

MATERNAL-INFANT ATTACHMENT THROUGH READING: WHAT DO
MOTHERS UNDERSTAND?

By

Morgan Leana Hampton

A Senior Honors Project Presented to the

Honors College

East Carolina University

In Partial Fulfillment of the

Requirements for

Graduation with Honors

By

Morgan Leana Hampton

Greenville, NC

December 2014

Approved by:

Dr. Kim Larson, PhD

Maternal Infant Attachment Through Reading: What Do Mothers Understand?

Abstract

Purpose: To examine and explore the concept of maternal-infant attachment and to raise awareness of maternal-infant attachment through reading.

Study Design and Methods: This study was a program evaluation composed of five activities: a community assessment using a windshield survey, weekly post-partum-newborn home visits, key informant interviews, a survey with new mothers, and a campaign to acquire age-appropriate books for newborns.

Results: Home visits were made to 17 mothers on 4 separate days between September 23, 2014 and October 13, 2014. Home visits included information about early reading and maternal-infant attachment. Thirty-two (32) books were collected from identified donors and a maternal-infant reading program was reestablished.

Clinical Implications: The majority of new mothers were unaware of the importance of reading to enhance maternal-infant attachment. Few knew the benefit of early reading. These mothers were very receptive to this nursing intervention and eager to practice reading to their newborn, following demonstration. This health teaching and demonstration is recommended as part of home visits. The outcome of this project suggests that mothers and infants gain considerably from the practice of early reading. This information should contribute to the on-going community book campaign to provide infant books, in Spanish and English, to the most vulnerable new mothers and newborns.

Keywords: Maternal-infant attachment; Reading; Bonding; Infant; Home visits

Introduction

Early motherhood and the newborn stage of life are critical developmental times in which community health nurses play an important role. Health and wellness stem from the promotion of healthy habits developed early in life. Community health nurses in particular, strive to improve health and achieve positive outcomes for mothers and infants during this time. The mother and infant bond has become a well-studied area of nursing due to its developmental impact on the child. Negative maternal-infant bonding is associated with fatigue, anxiety, decrease in self-care, decrease in confidence, and an increase in mental illness, which combined, can lead to poor health outcomes (Fahey & Shenassa, 2013)

Quality maternal-infant attachment is essential for a healthy childbearing family. Mother-baby attachment is an abstract concept that can have many meanings. Mother-infant attachment is a complex link, which involves a consistency and a pattern of behaviors that solidifies trust and security between mother and infant (Goulet, Bell, St-Cyr, Paul, & Lang, 1998). This attachment provides the ability to have a heightened awareness of baby's needs through closeness and commitment (Goulet et al., 1998). Mother-baby attachment is characterized by this closeness, the response elicited by the newborns' actions, and the enduring nature of the relationship (Goulet et al., 1998). Attachment is based on the mother's sensitivity to respond to her baby's needs. Mother-baby attachment can be assisted through clinical and social support (Goulet et al., 1998). Community health nurses play an important role in health promotion toward a positive mother-baby attachment. Nurses routinely meet the needs of women and children, but are especially critical during the early stages of maternal-infant bonding.

Review of Literature

This literature review began with a search for articles related to the significance of mother-baby attachment, analysis of the concept of mother-baby attachment, interventions and best practices that promote mother-baby attachment, and the impact of reading on infant development. The databases accessed were One Search and ProQuest using a combination of the following key terms: maternal-infant attachment, health promotion, nursing interventions, and reading. The three categories used to describe this literature are: The benefits of bonding, community health nursing interventions, and early reading and infant development.

The benefits of bonding

Positive mother-baby attachment leads to better-adjusted children (Goulet et al., 1998), the achievement of early developmental milestones (Alhusen, Hayat, & Gross, 2013), and increased cognitive, emotional, and social development (Leigh, Vergara, & Santelices, 2013). Attachment also helps control psychological and physiological stress (Gathwala, Singh, & Balhara, 2008) which is an important component of self-soothing and temperature regulation. Mother-baby attachment was found to help infants establish healthier sleep patterns, develop their personality, and express love and other human emotions (Goulet et al., 1998). A healthy maternal-infant attachment provides the foundational beginning for healthy mental, physical, and emotional growth for the infant (Alhusen et al., 2013).

