring about change on a national level.

Throughout the past two years the author has been in contact with both, Johnson & Johnson and Proctor & Gamble, manufacturers of baby products.

The former have met up and are negotiating a compromise, so that parents are properly informed of the potential dangers of early overuse of such products. Time will tell if this dialogue will lead to a more permanent change in marketing practices, but in the meantime it must be seen as a positive contribution to the way in which research can make a difference to the way even large companies operate.

### **Conclusion.**

Throughout this period of self-directed study, many other skills have been acquired. These include a deeper understanding of the aetiology and methodology of the research process. On a personal level, an independent and flexible approach to study has not only managed to fit into a busy family lifestyle but also engendered a strict work ethic. These skills alone have made the transition to University life relatively pain free and have greatly assisted the process of writing assignments. Many months of protracted negotiations between different disciplines have also resulted in the development of honed communication skills and great patience!

In time the author's work on neonatal skincare and cord care could become grounded in midwifery theory. This, in itself, should act as a catalyst for like-minded midwives to follow by example, in a bid to challenge outdated policies and bring about change. A post implementation audit will be designed and implemented in the near future. The results of which will be reported on and published in the future. Early feedback suggests that the guidelines do indeed lead to better skin integrity and less development of skin conditions occurring as a result of early introduction of baby manufactured products. If this is the case, then it will not only be cost effective to the NHS but is also evidence-based practice at its best.

Sharon Trotter 2004

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References:

Barr J (1984). The umbilical cord: to treat or not to treat? *Midwives Chronicle and Nursing Notes* 97(1159): 224-6.

Berg R W, Buckingham K W, Stewart R L (1986). Etiologic Factors in Diaper Dermatitis: The Role of Urine. *Pediatric Dermatology* 3: 102-6.

Brennan, G. (1996) Opinion: Care of the Newborn Babys Skin, *Midwives* 109 (1303): 240.

*British Journal of Midwifery* (2004). 12(7): 418-9.

Buckley R E (1997). *Delivering quality in midwifery*. Bailliere Tindall. London.

Cetta F, Lambert G H, Ross S P (1991). Newborn chemical exposure from over the counter skin-care products. *Clinical Pediatrics* 30:289-9.

Cork M J, Timmins J, Holden C, Carr J et al (2003a). An audit of adverse drug reactions to aqueous cream in children with atopic eczema. *The Pharmaceutical Journal* 271:746-7.

Department of Health (1993). *Changing Childbirth; Report of the expert maternity group parts 1 & 2 (Cumberledge Report)* p.5. HMSO. London.

Evans N J, Rutter N (1986). Development of the Epidermis in the Newborn. *Biology of the Neonate* 49: 74-80.

Glaser B G & Strauss A L (1967). *The discovery of grounded theory: strategies for qualitative research*. Aldine De Gruyter. New York.

Grol R (1993). Development of guidelines for general practice. *British Journal of General Practice* 43: 146-51.

Harpin V A, Rutter N. (1983) Barrier Properties of the Newborn Infants Skin. *Journal of Pediatrics* 102: 419-25.

Holbrook K A. (1982) A Histological Comparison of Infant and Adult Skin. In H I Maibach & E K Boisits (Eds): *Neonatal Skin: Structure and Function*. New York, Marcel Decker: 3-31.

Jackson K (1994). So much for commonsense. *British Journal of Midwifery* 2 (3): 131-2.

Lack G, Fox D, Northstone K, Golding J, ALSPAC Study Team (2003). Factors associated with the development of peanut allergy in childhood. *New England Journal of Medicine* 348: 977-85.

Leboyer F. (1976) *Birth Without Violence*. Alfred A Knopf. New York.

Lund C, Kuller J, Lane A, Lott J W, Raines D A (1999a). Neonatal Skincare: The Scientific Basis for Practice. *J Obstet Gynecol Neonatal Nurs*. May/June 28(3): 241-254.

