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**PH 737, Policies/Programs in MCH Services**

**3-article review**

## **Midwifery Model of Care**

### **Introduction:**

Although the US spends more money on prenatal and postpartum care, it has one of the highest maternal and fetal mortality rates. Due to the increase of malpractice insurance lawsuits, obstetricians are paying exorbitant insurance premiums to insurance companies. With the fear of impending litigations, OB/GYN's are fleeing from obstetrical care. It is estimated that 40% of OB's will quit in the next three years in Hawai'i. This instills fear in the birthing women because it forces women to travel longer distances for healthcare and creates a disintegrating relationship between the patient and healthcare provider. Without adequate prenatal and postnatal care, high-risk pregnancies are more likely to arise creating higher costs of birthing. This affects the well-being of mom and baby and puts financial burden on the family and society.

In 2005 Medicaid covered 43% of births. To be eligible for Medicaid, the recipients had to be below 160% of the federal poverty level. There are over 5 million uninsured children in this nation. An uninsured child is twice as likely to have unmet medical needs as one enrolled in Medicaid, to have not seen a doctor, and to have substantial family out of pocket spending on healthcare. The reimbursement by Medicaid for prenatal, birth and postnatal care is little and not enough to cover the doctors' efforts of work, insurance payments, office overhead and wear and tear. The malpractice issue is torture for both physicians and their families.

The midwifery model of care in the Netherlands where there is a multidisciplinary team approach amongst the homebirth midwives, hospital midwives and obstetricians is an approach that can help this crisis of high infant mortality and cost in the United States.

The three articles reviewed in this paper address the issue of low-risk deliveries (82% of pregnancies) in the Netherlands, taking place in the home or hospital setting with the midwifery model of care. The articles vary in the settings of where the birth took place, at home, birthing center or in the hospital, and the growing pressure for finding way of instituting change while maintaining safety. Data was gathered on perinatal mortality and morbidity rates, safe and satisfying care, methods of delivery, and litigation.

**Article 1: Home Deliveries in the Netherlands-Perinatal mortality and morbidity.**

**Department of Obstetrics and Gynecology. University Hospital Nijmegenm Geert  
Groteplein Zuid, Int. J Gyenecol Obstet, 1992,38: 161-169. T.K.A.B. Eskes**

**Objective:**

To address the safety of home and hospital delivery in low-risk cases with emphasis on perinatal mortality and morbidity in the Netherlands.

**Method:**

Women have a free choice regarding their obstetrical care provider and place of birth. Comparing home, hospital or birthing center births on the issue of safety is not possible with randomized trials. This study paid great attention to the referral system and its validity and studied only the prenatal studies in Netherlands. The data in this report are entirely observational. One third of the women in the Netherlands still give birth at home. Because of the independent status of midwives it was possible to get home birth specific statistics. The obstetrical care givers consisted of 6,380 general practioners, 1,063 midwives and 597 obstetricians. Of all births, 45.7% were attended by midwives, 11.3% attended by general practitioners and 43% attended by OB/GYN specialists. Midwives and physicians selected pregnant women on risk factors using a list of indications for exclusion of home delivery. These low risk women can choose the home or hospital for birthing. The hospital delivery has a low additional cost for low risk mothers as it their choice to birth at home or in the hospital with midwives.

The Society for Obstetrics and Gynecology in close cooperation with the organization of midwives, the Medical Health Inspection and the Hospital Administrative Systems are part of a country-wide data base(LVR). The LVR data base has recorded hospital deliveries since 1982 and the midwives joined this program in 1985. Approximately 70% of all hospitals participate with this system, which makes for a great data base.

**Results:**

It is notable that the Netherlands has a low maternal and fetal mortality rate. The mortality rate for the hospital deliveries under specialist care was between .9%-1.%. The perinatal mortality in deliveries with deliveries with midwives was .09%. There is a major disparity between the sub groups of the births in the hospital because high risk deliveries are included in these hospital studies.

The reporting for perinatal death was not complete. In low risk deliveries the hospitals midwifery assisted births have more interventions than the midwife assisted homebirths. Homebirths babies showed equal neurological behavior as the hospital babies but the maternal profile was better at home than in the hospital. Women that gave birth at home had finished a higher level of academia.

Instrumental deliveries were more frequent in the hospital setting than the women taken care by the midwives at home. No data was performed on the psychological effects of

the women that transferred from home to a hospital setting.

### **Analysis:**

This was an effective and well done long term study. This Dutch system is being studied from all over the world because of the consistent high level of homebirths. Some say that it is hard to use the data of safety with homebirth statistics with infant mortality. Therefore it is important to clarify the meaning of perinatal mortality. This period includes the labor and first week of the life of the baby. Both WHO (World Health Organization) and FIGO (International Federation of Gynecology and Obstetrics) in Europe recommend perinatal mortality to be associated with birth weight of 1000g or above. Because many countries do not yet follow these recommendations, it is impossible to get accurate comparison of perinatal mortality in comparisons with other countries.

It is important again to realize that you can not have a randomized trial with the different birthing settings as the dependent variables are widely influenced. These influences are the various population-characteristics of each group of women per the obstetric care giver and also the birth weight per case. Although some would argue that the socio-economic level of the Dutch population affected the low mortality rate, the Dutch studies did not find a relationship between the economic population and the mortality rate. The analysis shows that at least 25-33% infant mortality could be avoided. This was because there was a strong cooperation between each level of healthcare providers the organizational structure amongst the homebirth midwives, the hospital midwives and the OB/GYN's.

It is noted that OB's intervened more often than homebirth midwives in the birthing process. It is also noted that transportation was another factor in healthy outcomes.