Community health nursing interventions

Post-partum home visitation by community health nurses is a proven intervention that reduces child abuse and neglect, lowers emergency room visits, and decreases all causes of child mortality (Olds, Kitzman, Knudtson, Anson, Smith, & Cole, 2014). Community health nursing interventions, such as health education, during the post-partum period substantially promotes

mother-baby attachment (Leigh et al., 2013). Community health nurses are a powerful asset during this critical stage of development. One study identified that new mothers trusted public health nurses more than other healthcare professionals, and had higher rates of confidence in their mothering skills after working with these nurses (Leahy-Warren, McCarthy, & Corcoran, 2012). Community health nursing interventions and health education empower women and make them feel supported, enhancing their confidence and mental health (Nicolson, Judd, Thomson-Salo, & Mitchell, 2013). Community health nurses can intervene and perform evidenced-based measures to help strengthen mother-baby attachment, thus increasing the chances of the beneficial effects. Certain populations, such as families with lower socioeconomic status who are particularly vulnerable for having children fall behind in school due to lack of resources and opportunities as compared to higher income families, especially need the community health nurses to fulfill the important role of promoting the mother-baby attachment (High, 2014).

Early reading and infant development

Many factors contribute to successful maternal-infant attachment such as breastfeeding, infant massage, safe home environment, and reading (Gürol & Polat, 2012; Johnson, 2013; Capriglione & Leonard, 2000; Horowitz, Murphy, Gregory, Wojcik, Pulcini, & Solon, 2013). A mother's voice has been shown to be a major contributor to mother-baby attachment (Seltzer, Ziegler, & Pollak, 2010). Reading is related to touch and talking. Reading to a newborn increases the attachment between mother and infant through voice cues, changes in tone, volume, and expression (Giustardi, Stablum, & De Martino, 2011). The recognition of the mother's voice, and the stimulation this sound provides, strengthens the maternal-infant bond (Goulet et al., 1998). Touch (kisses, hugs, cradling, and cuddles) promotes a secure attachment between mother and

baby (Lothian, 1998). Reading also has been shown to stimulate and enhance brain development, increase reading efficiency, improve language skills, foster expression development, enhance school readiness, and helps the infant reach milestones earlier (O' Keefe, 2014; Early Care and Education, 2014). New mothers have the ability to read to their infant however, they may not understand the importance of early reading. Mothers may also lack the resources to engage in this activity.

In summary, maternal-infant attachment is an important part of healthy development for infants and leads to positive health outcomes. Community health nurses can play a key role in enhancing maternal-infant attachment. The purpose of the project was to raise awareness of maternal-infant attachment through reading.

Methods

This study was a program evaluation composed of five activities: a community assessment using a windshield survey, weekly post-partum-newborn home visits, key informant interviews, a survey with new mothers, and a campaign to acquire age-appropriate books for newborns. The project was conducted in Wayne County, North Carolina at the Wayne County Health Department.

Windshield survey

Wayne County is a blend of well-maintained, large homes, yet also has many sub-standard homes in need of repair and government housing. The county is more of an agricultural town with multiple fields, farms, and animal farms. Wayne County is home to many factories and blue-collar businesses (many auto repair shops, Industrial businesses, Georgia Pacific etc.). The area has many commercial shopping centers, grocery stores, fast-food places, and restaurants. Certain sections of town offer ethnic specific choices, such as a Mexican grocery

story or stores selling black hair care products and services. Most Wayne County schools are well-maintained and large. There is a well-equipped public library to serve the people and a small downtown area. There is a homeless shelter located west of the downtown area, with a soup kitchen offering free meals to those in need. Wayne County has both a health department and a large hospital to serve its residents. It is home to Seymour Johnson Air Force Base, which houses military personnel and their families. There are many doctors' offices and official government buildings, such as the social security office. Certain areas are very welcoming and busy with pedestrians walking on sidewalks or catching the public bus, The Gateway. Basketball courts and parks have a multitude of people both young and old. Railroad tracks run throughout the county. Other areas are more run-down with uneven and poorly paved streets in need of repair. Homeless men and women are present on many streets. 21% of residents live below the poverty line in Wayne County as opposed to the state overall average of 16%. The average household income in Wayne County is lower than the state's by nearly \$4,000 (Wayne County Community Health Assessment, 2013).

