



**Karolinska
Institutet**

Institutionen för kvinnors och barns hälsa

PRACTICES THAT FACILITATE OR HINDER

BREASTFEEDING

AKADEMISK AVHANDLING

som för avläggande av medicine doktorsexamen vid Karolinska
Institutet offentligen försvaras i CMB, Berzelius väg 21, KI Campus

Fredagen den 15 april 2011 kl 10.00

av

Kristin Svensson

Leg. barnmorska

Huvudhandledare:

Docent Ann-Marie Widström
Karolinska Institutet
Institutionen för kvinnor och barns hälsa

Fakultetsopponent:

Docent Ingela Lundgren
Göteborg Universitet
Institutionen för vårdvetenskap och hälsa

Bihandledare:

Associate Professor Barbara Welles-Nyström
Fairfield University, Fairfield,
CT, USA

Betygsnämnd:

Docent Peter Thomassen
Karolinska Institutet
Institutionen för kliniska vetenskaper
Danderyds sjukhus

Docent Baldvin Jonsson
Karolinska institutet
Institutionen för kvinnor och barns hälsa

Docent Linda Kvist
Lunds Universitet
Institutionen för hälsa vård och samhälle

Stockholm 2011

ABSTRACT

The overall aim of this thesis was to address delivery and maternity practices that can impede breastfeeding and to develop methods to facilitate breastfeeding.

The specific aims were to study 1) breastfeeding hormones in mothers giving birth vaginally and by cesarean section, 2) to what extent mothers roomed-in with their infants at the maternity and what were their attitudes 3) if anti-secretory factor (AF), known to prevent mastitis in animals, could be induced in human milk 4) if latching-on problems in “older” infants could be remediated by skin-to-skin contact with the mother during breastfeeding.

Results and methods:

Study I; During a breastfeed on the second day blood samples were taken from 20 mothers with normal vaginal delivery (VD) and from 17 mothers with emergency cesarean section (CS) for analyses of oxytocin, prolactin and cortisol. The VD mothers had significantly more oxytocin pulses than the CS mothers. Furthermore, CS mothers did not exhibit a rise in prolactin. Mode of delivery, age of infant at first suckling and maternal somatic anxiety were found to affect the number of oxytocin pulses.

Study II; One hundred and eleven mothers answered a questionnaire on the current (1990) maternity practices of keeping the infant in their room during the night (NRI) or not. Mothers who left their babies in the nursery at night were more likely to perceive that staff really believed their babies should be there. However, mothers not rooming-in with their babies scored closeness to their babies as less important than mothers who roomed-in with their babies.

Study III; Forty mothers were randomly assigned to eat AF inducing cereals (experimental group) or cereals without AF inducing properties (control group). After 4-5-weeks AF was tested in mothers' milk. A biological test was used. The median AF level in the experimental group (n=12) and the control group (n=16) differed significantly: 1.1 (0.7-1.25) units vs. 0.1(0.0-0.5) units (p=0.0001). The frequency of mastitis was reduced in the experimental group compared to the control group (p-value=0.0086). AF levels differed significantly between mothers with and without mastitis (p=0.017).

Study IV; One hundred and three mother-infant pairs with latching-on problems were randomly assigned to skin-to-skin contact (experimental group) or no skin-to-skin contact during breastfeeding (control group). Mothers in the experimental group showed significantly more positive feelings towards breastfeeding than mothers in the control group. About the same percentage of infants in both groups started to latch on. However, infants in the experimental group (n=31) began to latch on in a significantly shorter median time than infants in the control group (n=33) that is 2 weeks vs. 4.7 weeks (p-value =0.02). Most of the infants (94%) in the experimental group who began to suckle within 3 weeks had a history of “strong reaction” when “helped” to the breast by the staff with “hands-on latch intervention;” corresponding figures for the control group was 33% (p=0.0001).

Conclusions: It is hypothesized that early suckling, within 2 hours after birth may be the main catalyst for inducing early oxytocin pulsatility. Healthy infants should have the possibility to stay skin-to-skin with the mother the first hours after birth, so that they go through the biological program to develop breastfeeding reflexes and start suckling when ready. Infants with latch-problems are often caused by forceful “hands-on latch intervention” by staff. However, breastfeeding reflexes may be restored even if the infant is several weeks old, if skin-to-skin contact during breastfeeding with the mother is initiated. Skin-to-skin contact seems to relax the mother as well as the baby. Further, new mothers are often influenced by staff's more or less explicit attitudes regarding expected maternal behaviors in respect to certain hospital practices such as rooming-in. Women with repeated incidence of mastitis might benefit from consuming cereal with AF inducing properties to prevent the reoccurrence of mastitis.

Key words: anti-secretory factor, attitude scale, breastfeeding, breastfeeding emotional scale, cesarean section, cortisol, early suckling, latch-on problem, mastitis, night rooming-in, oxytocin pulses, prolactin, skin-to-skin contact.

ISBN 978-91-7457-287-2