A Comparative Study of Maternal-Infant Bonding and Attachment as it Exists in Traditional Hospital Birthing Approaches and Certified Nurse-Midwifery Approaches

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A COMPARATIVE STUDY OF
MATERNAL-INFANT BONDING AND ATTACHMENT
AS IT EXISTS IN TRADITIONAL HOSPITAL
BIRTHING APPROACHES AND CERTIFIED
NURSE-MIDWIFERY APPROACHES

by

Cynthia A. Sauchuk

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and Instruction in partial fulfillment of
the requirements for the degree
of Master of Education

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COLLEGE OF EDUCATION AND HUMAN SERVICES

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Abstract

The focus of this paper is the problem of comparatively quantifying questionnaire information in terms of which approach; traditional hospital or certified nurse-midwifery, is more conducive to optimal maternal-infant bonding and attachment. Clarification of the percentage results evince that certified nurse-midwifery is 33% more conducive to optimal maternal-infant bonding and attachment than the traditional hospital approach. Research indicates that certified nurse-midwives birthing approach already promotes positive phenomenons of bonding and attachment whereas traditional hospital practices are just now incorporating maternal and family birthing plan choices to enhance maternal-infant bonding and attachment possibilities.
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Chapter I

Introduction

In the past sixty years births have been transferred from the home to the hospital unlike centuries before when most children were born at home. Two principal reasons for development of this phenomenon were to better meet the medical needs of the mother and infant and treating women at a central facility would alleviate the need for doctors to travel around the communities (Stewart, 1981).

Recently, a new era of birthing is developing because women and families are advocating less interference with normal births and more involvement of and control by the parents throughout the birthing process. The two major birthing phenomenons responsible for this advocacy are maternal-infant bonding and attachment (Klaus and Kennell, 1976).

Maternal-infant bonding is the specific tie between the mother and the infant, and the father and the infant if he is present, that begins immediately upon birth and continues throughout the infant’s first week of life. If there was little or no interference during the first hour of birth the mother, the father, and the infant will begin to reciprocate the complex interactions that superinduce bonding. These complex interactions are not only reciprocal but they are also biologically-determined behavioral sequences that the mother, infant, and father engage in upon their first meeting. Feldman (1978) concludes that this sensitive bonding period begins with four to eight minutes of fingertip touching the baby beginning with the infant’s extremities. That touching period leads to massaging, stroking, and palm contact with the
infant's trunk. Eye contact in the en face position occurs with alignment of the mother's head on the same plane of rotation as her infants allowing their eyes to meet. The paternal voice pitches bring on entrainment. That occurs with the infant moving in rhythm to the voice he hears. The mother's odor and body heat also stimulate and heighten bonding interactions. Breast feeding is another positive contact conducive to bonding because it not only provides the infant with resistance to infections, but it also offers immunities and aids the infant in relaxed respiration. These behaviors compliment each other and lead to increased parental interactions that augment bonding relationships.

During these reciprocal relationships Klaus and Kennell (1982) explain the need and expectancy on the infants part for synchronism and facial expression interactions. If these interactions are not accounted for there is not only failure of communication and lack of development but tendencies toward basic violation of bonding interactions necessary for the infant's survival occur. The conclusion is that without these interactions, there is a withdrawal from social relationships and a regression of development and physiologic progress.

Feldman (1978) explains the importance of bonding interactions immediately after birth for both the parents and the infant through the relationship that ignites the triad's future closeness. When the bonds are solidly established the parents are then motivated to learn about their baby's individual requirements, adapt to meet his needs, and provide the baby with appropriate stimulation in regards to intensity, timing, and quality.
The bonding experience is the beginning for the process of attachment between the mother and her infant which leads to the creation of the most beneficial and supportive environment possible for the infant. Those bonds, according to Klaus and Kennell (1976), are the springboard for the infant's future subsequent attachments and a positive development of the infant's sense of self.

