The pharmaceutical care of breastfeeding mothers
Update: March 2011
The Pharmaceutical Care of Breastfeeding Mothers

This insert has been developed by Dr Wendy Jones who wrote the original Distance learning pack in 2006. The document provides new evidence that has been published since this pack was originally produced.

Key changes to the original document will be highlighted page by page. It is recommended that you work with the insert and the original pack side by side to ensure that you do not miss any key points.
Introduction

Page 12  In 2005, 70% of Scottish mothers initiated breastfeeding and 44% continued to breastfeed at six weeks, narrowly missing the 1991 target that 50% of babies should continue to receive breastmilk at six weeks of age.

Page 14  In 2005, the results of the Infant Feeding Survey Bolling et al
http://www.ic.nhs.uk/pubs/breastfeed2005

Baby Friendly Bottle Feeding leaflet will provide template for new Department of Health leaflet.
or
http://www.orderline.dh.gov.uk/ecom_dh/public/contact.jsf

Page 15  http://isd.scot.nhs.uk/isd/1761.html

Breastfeeding in Scotland

Page 19  additional references

Clinical Review Breastfeeding Hodinott et al
http://www.bmj.com/content/336/7649/881.extract


Breastfeeding statistics in Scotland

Page 24  Parity
33% of mothers who had bottle fed a previous child switched to breastfeeding with a subsequent child, although there is a rapid decline in breastfeeding over the first six weeks with 39% who formula fed before switching to formula. Ninety six percent of mothers who had successfully breastfed before were still breastfeeding at six weeks.

Page 25  Socio economic class 84% in managerial and professional occupations are breastfeeding at 6 weeks compared with 32% in routine and manual jobs.
Prevalence of breastfeeding

Page 25  Incidence at birth in Scotland 70% in 2005 with 44% at six weeks (compared with 63% and 40% in 2000).

Page 27  Mother’s awareness of health benefits

The 2005 Infant Feeding Survey collected data for the first time on women’s awareness of the health benefits of breastfeeding:
- Eighty seven percent of Scottish women said they were aware of benefits (88% in 2000).
- Perhaps not surprisingly, 87% of mothers planning to breastfeed could name benefits, compared to only 62% of those planning to bottle-feed.

Support for mothers

![Support for mothers chart]

Influences on breastfeeding behaviours

Page 31  84% of mothers who had been breastfed as babies planned to breastfeed their own babies whilst only 55% of those who had been formula fed intended to do so.

Page 32  NICE maternal and Child Nutrition recommended that pharmacists should be involved in breastfeeding promotion.
http://www.nice.org.uk/guidance/index.jsp?action=byID&o=11943#summary

Page 33  The 2005 Infant Feeding Survey noted that, although women in the UK are now more likely to breastfeed in public, 26% of women with a baby aged 4-5 months have reported difficulty in finding a place to breastfeed, while 8% have never fed in public. Interestingly, 35% of bottle-feeding mothers had similarly never attempted to feed their baby away from home.
Scottish mothers were asked if they had been aware of the new law in Scotland protecting mothers’ rights to feed in public places. At four to six months 62% were aware. As might be expected, Scottish mothers who breastfed, at least initially, were more likely to be aware of the new law than mothers who formula-fed from birth (67% compared with 54%).

The NHS Health Scotland booklet *Off to a Good Start: All you need to know about breastfeeding your baby* (reprinted 2010) contains excellent information on how to express milk.

http://www.healthscotland.com/documents/120.aspx

**Breastfeeding and returning to work**


Introducing solids

Hodinott et al A prospective study exploring the early infant feeding experiences of parents and their significant others during the first 6 months of life: what would make a difference? August 2010.


The role of voluntary breastfeeding supporters

The National Breastfeeding Helpline is a helpline run in collaboration with the Breastfeeding Network (BfN) and the Association of Breastfeeding Mothers (ABM). The project is funded by the Department of Health, through the Section 64 grant scheme. Calls are diverted to the nearest ABM or BfN volunteer, meaning the ‘National’ helpline also has a very ‘local’ feel to it.

