Respiratory morbidity in term neonates is an important complication of cesarean delivery. Historically, much of this morbidity was attributed to respiratory distress syndrome (RDS) in newborns who were inadvertently delivered prematurely. Careful obstetrical dating, delivery close to expected date of confinement, and biochemical confirmation of pulmonary maturity have all been recommended to reduce these iatrogenic cases of RDS.

It is now accepted that transient tachypnea of the newborn (TTN), not RDS is the major cause of respiratory morbidity among term newborns born by cesarean section. Especially at risk are those newborns delivered prior to onset of labour. The risk of TTN falls when cesarean section is performed after onset of labour and still further with vaginal delivery. Evidence clearly supports the beneficial effect of labour in preparing the fetal lung for extrauterine life. A number of possible explanations have been offered for the higher incidence of respiratory disease in infants born by cesarean section prior to onset of labour. They include: the absence of labour-stimulating lung fluid resorption; the lack of labour-stimulated lung maturation and surfactant release; and the lack of labour-induced reduction of pulmonary vascular resistance. Although the respiratory disease is often mild to moderate, these neonates have a predilection for developing persistent pulmonary hypertension of the newborn (PPHN). Among recent reviews 15-17% of infants diagnosed as having PPHN were products of elective repeat cesarean sections. In one series 16.5% of infants requiring Extra Corporeal Membrane Oxygenation (ECMO), were delivered after elective repeat cesarean section. Despite published reports of 25% mortality in these patients with PPHN, the potential severity of respiratory disease associated with cesarean section does not appear to be widely recognized.

These adverse and sometimes tragic perinatal outcomes are potentially preventable. Strategies include reducing the rate of elective repeat cesarean sections and, when delivery by cesarean section is necessary, awaiting the spontaneous onset of labour whenever possible. Increase vigilance is also warranted in monitoring the newborns born after cesarean sections without labour, as early recognition and prompt intervention would likely reduce the incidence of severe respiratory distress and PPHN.

Dr. Jill Boulton

References:
Breastfeeding Duration Rates in Middlesex-London

EXECUTIVE SUMMARY

Introduction

Breastmilk is the optimum choice for infant feeding. Breastfeeding offers nutritional, immunological, psychological and economic benefits. One of the objectives of Ontario Ministry of Health’s Mandatory Health Programs and Services Guidelines (1997) is “to increase to 50% the percentage of infants breastfed up to six months by the year 2010”. In order to see how close Middlesex-London residents were to this provincial objective, the Middlesex-London Health Unit, in collaboration with St. Joseph’s Health Centre and the London Health Sciences Centre, surveyed women with infants aged six to 10 months. Funding for this research study was obtained through the Middlesex-London Breastfeeding Committee and the Public Health Research, Education and Development (PHRED) Program, Middlesex-London Health Unit.

Study Objectives

- To determine the rates of initiation and duration of breastfeeding among mothers who delivered in London and Strathroy hospitals in 1998
- To obtain baseline data against which future rates can be compared in order to assess changes in infant feeding practices
- To identify barriers to and supports for breastfeeding
- To provide data for planning interventions to support and encourage breastfeeding initiation and maintenance for at least six months

Study Design

Women in London and Middlesex County who had given birth in 1998 and whose babies were at least six months old were asked to complete a 15-minute telephone interview. Of the 587 women who were contacted, 535 (91%) participated. Mothers were asked:

- What decisions they had made during pregnancy in terms of how and what they had planned to feed their infant
- How and what they fed their baby while in hospital
- If applicable, why they chose not to breastfeed
- If they had any contact with a public health nurse, to identify any infant feeding concerns/problems, when they occurred, and if assistance was required
- If applicable, reasons why breastfeeding was discontinued, and how and what they were currently feeding their baby.

Study Results

Of the 535 women interviewed, 88% initiated breastfeeding. Of the women who initiated breastfeeding, 70.3% breastfed to four months and 53.7% breastfed for six months or more. Among women who chose to breastfeed, 51.6% exclusively breastfed until the infant was at least four months of age.