Attachment begins as a result of bonding interactions. It is one of the most important family bonds that is crucial to the survival and development of the infant. The strengths and characteristics of those initial bonding and attachment relationships critically influence other bonds that become established from birth throughout adulthood. The first true feelings of attachment begin with the mother's acceptance of her pregnancy. Once she faces the realization that a separate being is growing inside her the foundation for this attachment relationship becomes initiated (Klaus and Kennell, 1976).

Nine important steps to enhance bonding and attachment are listed by Klaus and Kennell (1982):

1) planning the pregnancy
2) confirming the pregnancy
3) accepting the pregnancy
4) fetal movement
5) accepting the fetus as an individual
6) birth
7) seeing the baby
8) touching the baby
9) care taking
According to Peterson and Mehl (1978), the crucial transition point in the development of attachment is birth. The presence of that infant not only is a powerful reward, but it provides the mother with the concrete reality to the fantasized object within her. Conditions that further enhance attachment during birth and the postpartum or after birth period are privacy, extended parental-infant contact and affection, and complete responsibility to the parents for their infant with a professional consultant available if necessary.

In conclusion, the two important birthing phenomenons bonding and attachment, will occur naturally if parents are permitted the proper amount of privacy, contact, and time with their infant. Birthing procedures that separate mothers, babies, fathers, and children during the birthing process are hindering crucial bonds and attachments which the infant needs to ensure his survival and development (Steward, 1981).

The professionals parents choose to provide prenatal care, birth care, and support are invaluable resources in assisting them in the comprehension of the reproduction process. Those same professionals must recognize their need of providing parents with the various birthing options and help them to make the right decisions in regards to health, normality, and safety for the mother, baby, and family (Simkin, 1980).

Childbirth is a natural event that incorporates the same basics for all women. The differences are derived from the type of approach utilized, preparations, incidents along the way, and the birth experience itself. Women, families, and professionals as well must continue to research all the possible birthing alternatives and attributes in order
to choose the birthing method best suited to meet each one's needs and character (Milinaire, 1974).

Not only do physical events play a major role in giving birth, but the mother's psychological relaxation in the birth setting is also significant. Many women have learned the hard way the importance of the establishment of a good birth setting for themselves and their families prior to birth. Families must realize that during any stage of pregnancy if they feel ill at ease with their initial choice of assistance they do have the opportunity to change that choice. It is important for mothers and fathers to differentiate between hospitals and services they render and the certified nurse-midwife and what she offers (Feldman, 1978).

The traditional hospital approach begins with routine procedures for most expectant mothers. In many cases mothers are wheel-chaired in to the maternity ward where prepping is initiated. Prepping consists of shaving the pubic hair, an enema, and a quick physical exam to evaluate the mother's progress. Mothers are then administered an I.V. and/or given drugs to induce labor or relieve pain. Internal or external fetal monitors may be attached to diagnose high-risk labor patients. For late labor and delivery an anesthetic may be administered and an episiotomy and/or a forceps delivery may occur. After birth the mother is not allowed to touch the "sterile field" which includes her baby. Eye drops are placed in the baby's eyes which blur his vision and the baby is placed in the nursery for observation while the mother has any surgical procedures completed (Simkin, 1980).
The second type of setting is certified nurse-midwifery. The certified nurse-midwife (CNM) births babies at home, in birthing centers, or in hospitals. During labor CNM's aid mothers in emotional support and ensure their comfort. No routine prepping procedures exist and the least amount of medical intervention is utilized. CNM's permit mothers freedom of movement, drink, and company during labor. They are allowed to give birth in the position most comfortable for them while they are being encouraged to let their bodily instincts guide them. Upon birth the infant is placed on the mother's breast where he begins nursing. The umbilical cord is clamped after it stops pulsation and the expulsion of the placenta happens naturally. Proceeding birth, the CNM assists the mother in self-care, feeding methods, and the infant's care (Klaus and Kennell, 1982).

**Problem Statement**

Does optimal maternal-infant bonding and attachment exist more beneficially in traditional hospital practices or through a certified nurse-midwifery setting?

