

REVIEW

Examination of postgraduate theses on mother-infant attachment in Turkey

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ABSTRACT

Aim: This systematic review systematically examines the postgraduate theses on mother-infant attachment.

Material and Method: The study used a qualitative design. The study data were collected from 15 to 30 March 2023 in the Council of Higher Education National Thesis Center database using the keywords "mother-baby attachment." Forty-nine theses, completed between 2007 and 2023 and registered to the Institute of Health Sciences, were reached. Thirty-five studies met the inclusion criteria. The type of research, the type of research used in the research, and the sample were examined systematically.

Results: It has been observed that the number of postgraduate theses on mother-infant attachment has increased in recent years. It was determined that 33% (n=12) of the postgraduate nurses were midwifery, and 67% (n=24) were those made in nursing departments. 81% (n=29) of the theses were master's, 19% (n=7) were doctoral theses, 61% (n=22) of the theses were descriptive, and 28% (n=10) were randomized controlled studies. 5.5% (n=2) were quasi-experimental studies, and 5.5% (n=2) were case-control studies.

Conclusion: It has been determined that master's theses are mostly descriptive of the current situation, and doctoral theses are experimental studies that involve intervention. These are often made in the fields of nursing and midwifery. It is recommended to conduct more studies with a high level of evidence, experimental or qualitative design, examining the relationship between mother-infant attachment and the factors affecting it.

KEYWORDS

Attachment; Mother-infant attachment; Maternal attachment; Mother-infant interaction

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Introduction

Bowlby introduced attachment theory to draw attention to the relationship between mothers or caregivers and their children. According to Bowlby, attachment is an emotional bond formed between a mother and her child [1]. The attachment instinct between the baby and caregivers enables the baby to communicate with its environment. The newborn needs care to survive, and this bond established with the person who provides the care he needs ensures his survival in the long term [1,2].

The concept of attachment for the mother and the concept of attachment for the baby are used with different words and different meanings. While the baby's attachment to its mother is expressed as 'Attachment,' the mother's attachment to the baby is referred to as 'Bonding' [3]. However, in our country, attachment is expressed as 'attachment' for both the mother and the baby [4].

Maternal attachment is 'the desired warm, intimate and continuous relationship between mother and baby.' Maternal attachment is a strong bond that develops sequentially during pregnancy, birth, and postnatal periods and continues to increase in the neonatal period [5]. Maternal attachment: There is a 'preparatory phase' where the bonding between the mother and the fetus covers the period before birth, an 'acquaintance phase' where the foundations of all relationships are laid, an

'attachment phase' where the relationship between mother and baby increases, and a 'bonding phase' that connects the mother and the baby throughout their lives [6].

Mother-baby attachment begins with the mother learning that she is pregnant and continues during birth and postpartum [7]. Factors affecting mother-infant attachment are different in each period. During pregnancy: whether the pregnancy is desired/planned or not, the mother's emotional state, her ability to cope with the stress she experiences, the mother's smoking, alcohol or substance use, the mother's nutrition, the mother's sleep pattern, whether she can feel the fetus, the mother's age and educational status, the mother's socio-economic status. The mother's condition and the mother's history of miscarriage/abortion affect mother-baby attachment [4, 8]. At the time of birth: The birth process experienced, difficult labor, type of birth, the mother's anesthesia at birth, and early skin-to-skin contact affect mother-baby bonding [9,10]. In the postpartum period, the baby's prematurity, whether breastfeeding has started or not, embracing the baby and sharing the same room with the baby, touch, social support, the baby's health status, and whether the mother has a history of postpartum depression affect mother-baby attachment [11].

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This study aimed to examine the postgraduate theses on mother-infant attachment, present suggestions regarding the structures, the year in which the theses were written, the department, the type of study, and the studies to be carried out in the field, and seek answers to the following questions.

Research questions

- What is the distribution of postgraduate theses written between 2007 and 2023 in our country according to years?
- What is the distribution of postgraduate theses written between 2007-2023 in our country according to departments?
- What is the distribution of postgraduate theses written between 2007-2023 in our country according to their types?

Materials and Methods

Study design

This research was designed to reveal postgraduate studies on mother-infant attachment in our country. It used the systematic review method, one of the qualitative research methods.

Population and sample of the research

All the theses on mother-infant attachment between 2007 and 2023, which were included in the database of the Council of Higher Education National Thesis Center and whose full text was available, were included in the research. Forty-nine theses registered at the Institute of Health Sciences and completed between 2007 and 2023 were reached. Thirty-six studies met the inclusion criteria: The type of research, the type of research used in the research, and the sample of the research were systematically examined.

Data collection tools

The study data were collected using the data summary form developed by the researchers. The content of the relevant form includes the year in which the research was conducted, the type of research, the type of research, and the sample of the postgraduate theses included in the scope of the study. The numerical evaluation method was used in the analysis of research data.

Collection of data

The research data was obtained by evaluating the master's and doctoral theses as a result of the search made with the keyword "mother-infant attachment" in the database of the National Thesis Center of the Council of Higher Education between 15-30 March 2023. The PRISMA flow diagram includes the study selection process (Figure 1).

Ethical aspect of research

Since this research sample consists of theses accessible in the Higher Education Institution National Thesis Center database, it does not require ethics committee permission. Research findings are in the Higher Education Institution National Thesis Center database. It is limited to postgraduate theses on mother-infant attachment, the full text of which is accessible.

