

[Databases selected:](#) Association for Pre & Perinatal Psychology and Health

Maternal-Infant Bonding and Asthma

Antonio Madrid, Dale Pennington. *Journal of Prenatal & Perinatal Psychology & Health*. Forestville: Spring 2000. Vol. 14, Iss. 3/4; pg. 279, 11 pgs

Full Text (4047 words)

Copyright Association for Pre & Perinatal Psychology and Health Spring 2000

INTRODUCTION

In 1976 Marshall Klaus and John Kennell, both pediatricians at Case Western Reserve School of Medicine in Cleveland, published *Maternal-Infant Bonding*, a book which documented several important findings about mothers and children. They reviewed studies of research in animal behavior demonstrating that there is a biological bond that exists between a mother and her offspring. They proposed that such bonding also occurs in humans and reviewed a body of research that supported this thesis. They talked about events and situations which can interfere with or destroy human bonding. And finally, they provided suggestions for the psychological care of neonates, sick babies, sick mothers, and parents of ill children. In our clinical practice, we subsequently discovered another interesting aspect of maternal-infant bonding: a significant correlation between apparent bonding failures and the occurrence of pediatric asthma. We have developed a treatment protocol which has proven effective in ameliorating symptoms within that subset of pediatric asthma patients in which bonding failures have occurred.

ANIMAL STUDIES IN MATERNAL-INFANT BONDING

Animal studies for decades have shown that there is an attachment between a mother and her offspring and that this attachment is necessary for the survival of the offspring. These studies demonstrate that if a mother is separated from her young after birth, there is a decline in maternal responsiveness to her young. Studies with a variety of mammals including rats, goats, monkeys, sheep, and hamsters, clearly show that separation has a profound effect on maternal behavior and leads to maternal rejection. In sheep for example, Poindron and associates (1979, 1980) found that if separation begins at birth and lasts four hours, 50% of ewes will reject their lambs. If the separations lasts for 12 to 24 hours, the rejection rate climbs to 75%. By contrast, if the 24 hour separation does not commence until two to four days after birth, all ewes will reaccept their lambs.

Klopfers (1971) found that maternal responsiveness in goats wanes more rapidly than in sheep. Dams will not accept kids that have been removed at birth for more than one hour. However, just five minutes of contact with their kids immediately after birth results in virtually all the young being reaccepted even after three hours of separation. Studies with monkeys are equally telling. Mothers who are separated from their infants for one hour after birth will still show a preference for them in a choice situation. If the initial separation lasts for 24 hours, the mother's preference for her neonates seems to disappear. The sooner after birth the separation occurs, the stronger the effects. As Klaus and Kennell say: "For each species there seems to be a specific length of separation that can be endured. If separation extends beyond this sensitive period, the effects on mothering behavior are often drastic and irreversible."

HUMAN MATERNAL-INFANT BONDING

Klaus and Kennell (1976) propose that a maternal-infant bond also occurs in our species and that this bond is biological, psychological, and emotional. They perceive it as an intricate dance that occurs between mother and child—a complex interaction in which a strong emotional response pattern is mutually appreciated, anticipated, and reinforced. The child and the mother weave an intricate fabric, filled with behaviors that are intertwined. This bonding occurs during a sensitive period soon after birth (Emde and Robinson, 1981).

One crucial factor in this process of drawing mother and infant together appears to be the numerous hormonal changes which occur in the mother immediately postpartum. A second is that during this sensitive period the infant is in a quiet alert state, with eyes wide open and able to respond to the environment. Emde and Robinson observed that the infant is in this state for a period of 45 to 60 minutes during the first hour after birth. He can see. He has visual preferences and will turn his head to the spoken word, all in the first hour of life. At the end of this period, he goes into a deep sleep for three to four hours. Thus for the first hour he is ideally equipped for this important meeting with

his mother. The quiet alert state also occurs about 10% of the time in the first weeks of life; so there are further opportunities for interaction even if missed immediately postpartum. The highest probability for bonding, however, occurs immediately after birth. Bonding can and often does begin during pregnancy. Mothers frequently develop a strong emotional attachment to the baby they are carrying; they talk to it, sing to it, dream about it. The contact after birth is simply a further development of the powerful attachment that already has a history.

IMPEDIMENTS TO BONDING

When the maternal-infant bond is not present, mothers seem to know it. Sometimes they can state it exactly: "I don't have feelings for this child. I don't know why." "I feel a strong connection with my other three children, but not for this one." They are often ashamed of this lack of attachment and blame themselves for it. They have no idea why they feel detached from their child. Klaus and Kennell began to explain why. They stated that, like other species, humans have to have physical contact with their young soon after birth; and if there is significant separation during the sensitive period following birth, the likelihood of bonding diminishes.