This research attempts to quantify the traditional hospital birthing approach to the certified nurse-midwife approach in conjunction with optimal maternal-infant bonding and attachment through the use of a questionnaire devised for physicians and certified nurse-midwives.

**Rationale**

Operational prenatal factors, labor and birthing experiences, and the interactions of the triad of mother, infant, and father during the
immediate postpartum period constitutes the prolific establishment of maternal-infant bonding and attachment. These two optimal goals of birth are exorbitantly affected by the numerous birthing procedure variables (Klaus and Kennell, 1976).

A natural pregnancy and birth do not need to be improved because whatever the body can do by itself is better than anything that can be done to it. Optimum information pertaining to birthing procedures that enhance bonding and attachment will supply mothers and families with needed information pertaining to the most appropriate method preceding a safe, satisfying, and family centered childbirth experience (Stewart, 1981).

**Purpose**

High risk has become inclusive of almost all normal obstetrics. Technology contains too many scientific protocols of preventive interferences that are perverting our normal processes. The natural and normal are now being deviated into the abnormal. It is evident through research that today's traditional hospital births are slow and agonizing, full of risks, expensive, lonely, and demoralizing. Maybe it is the future hope that someday except for the uterus, the mother's body could be eradicated altogether (Stewart and Stewart, 1977.)

Certified nurse-midwives offer parents the avoidance of strange atmospheres, high expenses, medical interventions, family separations, and other routine practices. It is their belief to teach women that birth is a natural body process and not a crisis nor a disease. CNM's
give comprehensive professional and personalized attention to the mother prenatally and throughout the baby's first year of life. It appears that through utilization of CNM's both the mother and infant become satisfied upon birth, each is conscious and able to function, and each can contribute to the initiation of the two optimal birthing goals; bonding and attachment (Stewart, 1981).

Definition of terms

**Analgesic:** A drug given during labor that induces a state of insensibility to pain in a conscious mother.

**Attachment:** The unique and specific relationship between family members that endures throughout a lifetime.

**Bonding:** The specific tie between the mother and infant that begins immediately upon birth. This tie occurs through sight, touch, smell, and sound.

**Certified Nurse-Midwife:** (CNM) A registered and licensed person educated and practicing the complete childbearing cycle (prenatal, intrapartal, postpartal, and newborn).

**En face:** Alignment of the mother's head with her infants allowing their eyes to meet on the same plane of rotation.

**Entrainment:** Infant movements in rhythm with the parent's voices.

**Gynecology:** (GYN) Branch of medical science dealing with functions and diseases peculiar to women.
Neonate: A newborn infant.

Obstetrics: (OB) Branch of medicine dealing with pregnancy, labor, and birth.

Optimal Bonding: The complex interactions between the mother, father, and infant during the first sixty minutes of life for the infant.

Perineum: Floor of pelvis. The external portion is between the anus and vaginal opening.

Placenta: Organ between the mother and fetus that delivers nourishment and oxygen and discards wastes.

Postpartum: The period immediately after birth.

Prenatal: Before birth.

Sensitive Period: Crucial interaction time from birth to approximately the first sixty minutes of life.

Biologically-Determined Behavioral Responses: Human beings first reactions when they are handed their infants. This begins with fingertip touching and proceeds up through stroking and massaging.
Chapter II

Review of Literature

Birthing Procedures

According to Stewart and Stewart (1977), parents need to individually evaluate each of their own situations wisely; humanly and medically. They must also be the good consumer when it comes to the total birth picture.

Many women select hospitals because their doctor is affiliated with it and so they follow the man in the white coat. Most parents contend that the impersonalization, dehumanization, and the discomforts of the large hospital setting are well worth the trade off for the qualified care they believe such hospitals provide. The strongest possible stimulus from a good birth experience, these women need to consider, is the sense of a greater self-esteem and the ability to function effectively. This is vitally important to all women who have not had the opportunity for achievements in their lives (Feldman, 1978).