The target population for this study was postpartum mothers, between ages fifteen and forty-four years old, who sought services from Wayne County Health Department and participated in the home visiting program. Women in this program were predominately African-American and Latino. The pregnancy rates of minorities in this county are higher than the rates of minorities pregnant in the state overall. Whites have a pregnancy rate of 69.9/1000, while African-Americans have a pregnancy rate of 91.5/1000 and Latinos have a pregnancy rate of 109.6/1000 (North Carolina Resident Pregnancy Rate, 2013). The African-American infant mortality rate (IMR) is 17/1000 as compared to the white IMR, which is only 4.1/1000 (North Carolina Infant Mortality Report, 2014). This illustrates a disparity and much poorer health

outcomes for minorities in Wayne County. Many of these women lack an income and fall below the poverty level, qualifying for programs such as WIC, TANF, and Medicaid. They often lack reliable transportation, may not have completed high school, and have limited social support.

Postpartum-newborn home visits

Weekly postpartum-newborn home visits were conducted in collaboration with an experienced community health nurse. Community health nurses make one home visit to all new mothers enrolled in the health department and their newborn within the first week of life. At every home visit, the community health nurse completes a maternal-infant assessment to address the social and environmental needs of the family. Mothers are asked if they had any questions and concerns and health teaching is provided. Previously a program was offered that provided mothers with age-appropriate books for early reading however, this program had lost funding and was no longer available to the home-visiting program. It was determined that the home-visiting program needed books to engage new mothers in early reading and the link between early reading and maternal-infant attachment needed to be illustrated to improve bonding.

Key informant interviews

Two maternal-child nurses and the director for the “Read to Succeed” program in Wayne County were interviewed about their opinions related to early reading and infant development. These key informants recommended offering a demonstration and education to mothers on age-appropriate books for infants during home visits. Specific techniques to include in this education were the use of small, visually attractive, board books, pointing at pictures and words while reading, changing expressions in voice as appropriate in the book, and holding the infant directly in mothers’ lap during reading time.

Survey with new mothers

Three questions were developed to query new mothers about their understanding of early reading and infant development. These questions asked about the mothers' overall knowledge on maternal-infant attachment, at what age they believed reading should begin, and what they believed were the benefits of early reading. The questions were completed by 17 mothers on 4 home visits between September 23, 2014 and October 13, 2014. All 17 mothers received demonstration and education about early reading and infant development. However, only 12 mothers received a book to keep, following the donations from the book campaign discussed below.

Book campaign

This project initiated a book donation campaign with local businesses, ECU nursing faculty, personal contacts, and university fraternities. A letter was developed to give to potential donors explaining the importance of reading and background information on maternal-infant attachment. Twenty (20) potential donors were approached for books or monetary donations. Thirty-two (32) books were collected from 50% of the identified donors. Books were distributed on post-partum home visits with the community health nurse.

Results

This project found that early reading is an effective method to increase maternal-infant attachment. The survey with new mothers highlighted the importance of this nursing intervention. The majority of new mothers were unaware of exactly the importance of reading to enhance maternal-infant attachment. Most did not know the benefit of early reading to their newborn. These mothers were very receptive to the nursing intervention and eager to practice reading to their newborn, especially after demonstration. There was renewed interest in a

community book campaign for the home-visiting program with long-term possibilities. Several limitations to this project were identified: there were limited books in Spanish, and more books were needed to allow every mother to receive a book. Children's books are expensive and even those found at discounted prices were between \$4.00 and \$5.00/book.

The outcome of this project suggests that mothers and infants gain considerably from the practice of early reading. This information should contribute to the on-going community book campaign to provide infant books, in Spanish and English, to the most vulnerable new mothers and newborns. This paper will be provided to the Director of Nursing, Health Director, Health Education Supervisor, and Maternal and Child Health nurses at the Wayne County Health Department to support grant-funding for early reading for improved maternal-infant attachment.