Lund C H (1999b). Prevention and Management of Infant Skin Breakdown. *Wound Care Management*, December 34 (4): 907-920.

Lund C H, Kuller J, Lane A T, Lott J W, Raines D A, Thomas K (2001a). Neonatal Skincare: evaluation of the AWHONN/NANN research based practice project on knowledge and skincare practices. *Association of Women's Health, Obstetric and Neonatal Nurses/ National Association of Neonatal Nurses*. *J Obstet Gynecol Neonatal Nurs*, Jan/Feb 30 (1): 30-40.

Lund C H, Osborne J W, Kuller J, Lane A T, Lott J W, Raines D A (2001b). Neonatal Skincare: clinical outcomes of the AWHONN/NANN evidence based clinical practice guideline. *Association of Women's Health, Obstetric and*

Neonatal Nurses and the National Association of Neonatal Nurses. *J Obstet Gynecol Neonatal Nurs*, Jan/Feb 30 (1): 41-51.

Mansfield C (1995). Attitudes and Behaviours towards clinical guidelines: the clinicians perspective. *Quality in Health Care* 4: 250-5.

Medves J (1997). Cleaning solutions and bacterial colonization in promoting healing and early separation of the umbilical cord in healthy newborns. *Canadian Journal of Public Health* 88 (6): 380-2.

Mugford M, Somchwong M, Waterhouse IL (1986). Treatment of umbilical cords: a randomised trial to assess the effect of treatment methods on the work of midwives. *Midwifery* 2:177-86.

Nursing and Midwifery Council. (2002) Code of Professional Conduct for nurses, midwives and health visitors. NMC: London. P 3(1.2).

Northstone K, Golding J, ALSPAC Study Team (2002). The prevalence of food allergy in children up to the age of seven in ALSPAC: a population cohort study. *Food Allergy and Intolerance* 3: 104-14.

Odent M. (1984) *Entering the World: The De-Medicalization of Childbirth*. Marion Boyars. London. Page 22.

Peck S, Botwinick J (1964). The Buffering Capacity of Infants Skin Against an Alkaline Soap and Neutral Detergent. *Journal of Mt. Sinai Hospital* 31: 134.

Robinson S & Thomson A M (1996). *Midwives, Research and Childbirth*. Chapman & Hall. London.

Salariya E M & Kowbus N M (1988). Variable umbilical cord care. *Midwifery* 4:70-6.

Silverman D (1993). *Interpreting qualitative data*. Sage Publications. London.

Trotter S (2002). Skincare for the newborn: exploring the potential harm of manufactured products. RCM Midwives Journal 5(11): 376-8.

Trotter S (2003). Management of the umbilical cord - a guide to best care. RCM Midwives Journal 6(7): 308-11.

Trotter S (2004). Care of the newborn: proposed new guidelines. British Journal of Midwifery 12 (3): 152-7.

Verber I G & Pagan F S (1992). What cord care-if any? Archives of Disease in Childhood 68: 594-6.

Wagner M (2001). Fish can't see water: the need to humanize birth. MIDIRS Midwifery Digest 12:2, p213.

World Health Organization. (1999) Care of the Umbilical Cord: A Review of the Evidence (44 pages). Reproductive Health (technical support) Maternal and newborn Health/safe motherhood. Geneva, WHO (document WHO/RHT/MSM/98.4).

World Health Organization (2001). As formulated in the conclusions and recommendations of the expert consultation (Geneva, 28-30<sup>th</sup> March 2001) that completed the systematic review of the optimal duration of exclusive breastfeeding (see document A54/Inf. Doc/4). See also resolution WHA54.2.

#### Bibliography:

Cluett E R & Bluff R (2000). Principles and Practice of research in Midwifery. Bailliere Tindall. London.

Swingwood A (2000). A short history of sociological thought, 3<sup>rd</sup> Edition. Palgrave. England.

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