Women and families must remember that the goal of a birth is not a satisfied obstetrician. The goal is a satisfied mother, father, and infant: an infant delivered to the arms of the mother, each fully conscious, each able to function, each able to direct themself to the other, and all three capable of contributing to the initiation of bonding and attachment which enhances their lifelong friendship (Stewart and Stewart, 1977).

In American birthing processes Feldman (1978) describes women as passive patients. Most mothers are not aware of the reasonings for and
the disadvantages of new procedures, as well as, side effects and the
risks involved for both herself and her infant. Many uninformed mothers
are overwhelmed by the impersonalization and stringent regulations of
many traditional hospitals.

Traditional Hospital Procedures

According to Penny Simkin (1980), intervention and procedures such
as the following: restriction of fluids and food, lithotomy position,
anesthesia, fetal monitoring, induction of labor, rupture of the
membranes, and episiotomy were instituted to give the physician more
control. Because of the interventions and procedures just described
other procedures such as immobilizing the woman, perineal shave, forceps
delivery, and intravenous fluids became the resulting factors. All of
these interventions carry risks for both the mother and baby.

Simkin (1980) describes current commonly used hospital procedures.
It begins with the mother arriving at the hospital and being taken to
the maternity ward in a wheelchair. Once in the maternity ward she is
routinely prepped. This includes shaving pubic hair in the prospect of
cleanliness, an enema which is administered to create more room in the
pelvic cavity and to serve as a prevention of bowel movements during the
latter stages of labor, and a quick physical exam to check mother's
progress. Many times administration of an I.V. is considered to be
routine procedure. The I.V. may store glucose, or the anesthetic or
analgesic, the labor stimulating hormones, or in some cases if transfusions
are necessary, it would store the blood. Physicians or their attendants,
may administer drugs to induce or augment labor or to relieve pain, and create artificial rupture of the membranes.

Research has shown that the use of drugs administered to the mother become concentrated in the brain and liver of the infant with brain damage being the risk to consider. The infant's liver and kidneys are immature and inefficient therefore the toxic compounds can not be transformed. In the first year of life, these effects are observed in the gross motor abilities developed and also cognitive functions particularly in the development of inhibitory abilities. In latter years, the effects are strongly seen in the development of language and associated cognitive skills. When tasks are at a high difficulty level these effects are more clearly visible (Stewart and Stewart, 1979).

A major problem is that the use of drugs during labor and delivery is not decreasing. The FDA clearances that serve as our base line have only been carried out on adults, not infants or children and that is a second major problem (Stewart, 1982).

The internal or external fetal monitor is another commonly used medical intervention that electronically detects and records complications in abnormal births and serves as a diagnostic tool for exceptionally high-risk labor patients. Complications and abnormalities in the heart beat of the fetus are detected and recorded, as well as, uterine contraction pressure (Simkin, 1980).

Episiotomies and forceps deliveries are other medical interventions commonly practiced in hospitals. The episiotomy is an incision made in the perineum between the vaginal opening and the anus for the purpose
of enlarging the opening to facilitate the emergence of the baby. In most cases this procedure requires the use of local anesthesia unless the doctor has waited until the pressure from the baby's head has deadened the sensations of the perineum tissue. The forceps delivery allows the baby to be extracted from the birth canal by metal tongs inserted into the vagina and applied to each side of the infant's head. According to Stewart and Stewart (1979), physicians preformed episiotomies to protect the baby's head from compressing against the perineum, it prevents latter pelvic relaxation, it prevents latter sexual dysfunction, and it also prevents the need for corrective surgery later in life.

In many cases mothers are not able to touch their baby immediately after birth because the infant is whisked away to the nursery and put under observation. Eye drops are put in the infant's eyes causing blurred vision which deters the initiations of bonding through sight. Also, the infant may still be groggy or irritable from medications administered to the mother during birth (Simkin, 1980).

