Teaching Families About Prenatal Colostrum Collection

Annet Mulder IBCLC GOLD 13
ABE = Antenatal Breast Expression

- ABE 566,000 results (0.30 seconds)
- Review
- Guidelines
- Diabetes
Content

• Current situation and history
• Research
• Guidelines
• In practice
Why would we inform mothers about this option?
Baby

• WHO exclusive breastfeeding for the first 6 months

• BFHI step 6: “Give newborn infants no food or drink other than breast milk unless medically indicated”

• Risks of artificial feeding

• Immunological value of colostrum
Colostrum

- The immunological value of colostrum
- Rich in antibodies
- High bioavailability
- Increases gut peristalsis
- Aids passage meconium
A number of studies have demonstrated that receiving oral fluids other than colostrum at birth carries potential life-long health risks.
Risk of artificial feeding

1. Increased mortality
2. Nutrient deficiencies
3. Low in antibodies, enzymes & hormones
4. Diseases & infections
5. Highly mismatched to human needs
6. Risk of developing breast cancer in later life
7. Difficult to use
8. Slow to digest
9. ?

Mc Niel et al, Birth 2010
Logical continuation?

Not always ....
Mother

- The motivation and preparation for breastfeeding starts during pregnancy

- Willingness, motivation and trust are important for successful establishment of breastfeeding
ABE
A critical review of the literature

What is known or unknown about ABE, the reasons for this practice and the effects of this particular technique for the woman and her baby?
History 1946-1983

Breast preparation

Waller 1946/ Blaikley 1953  28-32-36 weeks

> Increased milkflow

< Engorgement

< Nipple problems

> Breastfeeding

Sundberg 1958  20 weeks

No difference in breastfeeding rates

> Mastitis (?)
History 1946-1983

Mundy 1983 survey

• Incidence of ABE under pregnant women 13.6%

• Other studies revealed no benefit

• Early 1990s ABE was no longer recommended
History effect of nipple stimulation 1986–1993

• 1960-80 Nipple stimulation/ fetal respons/ contraction stress/ caesarian or natural birth?

• 6 studies effect on Bishop Score?
  • Some results
  • All were stimulating for more than 1 hour a day
  • At term
  • Risk > heart rate baby
Nursing during pregnancy

• No problems /sometimes contractions

Overlap breastfeeding and pregnancy
  • Bangladesh 12%
  • Senegal 30%

Guatemala 50%
  • 41, 4% into the second trimester/ 3, 2% third trimester
  • Normal fetal growth
Current situation

• More information on the WWW
• More research
• Big differences per country en per hospital
• Information given by IBCLC’s and midwives
• Especially mothers with diabetes mellitus
• Sue Cox  IBCLC Australia: research/articles/expercience

Many different opinions “for and against”
• Survey IBCLC midwives
• N 347 = 27% response rate

• 93% familiar with ABE
• 60% actively teach the practice
• Advice varied substantially
ABE Netherlands 2013

- 400 IBCLC’s questionnaire
- Respons 138 = 34.5%
- 54% hospital IBCLC
- 43% Private practice
- Some both or other places
ABE Netherlands

Are you familiar with ABE?

88% yes

9% no
ABE Netherlands

Do you recommend ABE in certain circumstances?

37% no
53% yes
ABE Netherlands

Why don’t you recommend ABE?

6% option unknown
58% not enough knowledge
36% not enough scientific substantiation
36% risks
ABE Netherlands

With which aim do you recommend ABE?

- 91% prevention of AF
- 25% hastening lactogenesis II
- 3% to prevent nipple problems
- 33% familiarisation with technique
- 18% prevent problems
At what time do you advise mothers to start ABE

- 30% 36 weeks
- 4% 35 weeks
- 5% 34 weeks
- 62% other
## ABE Netherlands

Which method do you recommend?

<table>
<thead>
<tr>
<th>Method</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABE</td>
<td>96%</td>
</tr>
<tr>
<td>Handpump</td>
<td>18%</td>
</tr>
<tr>
<td>Electrical pump</td>
<td>29%</td>
</tr>
</tbody>
</table>
ABE Netherlands

How often per day would you recommend ABE?

- 17% 3 x
- 20% 2 x
- 13% 1 x

- The rest “other”; this group didn’t know or didn’t fill in an answer
ABE Netherlands

How many minutes do you recommend?

- 14% 5 min.
- 44% 10 min.
- 14% 20 min.
ABE Netherlands

Uterine contractions: What to do?

- 36% stop ABE
- 36% stop and try later
- 9% pump shorter
- 8% pump less often
- 40% midwive
So...ABE in the Netherlands...

• A lot of differences
• No consensus
• Not enough knowledge
• Not enough education
• Breast preparation
• Storage of colostrum
• Hasten Lactogenesis II
Prevent hypoglycaemia

*Soltani 2008 ABE and birth outcomes DM*

- Study 2 years UK/ retrospective cohort/ questionnaires
- Typ I/II and gestational diabetic women
- 237 woman
- Expressing > 36 weeks pregnancy
- 40% ABE (94 women)
Prevent hypoglycaemia

*Soltani 2008 ABE and birth outcomes DM*

Earlier birth an advantage?