Normal hospital events can interfere with bonding by causing separation. Many procedures which are designed to decrease perinatal health risks have increased bonding risks. For example, bonding can be jeopardized when a child is separated because of illness, when placed in an intensive care nursery, when placed in an incubator, or when the mother is anesthetized at delivery. In addition, there are other circumstances which may reduce the possibility of bonding: when the infant is a twin or triplet, when the mother is sick, when the child is adopted.

As with most variables that impinge upon a psychological outcome, it is only possible to speak here of likelihood. If there is separation at birth, there is a high likelihood that bonding will not occur. But other factors can change this: the mother's motivation to bond; the circumstances when the mother first touches her child; her own birth and infant development; and so forth. For example, we have heard women talk about their preparation for adoption as if they were carrying the child. They dream about the child; they talk to it before it is born; they are in another world. The fact that they do not touch the baby within minutes of its birth is less important than their emotional preparation and strong desire for motherhood.

RESEARCH IN HUMAN MATERNAL-INFANT BONDING

The original thesis about maternal-infant bonding was presented more than 20 years ago. Since then it has become widely accepted that separation of mother and child is good for neither and should be avoided except in situations of medical necessity. In view of this, research which artificially separates mother from child in order to study the effects of separation is seen as unethical and is no longer undertaken. But 15 to 20 years ago, normal hospital procedures routinely separated infants and mothers and thus presented a perfect research arena for these studies. Controls could be those groups which experienced normal hospital practices, and the experimental groups could be given "extra contact." Most of the comparison studies are, in fact, from this period.

MATERNAL BEHAVIOR

A study of Klaus and his associates (1972) demonstrated the impact of early separation at birth. This study compared the behavior of two groups of mothers: one group who had routine hospital contact which consisted of separation except for brief contact for identification at 6-12 hours after birth and a second group who had extra contact-one hour of contact with the infant nude within three hours of birth plus five additional hours contact over the next three days. At one month the Extra Contact mothers demonstrated more soothing, fondling, and eye-to-eye contact during feeding. At one year the Extra Contact mothers soothed the infant more during physical examinations. At two years, the Extra Contact mothers used fewer imperatives and more questions when communicating with their children. Observations in physician's waiting rooms showed that the Extra Contact children had more eye contact with their mothers and verbally interacted with them more.

Sousa and associates (1974) gave an Extra Contact group early and continuous contact, placing the infant crib beside the mother; and ensuring enthusiastic nurse encouragement. The Normal Routine group was given a glimpse of the baby at birth followed by a 12 to 24 hour separation with 30 minute contact every 3-4 hours. At 2 months, 77% of the Extra Contact mothers were lactating, compared to 27% of Normal Routine mothers. Johnson (1976) found similar results: at 2 months 5 out of 6 early contact mothers were still breast feeding, but only 1 out of 6 late contact mothers were doing so.

O'Connor and associates (1980), in a study of low income mothers gave an Extra Contact group 6 additional hours with their infants each day for 2 days, compared to a Normal Routine group whose contact was limited to 20 minutes every 4 hours for feeding. During a 17 month follow-up, they found that Normal Routine babies experienced more abuse, neglect, abandonment, and nonorganic failure to thrive.

Kennell and Klaus (1975), found that Extra Contact mothers were demonstrating more attachment behaviors as early as 12 hours after birth. de Chateau (1976) found that Extra Contact mothers (who were not separated from their infants) held the newborn on their left arm. If there was separation of 24 hours or more (considered the Normal

Routine), the babies were held on the mother's right side and there was less overall contact. One third of the Normal Routine mothers were seen to carry their infant in their hands, rather than in their arms. At three months, Extra Contact mothers kissed and looked lovingly at their babies more often, cleaned them less, and breast fed more. At three months, their babies smiled and laughed more and cried less. These findings have been confirmed in many studies. (Hales, 1977; Ali & and Lowrey, 1981; Carlsson, 1979).

MATERNAL ATTITUDES

One study (Klaus et al, 1972) asked Extra Contact and Normal Routine mothers how old their child should be before they would call in a baby sitter. The Normal Routine mothers were willing to do so at a much younger age. When asked "If your baby is crying and you have fed it and diapered it, what would you do?", Extra Contact mothers said they would pick their baby up. The Normal Routine mothers said they would let it cry. Mothers were then observed in pediatrician's offices. Extra Contact mothers spent a greater percentage of time near the examining table while the doctor worked. Five years later these Extra Contact babies were found to have significantly higher IQ scores.