If doctors were truly concerned with safety, the first major implementation would be excellent nutrition as the base for all their prenatal programs. They would scrub up before each patient's examination and they would not intervene with so called "routine procedures." Normal labor and birth in a healthy woman requires no intervention (Stewart, 1981).

Stewart (1981) explains that physicians get into a viscous cycle that begins with a lack of good rapport with the mother and family.
From here, the overuse of medical interventions leads to the creation of tension and anxiety in the mother discontinuing her ability to function normally through the birthing process. Physicians must remember that the birthing goal is that which is best for the baby, the mother, and the family.

**Certified Nurse-Midwifery**

A certified nurse-midwife (CNM) is a registered nurse with Obstetric and Gynecological education who concentrates on women's nutrition, stature and size, freedom from medical disorders, the course of her pregnancy, past obstetric history, and problems with previous pregnancies or births. CNM's offer complete maternity care in a home setting, birthing center, or in hospitals. These midwives believe in less intervention in pregnancy and birth and they spend a great deal more time with women during pregnancy, birth, and the postpartum period (Stewart and Stewart, 1979).

For many parents and families this is the individual who offers a perfect balance between humanistic values and medical values. Certified nurse-midwives not only provide preventive health care, fostering of family units, allowance of early mother-infant and father-infant bonding, but they also respect nature and promote health and normality by the use of little or no medical interventions (Stewart and Stewart, 1979).

If a mother is in charge of her labor she is free to discover what her body is asking and she must be given the environment and support that will allow her to open up and listen to all her own bodily instincts. Mothers must learn to trust and accept what their bodies are telling
them to do. As a result, there are no routine procedures that CNM mothers must follow. They are allowed freedom of movement, company, food, and/or drink (Stewart, 1981).

The American College of Nurse-Midwives (1982) describes the function of the certified nurse-midwife during labor. The CNM ensures the mothers comfort and provides emotional support. During this time, with as little intervention as possible, the CNM supervises and evaluates the mother's progress. CNM's encourage fathers and/or support people to be especially active participants during labors onset. If the mother's labor deviates from the normal and safe procedures analogous with their birthing plan, the certified nurse-midwife calls in emergency back up for the remainder of the mother's delivery.

Certified nurse-midwife mothers stay active and mobile during labor. They give birth in the position they feel most comfortable which allows uterine contractions to stay active, normal maternal blood pressure is maintained, the mother's perineal tissue has no increased tension due to her birthing position, and the baby's head will more easily come into the birth canal (The American College of Nurse-Midwives, 1982).

During birth the CNM has obligations to the mother and baby. These obligations, expressed by the American College of Nurse-Midwives, (1982), include the normal spontaneous vaginal birth. If an episiotomy is necessary it is done under local anethesia and is sutured upon completion of birth. The newborn's conditions is immediately evaluated after birth and care is given where and when indicated. Upon birth, if the mother chose to breast feed, then the infant is placed at her breast with the umbilical cord being clamped after it stops pulsating.
The certified nurse-midwife does not intervene with the expulsion of placenta but waits for that phenomenon to occur naturally.

Certified nurse-midwives offer parents the avoidance of strange atmospheres, high expenses, routine medical interventions, and family separations. It is their belief that women must accept birth as a natural body process that can be improved upon through good health, nutrition, and birth education (Stewart, 1981).

Peterson and Mehl (1978) conducted studies analyzing, describing, and interrelating factors of parental-infant bonding and attachment in a population that consisted of forty-six middle class, caucasion families. These families fell into one of the following three groups:

1) a planned hospital natural childbirth
2) a planned natural childbirth (at home)
3) a planned anesthetized hospital birth

Mehl and Peterson's results indicated that more conducive parental-infant bonds, attachments, and better motor ability were scored highest by the home natural childbirths with the anesthetized births scoring lowest. This case portrays the right birth experience as not only giving birth to a baby, but it also transforms a woman into a mother. Young infants are totally dependent on their caretakers for survival and development, therefore; if the parents were actively involved in the birth experience and bonds and attachments had the first sixty minutes of life to begin their initiations, then infants are
guaranteed a beginning with the most supportive and important environment possible.