**Results**

**Expressed group**
- Birth at 37.1
- 33% admission to nursery

**Non expressed group**
- Birth at 38.2 non expressed group
- 12% admission to nursery
Hasten Lactogenesis II

*Sing 2009 ABE to reduce breastfeeding failures*

- 90 Women > 37 weeks pregnancy
- ABE 1 x per day, after bathing

**Results**
- 1 BF within 30 min. SG = 94% CG = 70%
ABE and DM pilot to develop RCT

Forster et al 2009

• N= 42, C = 100 type I or gestational
• Diary/ telephone interviews at 6 and 12 weeks
• ABE 2 per day > 36 weeks pregnancy
• CTG after the first expression
• Median expression time 14 days
• Median amount 36.6 ml
ABE and DM pilot to develop RCT

Results

All born > 37 weeks
SG 40% artificial feeding, CG 56%
SG 30% admissions, CG 17%

Why the admissions?

95% commented they would express again!
ABE now and in the future?
Breast feeding in pregnancy has not been proven to be unsafe nor is ABE theoretically attributed to premature labour given many factors occur in such a phenomenon other than oxytocin release. Although Forster et al. (2009) have argued the teaching of ABE should cease until the practice is proven to be safe and effective by large RCTs, an ethical dilemma now exists among IBCLCs and midwives as to whether the benefits of early colostrum feedings in at-risk babies outweighs the unproven side effect of premature labour.
For the baby or for the mother?

SURE IT WORKS IN PRACTICE... BUT DOES IT WORK IN THEORY?
Which mothers?

- Diabetes
- Congenital conditions
- Diagnosed cleft lip and/or palate
- Premature labour
- Intrauterine growth restriction
- Strong family history of dairy intolerance or inflammatory bowel disease
Which mothers?

- Breast hypoplasia
- Hyperandrogenesis (polycystic ovarian disease)
- Breast surgery
- History of low milk supply
- Multiple pregnancy?
- And more…
Hypoplasia

Characteristics
• Wide intermediate space (3.5 cm or more)
• No growth during pregnancy

• No engorgement
• < milkproduction despite good management
Hypoplasia
Conditions

- No uterine bleedings
- Cervical problems
- History of premature birth
Informing the mothers

- Contraindications
- Technique
- Material
- Daily practice
- Transport
- How to proceed with contractions
When to begin?

• 34-35-36 weeks?
• 37 weeks?

• Depends on the situation?
  • Normally 37 weeks
  • DM : 35-36 weeks
  • Depending on leaking milk?
Warmth/ Massage
Hand expression
Learning hand expression

- At mothers breast
- With fake breast
- Different videos at You Tube “hand expression tutorial, how to express antenatally ”
- Stanford University video
- Leaflets
This leaflet is on the website!

Is my baby at risk of being given infant formula?

There are certain situations when a baby may have feeding problems or have difficulty stabilizing their blood sugar levels after birth.
What is normal after birth?
When to start expressing?
Do not express if...
How to hand express and store colostrum
What is colostrum?
Using a pump?
Syringes

- Small ones/ 2 cc/ 5 cc
- Hospital?/ pharmacy
- Identification labels: date/ name and birth date
Save

- Freezing
- Taking it all to the hospital
- Informing your gynaecologist/midwife beforehand
- Repeat at admission
- Make your partner/doula responsible
- Don’t defrost
How many times?

- 3 x per day
- Dependent on motivation/ opportunities/ result
- Results vary

- Hopefully 3 feeds / Glucose protocol
- Every drop is important!
- Pumping during birth?
How much do women collect?

- Sometimes nothing....
- Median 36 ml
- Sometimes 20-30 ml per session when they leak or are familiar with hyperlactation
DAME study

- First RCT
- Australia
- 36 weeks
- Twice a day hand expression
- Weekly CTG
- Results?
To teach or not to teach antenatal breast expression?
An ethical dilemma?

Forster et al (2009) contend that the practice of recommending antenatal expressing and storing of colostrum by mothers with Type 1 diabetes should cease until its efficacy can be tested in a randomised controlled trial.

The opinion of Sue Cox, 2010. In the absence of evidence, the clear benefits of early feedings of colostrum should outweigh the unsupported risks of ceasing ABE education.
My personal ethical dilemma

• History?
• Current time?
• Future?

Untill then?

As expressing and storing colostrum is advantageous to infants and confidence building for women I will continue to tell about ABE!
Questions?
Resources

• Information from Sue Cox/mail contact
• Effect of antenatal expression of breast milk at term to improve lactational performance: a prospective studyJ Obstet Gynecol India Vol. 59, No. 4 : July/August 2009 pg 308-311
• Expressing your milk antenatally. Information and advice for mothers-to-be, A Teaching Trust of The University of Birmingham Incorporating City, Sandwell and Rowley Regis Hospitals
• School of Nursing and Midwifery, University of South Australia, GPO Box 2471, Adelaide, South Australia 5000, Women’s and Children’s Hospital, North Adelaide, 2011
Resources

• http://www.latrobe.edu.au/mchr/DAME/dame.html#what
• http://www.womenfitness.net/formula_feeding.htm
• Postpartum Consequences of an Overlap of Breastfeeding and Pregnancy, Reduced Breast Milk Intake and Growth During Early Infancy *Pediatrics* 2002;109;e56, Grace S. Marquis, Mary E. Penny, Judith M. Diaz and R. Margot Marín