References

- Alhusen, J. L., Hayat, M. J., & Gross, D. (2013). A longitudinal study of maternal attachment and infant developmental outcomes. *Archives of Women's Mental Health, 16*(6), 521-529.
doi:10.1007/s00737-013-0357-8
- Capriglione, A., & Leonard, E. (2000, March 20). Reading to infants has many benefits. Retrieved from http://articles.courant.com/2000-03-20/news/0003200546_1_reading-tips-parents-read-books
- Early Care and Education. (2014, January 1). Retrieved January 1, 2014, from <http://www.zerotothree.org/early-care-education/>
- Fahey, J. O., & Shenassa, E. (2013). Understanding and meeting the needs of women in the postpartum period: The perinatal maternal health promotion model. *Journal of Midwifery & Women's Health, 58*(6), 613-621. doi:10.1111/jmwh.12139
- Gathwala, G., Singh, B., & Balhara, B. (2008). KMC facilitates mother baby attachment in low birth weight infants. *Indian Journal of Pediatrics, 75*(1), 43-47. doi:10.1007/s12098-008-0005-x
- Giustardi, A., Stablum, M., & De Martino, A. (2011). Mother infant relationship and bonding myths and facts. *Journal Of Maternal-Fetal & Neonatal Medicine, 24*59-60.
doi:10.3109/14767058.2011.607679
- Goulet, C., Bell, L., St-Cyr, D., Paul, D., & Lang, A. (1998). A concept analysis of parent-infant attachment. *Journal of Advanced Nursing, 28*(5), 1071-1081. doi:10.1046/j.1365-2648.1998.00815.x
- Gürol, A., & Polat, S. (2012). The effects of baby massage on attachment between mother and their infants. *Asian Nursing Research, 6*(1), 3541. doi:http://dx.doi.org/10.1016/j.anr.2012.02.006

- High, P. (2014, June 23). Policy statement: literacy promotion: an essential component of primary care pediatric practice. Retrieved September 19, 2014, from <http://pediatrics.aappublications.org/content/134/2/404.full.html>
- Horowitz, J. A., Murphy, C. A., Gregory, K., Wojcik, J., Pulcini, J., & Solon, L. (2013). Nurse home visits improve maternal/infant interaction and decrease severity of postpartum depression. *Journal of Obstetric, Gynecologic, and Neonatal Nursing: JOGNN / NAACOG*, 42(3), 287-300. doi:10.1111/1552-6909.12038
- Johnson, K. (2013). Maternal-infant bonding: A review of literature. *International Journal of Childbirth Education*, 28(3), 17.
- Jones, M. W., & Englestad, D. M. (2004). "Womb" literacy: Reading to infants in the NICU. *Neonatal Network : NN*, 23(4), 65.
- Leahy-Warren, P., McCarthy, G., & Corcoran, P. (2012). First-time mothers: Social support, maternal parental self-efficacy and postnatal depression. *Journal of Clinical Nursing*, 21(3-4), 388-397. doi:10.1111/j.1365-2702.2011.03701.x
- Leigh, F. F., Vergara, V. B., & Santelices, M. P. (2013). Enhancing early attachment: Design and pilot study of an intervention for primary health care dyads. *Journal of Child Health Care*, 17(1), 82-91.
- Lothian, J. A. (1998). The mother/baby connection. *The Journal of Perinatal Education*, 7(3), vii-x.
- Nicolson, S., Judd, F., Thomson-Salo, F., & Mitchell, S. (2013). Supporting the adolescent mother-infant relationship: Preliminary trial of a brief perinatal attachment intervention. *Archives of Women's Mental Health*, 16(6), 511-520. doi:10.1007/s00737-013-0364-9
- North Carolina Infant Mortality Report. (2014, January 1). Retrieved September 30, 2014, from <http://www.schs.state.nc.us/data/vital/ims/2013/table3b.html>

North Carolina Resident Pregnancy Rate. (2013, January 1). Retrieved September 24, 2014, from <http://www.schs.state.nc.us/schs/data/pregnancies/2012/preg1544.pdf>

O' Keefe, L. (2014, June 24). Parents who read to their children nurture more than literary skills. Retrieved September 19, 2014, from [aapnews.20140624-2](http://aapnews.org/2014/06/24/parents-who-read-to-their-children-nurture-more-than-literary-skills)

Olds, D. L., Kitzman, H., Knudtson, M. D., Anson, E., Smith, J. A., & Cole, R. (2014). Effect of home visiting by nurses on maternal and child mortality: Results of a 2-decade follow-up of a randomized clinical trial. *JAMA Pediatrics*, 168(9), 800.

Seltzer, L. J., Ziegler, T. E., & Pollak, S. D. (2010). Social vocalizations can release oxytocin in humans. *Proceedings. Biological Sciences / the Royal Society*, 277(1694), 2661-2666.
doi:10.1098/rspb.2010.0567

Wayne County, North Carolina. (2014, January 1). Retrieved January 1, 2014, from <http://quickfacts.census.gov/qfd/states/37/37191.html>

Wayne County Community Health Assessment. (2013, January 1). Retrieved January 1, 2014 from <http://www.waynegov.com/cms/lib05/NC07000827/Centricity/Domain/33/WCCHA 2012 Final Report.pdf>