Women and families are beginning to advocate less interference during birthing but many still do not realize all the optional alternatives available. Many women still follow the tradition of hospital deliveries because they have complete faith in the man in the white coat and tend not to be inquisitive.

Hospitals and doctors are conscious of the avenue parents are finding more desirable because of the bonding and attachment issues. Some hospitals are providing birthing rooms for mothers and families with less separation and more family involvement. Many of the routine medical procedures and interventions are still practiced, but the parents are allowed more freedom of choice in decision making as to options in their birthing plan.

Certified nurse-midwives understand that during labor mothers need guidance, reassurance, encouragement, comfort, and emotional support. The CNM's administer that and use as little medical intervention as possible. CNM's are competent and capable of handling emergencies that may arise. Their belief in birthing is the creation of the most satisfying situation for the mother, father, families, and infant to have each able to function to their potential, and the allowance of bonding and attachment initiations which create the most supportive and important environment.

Through the use of a physician and certified nurse-midwife questionnaire that is included in the paper's appendix, the research
will quantify the approach that is more conducive to maternal-infant bonding and attachment interactions.
Chapter III

Methodology

Hospitals tend to administer routine medical interventions that at times are unnecessary. Many times routine separation occurs after birth interrupting the ideal time in which bonding and attachment interactions and relationships become initiated.

Certified nurse-midwives offer parents freedom of choice in their birthing plan, the avoidance of high expenses, routine medical interventions, and family separations.

Receiving information pertaining to birthing procedures that enhance bonding and attachment, mothers and families are acquiring important information in regards to the most appropriate method of birth which provides for a safe, satisfying, and family centered childbirth experience.

It is the intent of this study to quantify the traditional hospital birthing approach to the certified nurse-midwife approach in conjunction with optimal maternal-infant bonding and attachment. In pursuit of the problem statement the study is comprised of a questionnaire, included in the appendices for physicians and certified nurse-midwives in regards to their birthing approach.

The sample population of ten physicians and ten certified nurse-midwives who completed the questionnaire were randomly selected from the Northeast Florida region specifically Jacksonville, St. Augustine, and Daytona.

The questions on the physician and certified nurse-midwife questionnaire are so structured that they are either regarded as high
level or low level in the affirmation of bonding and attachment. The following questions from the professional's questionnaire are associated with high levels of bonding and attachment: numbers 1, 2, 4, 5, 11, 14, 15, 17, and 18. Numbers 3, 6, 7, 8, 9, 10, 12, 13, and 16 on the questionnaire indicate a low level of bonding and attachment, (Parfitt, 1977 and Feldman, 1978).

The data was analyzed in percentages comparing the frequencies of high level to low level question responses. The greater the number of high level incidences the higher the probability for existence of an environment of bonding and attachment interactions as verified by authoritative opinion and research comments.

Two descriptive tables include the random chosen sample of physicians and certified nurse-midwives utilized in the study, as well as, comparing percentages of the high and low level questions derived from the eighteen question questionnaire.

Appendix B describes the professional questionnaire in terms of positive and negative signs which indicate each professional's response as being either conducive or oppressive to bonding and attachment.
Chapter IV

Analysis of findings and results

The research of this study quantified the traditional hospital birthing approach to the certified nurse-midwifery approach in conjunction with optimal maternal-infant bonding and attachment by deriving percentages from the low level and high level questions presented on the questionnaire. The percentages are listed on table number one for both the physician and the certified nurse-midwives. The conclusion from table number one is that certified nurse-midwives scored higher on all questions regarding more conducive maternal-infant bonding and attachment through their birthing procedures.

Utilizing the professional's responses on the questionnaire, the statistical research displays evidence of the more conducive maternal-infant bonding and attachment interactions occurring from certified nurse-midwife birthing procedures 33% more of the time than in traditional hospital birthing.