The most common reasons given for not initiating breastfeeding were personal choice, a negative past breastfeeding experience, and maternal physical health problems. Reasons for discontinuing breastfeeding most commonly included returning to work or school and perception of insufficient milk supply.

Following discharge from hospital 53.6% of the women recalled contact with a public health nurse. Of the 286 women who recalled being contacted by a public health nurse, 61.2% were primiparous and 38.8% were multiparous.

Only 26% of survey participants reported having no infant feeding concerns or problems. Of those who did have concerns or problems with feeding their babies, 70% received help, most frequently from their family doctor or from a public health nurse.

The majority of mothers waited the recommended time period of four to six months to introduce other fluids or solids to their infants. However, 22% of survey mothers introduced infant cereal or pablum before the recommended time of four months and 14% had introduced cow’s milk before the minimum recommended time of nine months.

Recommendations

The survey results show that 88% of women initiated breastfeeding in Middlesex-London. One of the goals of the Ontario Ministry of Health’s Mandatory Health
Programs and Services Guidelines (1997) is to increase to 50% the percentage of infants breastfed up to six months by the year 2010. Of the women who initiated breastfeeding, 53.7% breastfed for six months or longer, thereby achieving the goal set by the Mandatory Health Programs and Guidelines.

Achieving this provincial milestone is a tremendous accomplishment. This local achievement can be attributed, at least in part, to increased awareness of the benefits of breastfeeding, advanced educational opportunities for health care providers and the establishment of supports such as breastfeeding clinics.

Although just over 50% of new mothers in this study breastfed six months or more, almost half did not attain this goal, and 12% never initiated breastfeeding.

Because breastmilk provides the healthiest start for infants, the real objective is to have all women who are able to breastfeed, do so for at least six months. In order to achieve this objective, the following recommendations are offered. The recommendations from this report fall into four main themes.

**Increased Awareness**

It is important to increase community awareness not only about the benefits of breastfeeding, but also about the supports that are needed for women to be successful in their breastfeeding.

We need to promote Middlesex-London as a community that supports breastfeeding and is breastfeeding friendly.

**Educational Opportunities**

This study found that the majority of women make the decision on whether or not they would breastfeed before they were pregnant. Therefore, students in family studies classes in high school would likely benefit from breastfeeding information being included in the curriculum.

Health fairs, prenatal classes and breastfeeding classes are important avenues to provide information to women who have not yet made their infant feeding decisions. They also provide families with information about the benefits of breastfeeding, the mechanics of breastfeeding and community supports.

Health care providers with the most current breastfeeding knowledge continue to educate women, their families and friends, as well as the entire community about the benefits and challenges of breastfeeding.

Family and friends can be a great source of encouragement as well as discouragement for the breastfeeding mother. Increasing the knowledge of breastfeeding among family and friends will help to ensure that they are a support to the breastfeeding mother.

**Barriers**

Strategies used to market formula are a deterrent to those breastfeeding, especially women who are struggling with breastfeeding. Health care providers and the community as a whole need to take an active role in discouraging the practice of formula companies from sending unsolicited samples to pregnant women or women who have recently given birth.

Women should be supported when breastfeeding in public places such as malls and restaurants. All residents should work together in removing barriers that undermine initiation, continuation of breastfeeding, and from normalizing breastfeeding as an accepted method of infant feeding.

**Supports**

Everyone involved with new mothers and their babies needs to empower women and assist them with the concerns or challenges they may face when breastfeeding.

In addition, health care providers are encouraged to continue to use a team approach in attending to maternal and child needs. A team approach is also needed to promote optimal infant nutrition and family health.

Women who plan to breastfeed need to be aware of the initial difficulties they may have with establishing breastfeeding and what supports are available to them.

There is a need to increase supports available to women both in the hospital and the community to assist them with any breastfeeding concerns or problems.