Physiology of the Breast

As a result of ultrasound technology our understanding of the structure of the breast has now changed.
Descriptions of the anatomy of the human lactating breast had changed little over the last 160 years, since Sir Astley Cooper produced diagrams based on dissections of the breasts of cadavers of women who had been lactating at the time of death. Structure of the breast in the Human Female Sir Astley Cooper 1840

http://jdc.jefferson.edu/cgi/viewcontent.cgi?article=1006&context=cooper)

Hartmann and Geddes noted that the number of milk ducts in the breast is lower than previously understood. Prior to their research it was believed that there were “lactiferous sinuses” which store milk within the breast but these do not in fact exist. Their work suggests that the main function of the milk ducts is to transport milk to the nipple, rather than store it.

Glandular tissue is found closer to the nipple and subcutaneous fat is minimal at the base of the nipple, hence it is easily damaged by incorrect positioning and attachment of the baby at the breast. The researchers were also able to show that the proportion of glandular and fatty tissue, and the number and size of ducts, didn't affect milk production.

This new research has led to the re-investigation of how the infant removes milk from the breast. From a pharmacist's point of view the important information to note is that incorrect positioning and attachment can cause damage to the nipples.

**Attachment**

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NICE POSTNATAL Guidelines

www.nice.org.uk/CG037

Indicators of good attachment and positioning:

- mouth wide open
- less areola visible underneath the chin than above the nipple
- chin touching the breast, lower lip rolled down, and nose free
- no pain.

Indicators of successful feeding in babies:

- audible and visible swallowing
- sustained rhythmic suck
- relaxed arms and hands
- moist mouth
- regular soaked/heavy nappies.

Indicators of successful breastfeeding in women:

- breast softening
- no compression of the nipple at the end of the feed
- woman feels relaxed and sleepy.
Insufficient Milk

Page 50

Results from the Infant Feeding Survey 2005 show that 25% of women cite ‘lack of milk’ as the main reason for stopping breastfeeding in the first two weeks of the baby’s life.

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The Infant Feeding Report 2005 showed that:

- On leaving hospital, 21% of breastfeeding mothers reported that their baby appeared hungry.
- 15% were still reporting the same thing at 4-5 months.
- 7% also commented on poor weight gain.

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Final paragraph:

In 2008 the manufacturers altered the licensing of Daktarin oral gel, recommending that it is no longer used in babies under four months and with care in babies under 6 months who have had respiratory problems. It appears to originate from concerns regarding the administration of the gel and the risk of an infant choking due to the viscosity of the gel, rather than the medication itself (www.thewomens.org.au/ThrushinLactation). There is one published report (De Vries TW, Wewerinke ME, de Langen JJ. [Near asphyxiation of a neonate due to miconazole oral gel]. Ned Tijschr Geneeskd 2006;148:1598–600) of a 17 day old baby (born at 36 weeks) in Holland who choked on gel applied to the mother’s nipple. The baby recovered without further problems and needed no medical intervention. The paper mentions nine other babies (aged between two and twenty weeks) all of who suffered some form of difficulty in breathing temporarily but with no long term ill effects. Only one of the ten babies was admitted to hospital. The authors of the paper suggest that it is important to consider the potential for airway obstruction and resultant asphyxiation in young babies with impaired swallowing. Instructions should therefore be provided regarding the correct application of the gel.