Utilizing all eighteen questions towards conducive bonding and attachment, the physicians received 58% out of 100% and for oppressive bonding and attachment they scored 42% out of 100%. The certified nurse-midwives received 91% out of 100% towards conducive bonding and attachment and 8% out of 100% in relation to oppressive bonding and attachment.

In comparison, the figures indicate evidence that the certified nurse-midwife promotes the initiation of maternal-infant bonding and attachment 33% more than do physicians.
Bonding and attachment interactions were measured by the number of questions asked on the questionnaire. The major bonding and attachment interactions occur before, during, and after birth and continue throughout the infant's first year of life. Without actually observing children who were birthed by the physicians or certified nurse-midwives, it was difficult to assess by the questionnaire alone to what extent these optimal interactions may have occurred and whether or not it was during and/or after birth.
Chapter V

Summary, conclusions, and recommendations

The research was a comparative study of optimal maternal-infant bonding and attachment as each occurred in the traditional hospital birthing procedures and in the certified nurse-midwifery birthing approaches. Through descriptive and comparative evaluation measurement tables the certified nurse-midwifery approach scored 33% higher than the traditional hospital approach in regards to more conducive maternal-infant bonding and attachment interactions.

The first descriptive table indicates the percentage comparisons for physicians and certified nurse-midwives in relation to the low level questions that are oppressive to bonding and attachment. The second descriptive table indicates the percentage comparisons for both the physicians and certified nurse-midwives in relation to the high level questions which are conducive to bonding and attachment.

The new era of birthing is developing because of the two major phenomenons of bonding and attachment that have recently developed in the past five to eight years.

Certified nurse-midwifery is not only a difficult field to receive board certification in, but there are only a handful of people completely certified in this area throughout the United States. This research came from certified nurse-midwives in the Northeast Florida region. It would have proved more interesting to receive a sample of certified nurse-midwives birthing approaches from around the country instead of from just one state to see if the conclusions of the study would stay relatively the same.
Research indicated that certified nurse-midwives already promote the positive phenomenons of bonding and attachment in their birthing approach whereas traditional hospital practices are just now beginning to permit maternal and family birthing plan choices to occur whenever possible.
Appendices

Appendix A

Traditional Hospital and Certified Nurse-Midwifery approach questionnaire

1. What are your credentials and what is your general birthing expense?

2. Do you allow women to make their own choices in regards to a personal birthing plan? Explain.

3. Do you perform routine prepping (shaving, enema, I.V.) on women?

4. What is your standard procedure on labor and delivery position?

5. Are the husband and/or support personnel welcome in prenatal care and can they actively participate in labor and delivery?

6. What standard medications or anesthetics procedures do you use and are the mothers consulted before administration?

7. What percent of your mothers consume some type of pain relief?

8. Do you routinely perform episiotomies?

9. Do you electively induce labor?

10. What type of monitoring do you perform on the baby?
11. Assuming the birth has occurred uneventfully, will the baby be allowed to stay with its mother in order to prevent routine separation?

12. Do you interfere with the expulsion of the placenta?

13. Do you clamp the umbilical cord before it stops pulsating?

14. Do you support breast feeding?

15. How long do you spend with mothers prior to, during, and after birth?

16. Do you uniformly apply technology in hopes of benefiting more women and babies than are harmed or do you continue to delineate group effects so as to rationally apply the new therapies?

17. What medical back up do you provide?

18. Are you conscious about nutrition and sex during pregnancy and do you discuss these topics with the parents?

Additional comments:
### Appendix B

#### Descriptive

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#### Certified Nurse-Midwives

| Physicians | Low Level |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |
|------------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|            |
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| A          | +         | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          |
| B          | +         | +          | +          | +          | +          | -          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          |
| C          | +         | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          |
| D          | +         | -          | -          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          |
| E          | +         | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          |
| F          | +         | -          | -          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          |
| G          | +         | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          |
| H          | +         | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          |
| I          | +         | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          |
| J          | +         | -          | -          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          | +          |
References