EMOTIONAL SEPARATION

From these and related studies, the negative consequences of physical separation at or near birth for both mother and child seem well established. However, Klaus and Kennell introduced a new factor into the bonding equation. They pointed out that in addition to physical separation, humans have a capacity to become emotionally separated. They suggested that a mother's ability to bond with her child can be impeded if she is experiencing a competing emotion. Such an emotion must be so intense that it could block out the bonding emotions. Such emotions include grief: grief for the death or loss of someone close, grief following a miscarriage, or the shock of a divorce or separation.

Other competing emotions include intense fear, the severe depression, and extreme marital problems. In addition, in our clinical practice, we have seen addiction act as a competing emotion: it is as though the mother is powerfully bonded to the drug and hence unavailable to her infant. And almost invariably, when a mother states that she has never wanted the child, there is an emotional barrier present and bonding is unlikely to have occurred.

Klaus and Kennell state that other variables may well contribute to bonding failures, including the mother's background and her own birth and bonding, as well as other unknown environmental factors. We have observed, however, as did Klaus and Kennell, that although these variables may contribute, the factors most highly correlated with bonding failures are physical and emotional separation.

Maternal-infant bonding, then, is a natural biological occurrence. If there is nothing separating mother and child during the period immediately following birth, either physically or emotionally, it will most likely occur. The likelihood of bonding taking place seems to have little to do with the personality of the mother. Neurotic mothers bond. Borderline Personalities bond. Criminals bond. It seems that failures to bond are almost always the result of accidents: either separation inherent in hospital practices or maternal-emotional distractions. The personality of the mother is an infrequent factor.

EFFECTS OF NON-BONDING

Certain specific effects of non-bonding are coming more and more to the attention of health care workers. Non-bonded babies are often colicky and may dislike being cuddled. When they get older, their mothers report that they are difficult to please. They are fidgety, are not really comfortable with people, and have poor self-images. When they get older, they often bond to non-human things: alcohol, drugs, work, and possessions. They report that they had a distant relationship with their mothers. It is not uncommon to hear them say, "We eventually became friends."

We hear mothers say that their baby always seemed different, that there had been something wrong with this baby from the beginning. They often say that they loved the baby, but it did not feel like their other children. In addition to these common attitudes, we have found that failure to bond can have a powerful role in childhood diseases and, in particular, asthma.

ASTHMA EXAMPLE

The first time this issue was drawn forcibly to our attention involved the case of a severely asthmatic eight year old girl. She was on several kinds of medication and was placed on steroids several times each year. She was frequently taken to the emergency room-in the two months before we saw her, she had been to the emergency room four times. Our staff tried to help this girl with an array of hypnotic techniques, but we eventually concluded that we could not relieve her symptoms.

The mother, however, wanted to continue counseling herself, and we worked with her for eight more months, mostly in a supportive manner. In the fifth month of therapy, while talking about her daughter, she said that much to her shame she did not feel any love for her daughter. She then went on to describe the conditions of her pregnancy and delivery. It was a birth nightmare. The child's father had left her three months before the birth, totally devastating her. Her own

mother had been in the labor room and berated her throughout the entire process. The medical staff greatly disappointed her. She was harangued and insulted by a labor room nurse. Her own physician was not there and her baby was delivered by a stranger.

Because the baby girl was born jaundiced, she was immediately taken away for treatment, and the mother did not see her baby for eight hours. When the baby was allowed to come home she became ill again and had to return to the hospital for almost a week. When the baby recovered and was finally returned home, the mother reported that the baby felt so strange that she felt like telling the nurses to keep her. We asked the mother to change the birth in her imagination with the help of hypnosis. We walked the mother through a perfect birth-this time there was no sadness about the separation from the father of the child, her own mother was not in the room, a good nurse was present, the correct doctor was in attendance, and a healthy child was born who stayed with her. We asked the mother to keep this history as a new psychological birth history to use whenever she wanted. This whole procedure took about 20 minutes.

At the end of three more months of counseling, without again returning to this birth scene whatsoever, she reported that she was leaving the state. At the end of her final session, she stopped in the office doorway, came back in, and said: "Oh, remember that session where we did that hospital thing? Well, my daughter's asthma went away after that and it hasn't returned except for one time, when she was away from home; and it got better as soon as she got back home. She has not been to an emergency room since that session. And she does not need any medicine. And remember how I never felt any love for her? Well, I do now."