Reference


Medicines Use during breastfeeding

In addition to the pharmacological data referred to in the text, Hale refers in many cases to the relative infant dose which he explains:

Relative Infant Dose

“The Relative Infant Dose (RID) is calculated by dividing the infant’s dose via milk (Theoretic Infant Dose) in mg/kg/day by the maternal dose in mg/kg/day (see box above). This weight-normalizing method gives one a feeling for just how much of the ‘maternal dose’ the infant is receiving. Many authors now use this preferred method because it gives the reader a better idea of the relative dose transferred to the infant. These same authors also suggest that anything less than 10% of the maternal dose is probably safe. This is usually correct. However, some drugs (metronidazole, fluconazole) actually have much higher Relative Infant Doses, but because they are quite non-toxic, they do not often bother an infant. To
calculate this dose, I chose the data I felt was best and this often included larger studies with AUC calculations of mean concentrations in milk. I also chose an average body weight of 70 kg for an adult. Thus the RIDs herein are calculated assuming a maternal average weight of 70 kg, and a daily intake of 150 mL/kg/day in the infant. Please note, many authors fail to normalize their data for weight. Others provide a RID for each feeding, not a daily average. Therefore, my values may vary slightly from others due simply to differences in the method of calculation’.

The Children’s BNF also provides useful information on the paediatric doses which may or may not be licensed for use in children. Pharmacists may find this a useful tool when determining the safety of the drug level known to pass through breastmilk.

Appendix 2

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Some concerns have been raised about the safety of compound codeine preparations given as analgesics to breastfeeding mothers following the death of a baby in Canada.

Use of codeine by breastfeeding mothers, if necessary, should be at the lowest effective dose, for the shortest possible duration and the mother made aware that she should cease the drug and seek medical advice if she notices side effects in her baby such as:

- Lethargy
- Poor Feeding
- Drowsiness
- Bradycardia
- Breathing Problems

There are four cases of neonatal apnea following a dose of 60mg given to breastfeeding mothers. Although codeine was not detected in the serum of the babies, symptoms resolved when the drug was discontinued (Davis 2004).

If adverse effects develop in breastfeeding infants the possibility of toxicity should be considered, regardless of maternal dose. Codeine should be replaced by a suitable non-opioid analgesic. Breastfeeding should not be interrupted unless the symptoms are extreme e.g. necessitating admission, and then only for the shortest duration possible.

This recommendation follows a single adverse event report from Canada, where a breastfed baby died at 12 days of age (Koren 2006). At post mortem he was found to have very high levels of morphine in his blood because his mother had multiple copies of the gene which metabolises codeine into morphine and was taking compound codeine analgesics for episiotomy pain. The mother had reported side effects of constipation and somnolence in herself. She had sought medical help on several occasions prior to the baby’s death as he was lethargic and had intermittent periods of difficulty in breastfeeding.

Codeine combinations have in the past formed the mainstay of analgesic use, particularly in the early postpartum period. The genotype producing ultra rapid metabolism is rare but is impossible to identify without genetic testing.
Websites

http://www.isdscotland.org/isd/1761.html

NHSScotland
http://www.scot.nhs.uk/searchResults.html?cx=003501025796087152226%3Axcougsx07yc&cof=FORID%3A11&q=breastfeeding&sa=Search#1147

Breastfeeding in Scotland
http://www.cfr.ac.uk/reports/rb36forweb.pdf

HEAT Target 7

www.Readysteadybaby.org.uk

http://www.maternal-and-early-years.org.uk/


Resources

http://www.healthscotland.com

Weaning Resources: Needs Assessment

Maternal and Early Years
http://www.maternal-and-early-years.org.uk

Nutrition in pregnancy

0-3 years nutrition
http://www.maternal-and-early-years.org.uk/topic/0-3-years/nutrition

Ready Steady Baby
http://www.readysteadybaby.org.uk

Feeding your baby
http://www.readysteadybaby.org.uk/first-days-together/feeding-your-baby/index.aspx

Weaning your baby

UNICEF Baby Friendly
http://www.babyfriendly.org.uk

Improving Maternal and Infant Nutrition: A Framework for Action
http://www.scotland.gov.uk/publications/2011/01/13095228/0
Multiple choice questions

Please now attempt these using the NES Portal system.

If you have not already registered for this then please do so at:

www.portal.scot.nhs.uk