The provision of seminars or classes for breastfeeding women who are planning to return to work, would provide women with strategies on how to continue breastfeeding when working outside the home.
For further information please contact:

Heather McHale
Middlesex-London Health Unit
Phone: 519-663-5317 ext. 2480
Fax: 519-432-9430
E-Mail: hmcchale@srhip.on.ca

Heather McHale, BASc, MA, Principle Investigator,
Independent Consultant, formerly of Middlesex-London
Health Unit (MLHU)
Iris Gutmanis, BSc, BSc (PT), MSc, PhD, Epidemiologist,
MLHU

This research project was developed in consultation with:
Margaret LaSalle, RN, BScN, IBCLC, Public Health Nurse,
MLHU
Mitzi Pohanka, RN, BScN, IBCLC, Public Health Nurse,
MLHU
Margaret Duncan, RN, SCM, IBCLC, Lactation Consultant,
London Health Sciences Centre
Penny Forre, RN, BScN, IBCLC, Lactation Consultant, St.
Joseph’s Health Centre
Christian de Keresztes, PhD, cPsych, Queen’s Health Policy
Unit, Kingston, ON formerly of MLHU
Ursula Donovan, B.A.Sc., PhD, formerly of MLHU
Sandra Mackenzie, MScN, Public Health Nursing Manager,
MLHU

Cite Reference as:
Duration Rates in Middlesex London. London, Ontario:
Middlesex-London Health Unit

Announcing Canada’s First Baby-Friendly
Hospital

Cowansville, Quebec, Canada
July 8th, 1999

A first in Canada! The Breastfeeding Committee for
Canada (BCC) announced today that it has designated
the Brome-Missisquoi-Perkins Hospital in Cowansville,
Quebec, the first Baby-Friendly Hospital in Canada.

This designation signifies that the BMP Hospital has
fulfilled the Ten Steps to Successful Breastfeeding as
confirmed through an intensive two-day Baby-Friendly
Hospital Assessment which took place on June 21/22,
1999. The Assessment process is prescribed by the
WHO/UNICEF Baby-Friendly Hospital Initiative
(BFHI), a world-wide program to protect, promote, and
support breastfeeding.

Since 1991, UNICEF and its government and
community partners have worked to create baby-
friendly healthcare facilities in Canada under the
Baby-Friendly Hospital Initiative (BFHI). The
Breastfeeding Committee for Canada (BCC) is the
National Authority for the implementation of the BFHI
in Canada.

The BMP Hospital joins more than 14,000 Baby-
Friendly Hospitals worldwide. Among other things, hospitals designated as Baby-Friendly must have written breastfeeding policies and train all staff about the policies, inform all pregnant mothers about the benefits and management of breastfeeding, help new mothers initiate breastfeeding within the first half-hour after birth, and comply with the International Code of Marketing of Breastmilk Substitutes by refusing all monetary donations, free formula, and breastfeeding paraphernalia from formula companies. Baby-Friendly hospitals put first and foremost the interests, health and well-being of infants and mothers.

Designation as a Baby-Friendly Hospital requires a successful on-site assessment including interviews with mothers who have recently delivered babies and hospital staff. The hospital or birth centre requests the assessment when it is confident that it has complied with all the requirements of the Initiative.

Commenting on his experience in leading the BMP assessment team as Master Assessor, Dr. Jack Newman of Toronto stated, “Many hospitals believe they are baby-friendly already. After all, how can a hospital not be baby-friendly? The answer lies at BMP hospital where those questioning can see what it really means to support mothers in labour and delivery and to really help mothers with breastfeeding. No lip service is paid at BMP, but real efforts are made to ensure that breastfeeding is the wonderful experience it should be. Unfortunately, this is an experience which too many women miss unnecessarily.”

Speaking as a representative of the BCC Executive, Past Chair, Dr. Roberta Hewat of Vancouver stated, “The WHO/UNICEF Baby-Friendly designation at the Brome-Missisquoi-Perkins Hospital is the birth of a new era in Canadian perinatal care.”

Several other Canadian hospitals are very close to requesting assessment for Baby-Friendly status and many others are working on the Ten Steps to Successful Breastfeeding, compliance with which is required for designation. The Breastfeeding Committee for Canada, which recently received a grant of $266,380 from Population Health, Health Canada, is assisting this process by facilitating the establishment of Baby-Friendly Implementation Committees in all Canadian provinces and territories.