Following this startling turn of events, we began looking for more asthmatic children with whom we could use this protocol. We found several asthmatic children whose mothers were separated from them either physically or emotionally. For some mothers, we had to do a little clinical work to resolve conflicts that brought about the separation. We then used hypnosis to create a new birth, and we were amazed to see the children improve.

ERICKSON INSTITUTE RESEARCH

Following a string of clinical successes, a group of researchers at the Erickson Institute in Santa Rosa, CA, studied the relationship between pediatric asthma and problems with maternal-infant bonding. Feinberg (1988) found that mothers of asthmatic children reported more birth complications than mothers of non-asthmatic children. He found that there were significantly more asthmatic children than non-asthmatic children who did not bond with their mothers. His research showed that 24% of the well-children were non-bonded as compared to 87% of the asthmatic children.

Schwartz (1988) found a significant difference in the incidence of non-bonding events in the lives of mothers and their asthmatic children as compared with mothers and their well babies, using the Maternal-Infant Bonding Survey (MIBS). This survey, constructed by Brown, Pennington, and Madrid, lists events which often impede or interfere with the bonding process. These events were originally reported by Klaus and Kennell (1976). The relative occurrence of critical events which interfere with bonding were different for each group. Twenty percent of well children had two or more non-bonding events in their mother's histories. For asthmatic children, the corresponding figure was 70%.

Schwartz also found that there was no difference in the incidence of non-bonding events between children with intrinsic asthma and those with responding asthma. Her findings demonstrated an associative relationship between events which can disturb bonding and the occurrence of pediatric asthma. She pointed to the possibility of finding a treatment that uses bonding as part of the therapy: "The long term implication of these findings is that a treatment for pediatric asthma targeted at repairing psychological effects of non-bonding between mother and child may be further developed."

In another study, Pennington (1991) found that four particular non-bonding events occur significantly more often in the asthma group histories: emotional problems during pregnancy, delay in first holding the baby, death of a significant family member during the child's first year, and emotional problems during the child's first year-the same events which Klaus and Kennell identify as leading to bonding disruptions.

Although these studies do not prove a causal relationship between non-bonding and pediatric asthma, their temporal relationship and significant correlation were certainly suggestive, leading us to postulate that non-bonding results in asthmatic illness in certain children. Further, we suggested that two or more non-bonding events will be found in the histories of a significant number of asthmatic children. Finally, we expected that the relationship between mothers and their asthmatic children will be strained, and that this difficulty can be traced to non-bonding histories.

It is obvious that all non-bonded children do not have asthma and that all asthmatic children are not non-bonded. But within a subset of asthmatic children, non-bonding is clearly and undeniably present as a significant factor.

CONCLUSION

This strained relationship between asthmatic children and their mothers has been documented for decades. Mzazek and associates (1991) followed a group of mothers and their genetically predisposed asthmatic children from three

weeks postpartum to two years of age. The researchers concluded that "early problems in coping and parenting were associated with later onset asthma." In our opinion, they did not realize that the coping problems and later asthma were linked to the same unnamed, mediating variable, a lack of bonding. This relationship between pediatric asthma and failures in bonding has been seen clinically in case after case for nearly 25 years and has been documented in our studies. The next step in this series of studies is to look at a treatment for pediatric asthma which is targeted at repairing the disrupted bonding between mother and child. Such a study may be able to tell if this treatment can have a beneficial effect upon a child's breathing.

[Reference]