**Article 2: Outcome of planned home and planned hospital births in low risk pregnancies: a prospective study in midwifery practices in the Netherlands. BMJ 1996: 313:1309-1313 (23 November). TA Wiegers, MJNC Keirse, J van der Zee, G A H Berghs**

**Objective:** To investigate the relation between the intended place of birth (home or hospital) and perinatal outcome in women with low risk pregnancies after controlling for parity and social, medical, and obstetric background.

### **Methods:**

To answer the question, what is the difference in obstetrical outcome between women with low-risk pregnancies planning to birth at home to those birthing in the hospital, an instrument was needed to measure the obstetric outcome. Outcome is usually measured in mortality rates but this is not common with low-risk deliveries. The

measurement became the concept of “maximum result with minimal intervention.” The more interventions the birth has, the more need for medical intervention and chronic problems for both maternal and child well-being.

The method of PrechtI and Touwen was adapted where an optimal situation is defined as a birth without complications or interventions occurring at the proper time, the result is a healthy baby and mother. A perinatal outcome index was designed that comprised of 36 items, 22 items on childbirth, 9 on the condition of the newborn and 5 on the mother postpartum. A Perinatal Background Index was constructed to control for possible effects of self selection that consisted of 31 items. These were 9 items on social and medical background, 10 to the obstetrical history and 12 to the present history. Current thinking and practice was placed on the value of these items and the score on each index was the sum of the items.

### **Result:**

The nulliparous women outcome showed little difference between home and hospital deliveries. In the hospital births there were more interventions with regard to longer than 12 hours of ruptured membranes, more sedation of mothers, more problems with the newborns, and more worries maternal worries concerning their children. In the parous women there were more postpartum hemorrhage, blood transfusions, placental retention, episiotomies, perineal lacerations, inadequate progress ,medication in third stage of labor and rates of referral during labor for the women birthing in the hospital.

The background index showed few differences between the two groups of birthing women and the perinatal background index showed that the study population was indeed a population that was ethnic and did not attend birthing classes chose hospital births more often or had a history of obstetric complications.

### **Analysis:**

Measuring the quality of care that women received during pregnancy is not easy. Since mortality is so low with low-risk birthing women, to measure for maximal outcome with minimal intervention became the measure.

With low risk women the outcome of the home birth is at least as good for those with planned hospital births in the midwifery model of care in the Netherlands. The Dutch maternity system provides midwives to do independent care for women with uncomplicated pregnancies. These women are selected and those that require care from obstetricians are referred to the hospital. The healthiest and most affluent women more likely choose homebirth. Giving births at home was shown to be a safe choice and it appears to be important to the Dutch society that the homebirth option remains

available to women.

**Article 3: Organizing Midwifery Led Care in the Netherlands. British Medical Journal, 27 November 1993, volume 307(6916), pp 1400-1402. Christina Oppenheimer**

**Objective:** Organizing Midwifery Led Care in the Netherlands and studying the effectiveness of antenatal categorization and whether the care is satisfying and safe.

**Methods:**

1,807 women were surveyed on whether there should be a continuity of care during the birthing process and whether the familiarity of the midwife at birth was important?

A newly pregnant woman sees either a midwife or a general practitioner and after a review they assess whether she is in the low-risk category. This would open up the opportunity for her to choose between a home-birth or a hospital birth.

Between 1969 and 1983 a study of 8000 birthing women in Wormerveer, a suburb of Amsterdam, were studied. There were 8,055 children born.

**Result:**

65% of the women regard that the midwife is the best for the continuity of care for the birthing women. 80% of the midwives run their own businesses and are answerable but not employed by the national health management hierarchy.

Of the 8,055 babies born 17% were later referred for specialist care, which left 82.9% for low risk care with midwives. 8% of those with midwife care were referred in labor to a specialist. The overall perinatal morbidity rate was 11.1 per 1000 but for those delivered by midwives the rate were 2.3 per 1000 except those referred in labor was 11 per 1000. Of the 89 perinatal deaths, 29 were judged to have avoidable factors and twelve concerned the skill of the obstetrician.

**Analysis:**

There is enough pressure for changes to happen for low-risk birthing women and this found voice in the report for maternity services from the House of Commons. There is also a demand for greater autonomy for midwives and to continue making changes

while keeping the safety of the birthing women in mind. There is urgency with this issue because of the changes in the junior doctors and the need for change.

Midwifery training is direct-entry. Chemistry, biology, and English are part of a three year academic training they take. At the birth the midwives are assisted by general nurses and maternity aids. The maternity aids receive an 18 month training. This aids also does postpartum care for the mother and baby for eight hours a day for 8 days after the birth. The midwife visits for consultation with the mother in the postpartum period.

The Dutch believe that in humans, pregnancy and parturition are normal events, which require careful observation and care, and only if specifically indicated is medical intervention necessary. The basic philosophy of the Dutch system is that the midwife or general practioner takes care of normal pregnancies (82%), which leaves the specific medical or obstetrical indications (12%) for the obstetricians.

Although the Dutch system has its problems like any other country, it is known to address any problems early on and make the changes they need for greater success. There is a mutual respect between the midwives, obstetricians, general practioners, nurses and aids as they work together to create good birthing experiences for the Dutch women. Cooperation not confrontation is the motto in the Netherlands amongst all that are involved in birth. The system reflects the feeling of the people by showing that litigation there is very low. With their rates of perinatal mortality so low (well below the 10 per 1000) they have virtually lost all their usefulness for measuring quality of care in the western world. This is why they now measure maximum outcome with minimum intervention.

This article echoed the same sentiment that many health care practioners and families in the United States want, less morbidity, less dissatisfaction amongst consumers, more job satisfaction and more rational working for the obstetric staff.