QUESTION:
There seems to be a discrepancy between the SOGC Clinical Practice Guidelines (dated 1996) and the current ALARM Course teaching as to the appropriate dosage of Ritodrine to be used in the event of uterine hyperstimulation following prostaglandin use. Which is correct?

ANSWER:
The 1999 ALARM Course Syllabus was revised in the Fall of 1998 and, at that time, this issue was addressed and the recommendation was to use Ritodrine in a dosage of 250 - 500 mcg/minute intravenously. The SOGC Clinical Practice Guideline of October 1996 was developed through late 1994 and into 1995. The guideline is out of date and requires revision. The dosage stated in the 1999 ALARM Syllabus, we believe, reflects the current recommendations with respect to this clinical issue.

Kenneth Milne, MD, FRCSC, FSOGC
Associate Executive Vice-President

QUESTION:
Recognizing that usually the best care of women presenting in preterm labour to a Level 1 community hospital is to transfer them to either a Level II or III facility, this is not always possible. What are the recommendations for Level I hospitals having surfactant available in the event that a severely preterm infant is born there and requires assistance for respiratory distress?

ANSWER:
The most important factors in the care of preterm infants born in Level I centres are:
- Availability of skilled NRP providers
- Ongoing stabilization of the infant pending transport to the tertiary centre, noting important components of thermoregulation, cardiovascular / respiratory support, and provision of IV glucose.

Administration of surfactant in inexperienced hands can lead to inadvertent deterioration of respiratory
status, especially if the underlying disease process has not been determined. The transport team carries surfactant and will administer it, after assessment, prior to transfer of the infant.

Jill Boulton, MD, FRCPC  
Director of Nurseries  
St. Joseph’s Health Centre  
and London Health Sciences Centre  
Neonatal Co-Director  
Perinatal Outreach Program of Southwestern Ontario

Upcoming Events:

ALARM (Advances in Labour and Risk Management)

An intensive two day course for physicians, nurses, and midwives, including the most recent clinical guidelines on high risk conditions during labour and birth. This course includes “hands on” workshops, group discussions, and a practical exam. This Canadian course was developed by, and is jointly taught by family physicians and obstetricians. It is offered by the Society of Obstetricians and Gynaecologists of Canada (SOGC) at various times across Canada. The proposed schedule for courses in Ontario for the year 2000 are as follows:

- London February 4 - 5  
- Ottawa March 31 - April 1  
- Toronto April 28 - 29  
- London September 23 - 24  
- Toronto November 18 - 19  
- Toronto December 3 - 4

For further information, please contact:

- Renee Dupuis  
  ALARM Co-ordinator  
  SOGC  
  774 Echo Drive  
  Ottawa, ON K1S 5N8  
  Tel: (613) 730-4192  
  E-Mail: rdupuis@sogc.com

Obstetrical Nursing Education Program

Hosted by the Perinatal Outreach Program of Southwestern, this course will be offered at the following locations:

- Alexandra Marine & General Hospital  
  Goderich, ON  
  Thursdays: April 6 - May 25, 2000  
  Contact: Joanne Ducharme  
  (519) 524-8323, Ext. 247

- Chatham-Kent Health Alliance  
  Public General Hospital Campus  
  Mondays: April 10, 17  
  May 8, 15, 29  
  June, 5, 12, 2000  
  Contact: Brenda Foster  
  (519) 352-6400, Ext. 2534

- Hanover & District Hospital  
  Tuesdays: May 9 - June 13, 2000  
  Contact: Alan Penfold  
  (519) 364-2340

- Woodstock General Hospital  
  Mondays: May 8 - June 26, 2000  
  Contact: June Spruce  
  (519) 421-4211

Becoming Baby-Friendly and Family Centred: How Do We Get There?

- Friday, April 14th, 2000  
  Four Points Hotel, London  
  Contact: Nancy Dodman  
  Perinatal Outreach Program  
  (519) 646-6100, Ext. 65900

Perinatal Outreach Program of Southwestern Ontario  
14th Annual Perinatal Meeting

- Friday, September 22nd, 2000  
  Stoneridge Inn, London  
  Contact: Gwen Peterek  
  (519) 646-6100, Ext. 65901

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