REFERENCES

- Ali, Z., and Lowry, M. (1981). Early maternal-child contact: Effects on later behavior. *Developmental Medicine and Child Neurology*, 23, 337-345.
- Brown, G., Pennington, D., and Madrid, A. (1981). Maternal Infant Bonding Survey (MIB8). Unpublished test instrument.
- de Chateau, P. (1976). Neonatal care routine: Influences on maternal and infant behavior and on breast feeding. Umea, Sweden: Umea University Medical Dissertations.
- Carlsson, S, Fagerberg, H., Horneman, G., Hwang, P., Larsson, K., Rodhalm, M., Schaller, J., Danielsson, B., and Gundewall, C. (1979). Effects of various amounts of contact between mother and child on the mother's nursing behavior: a follow-up study. *Infant Behavioral Development*, 2:209-214.
- Emde, R.N., and Robinson, J. (1981). The first two months: recent research in developmental psychobiology and the changing view of the newborn. In Noshpitz, J., and Call, J., editors: *Basic handbook of child psychiatry*. New York, Basic Books.
- French, T. M., and Alexander, F. (1941). Psychogenic factors in bronchial asthma. *Psychosomatic Medicine Monographs TV: Parts 1 and 2*. Washington, DC: National Research Council.
- Hales, D. J., Lozoff, B., Sosa, R., and KenneU, H. (1977). Denning the limits of the maternal sensitive period. *Developmental Medicine and Child Neurology*, 19, 454-461.
- Johnson, N.W. (1976) Breast feeding at one hour of age. *American Journal of Maternal Child Nursing*: 1:12.
- Klaus, M. H., Jerauld, R., Kreger, N., McAlpine, W., Steffa, M., and KenneU, J. H. (1972). Maternal attachment: Importance of the first postpartum days. *New England Journal of Medicine*, 286, 460-463. J
- Klaus, M. H., and Kennell, J. H. (1976). *Maternal-infant Bonding*. St. Louis, Mosby. 1
- Klopfer, P. (1971). Mother love: What turns it on? *American Scientist*, 49, 404-407.
- Madrid, A. and Schwartz, M. (1991). Maternal-infant bonding and Pediatric asthma: An initial investigation. *Pre- and Perinatal Psychology Journal*, 5(4), 347-358.
- Mrazek, D., KUnnert, M., Mrazek, P., and Macey, T. (1991). Early asthma onset: Consideration of parenting issues. *Journal of the American Academy of Child and Adolescent Psychiatry*, 30, 2.
- O'Connor, S., Vietze, P. M., Sherrrod, K. B., Sandier, H. M., and Altemeier, W. A. (1980). Reduced incidence of parenting inadequacy following rooming-in. *Pediatrics*, 66, 176.
- Pennington, D. (1991). Events associated with maternal-infant bonding deficits and severity of pediatric asthma. Unpublished doctoral dissertation, Professional School of Psychology, San Francisco.
- Poindron, P., and Le Neindre, P. (1979). Hormonal and behavioral basis for establishing maternal behavior in sheep. In Ichella, L., and Panchari, R., editors: *Psychoneuroendocrinology in reproduction*, Amsterdam, Elsevier/North-Holland Biomedical Press.
- Poindron, P., and Neindre, P. (1980). Endocrine and sensory regulation of maternal behavior in the ewe. In Rosenblatt, J.S., et al. editors: *Advances in the study of behavior*. New York, Academic Press, Inc., Vol. 11.
- Sackett, G. P. and Ruppenthal, G. C. (1974). In Lewis, M., and Rosenblum, L.A. editors: *The effect of the infant on its caregiver*, New York, John Wiley and Sons, Inc.
- Schwartz, M. P. (1988). Incidence of events associated with maternal-infant bonding disturbance hi a pediatric population. Unpublished doctoral dissertation, Rosebridge Graduate School, Walnut Creek.
- Sousa, P. L. R., Barros, F. C., Gazalle, R. V., Begeres, R. M., Pinheiro, G. N., Menezes, S. T., and Arruda, L. A. (1974). Attachment and Lactation. Paper presented at the Fifteenth International Congress of Pediatrics, Buenos Aires.

[Author Affiliation]

1Antonio Madrid, Ph.D. and Dale Pennington, Ph.D.

[Author Affiliation]

1 Dr. Antonio Madrid is the Director of Russian River Counselors. Direct correspondence to: P.O. Box 519 Monte Rio, CA 95462; Tel. (707) 865-1200 email: madrid@neteze.com

Indexing (document details)

Author(s): Antonio Madrid, Dale Pennington

Author Affiliation: 1Antonio Madrid, Ph.D. and Dale Pennington, Ph.D.
1 Dr. Antonio Madrid is the Director of Russian River Counselors. Direct correspondence to:
P.O. Box 519 Monte Rio, CA 95462; Tel. (707) 865-1200 email: madrid@neteze.com

Document types: General Information

Publication title: Journal of Prenatal & Perinatal Psychology & Health. Forestville: Spring 2000. Vol. 14, Iss. 3/4; pg. 279, 11 pgs

Source type: Periodical

ISSN: 10978003

ProQuest document ID: 1380385481

Text Word Count 4047

Document URL: <http://proquest.umi.com/pqdweb?did=1380385481&sid=1&Fmt=3&clientId=85984&RQT=309&VName=PQD>

Copyright © 2008 ProQuest LLC. All rights reserved.