Evaluation of data

After checking the ethics committee approvals of the theses included in the research, the data that met the search criteria were evaluated using descriptive statistical methods.

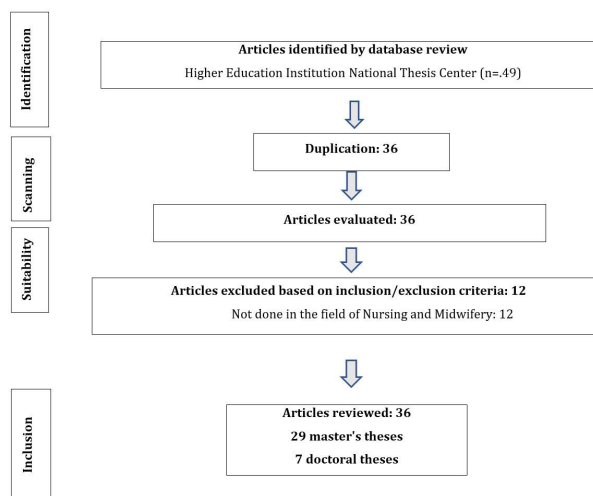


Figure 1. Selection Process of Studies - PRISMA Flow Chart.

Results

It was determined that 33% (n=12) of the 36 postgraduate theses on mother-child attachment included in the research were from midwifery and 67% (n=24) from nursing departments. The descriptive characteristics of the 36 theses included in the research are given in Table 1.

Table 1. Introductory features of graduate theses.

Introductory Features	n	%
Thesis Type		
MSc	29	81
PhD	7	19
Department		
Nursing	24	67
Midwifery	12	33
Research Design Type		
Cross-Sectional-Descriptive	22	61
Experimental-Randomized Controlled	10	28
Semi-Experimental	2	5.5
Case Control	2	5.5

USA*: Department

The characteristics of postgraduate theses on mother-child attachment are given in Table 2. Among the descriptive studies examining the factors affecting mother-infant attachment, It has been determined that experimental studies involving relaxation support programs and baby massages have been carried out. During the COVID-19 pandemic, it was observed that there were postgraduate studies in both midwifery and nursing on mother-baby bonding. It has been observed that the studies conducted are primarily descriptive and cross-sectional, but especially the doctoral theses conducted in recent years are randomized controlled experimental studies. Research has been determined, which started with the first master's thesis in nursing in 2007 and has increased in recent years. The distribution of these by year is given in Figure 2.

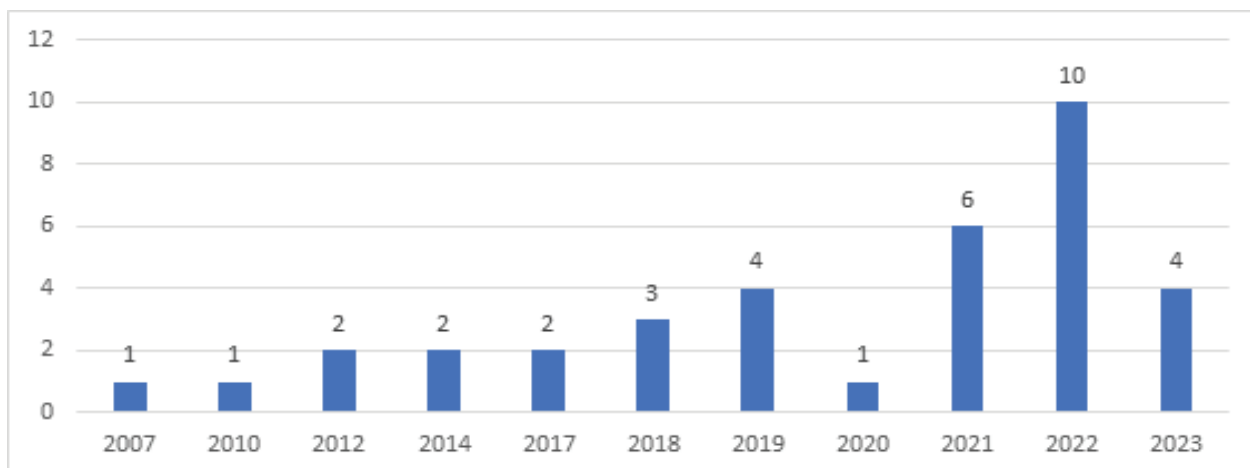


Figure 2. Distribution of Postgraduate Theses on Mother-Baby Attachment by Years (2007-2023).

Table 2. Current commercially available ultrasound contrast agents.

Year of Thesis Type	Name of the Thesis	Department	Design Type of Thesis	Sample Number	Results
2023 PhD	Investigation of the effect of attachment-based support given in the perinatal period on prenatal attachment, early mother-infant attachment and maternal attachment	Nursing	The first phase of this research is methodological, and the second phase is a randomized controlled study.	The sample group of the research consisted of 143 mothers in the first stage, and a total of 70 participants in the second stage, 34 in the intervention group and 36 in the control group.	It has been observed that Attachment Based Support given to pregnant women during the perinatal period is effective in increasing prenatal attachment, early mother-infant attachment indicators and maternal attachment [12].
2023 MSc	The effect of general or spinal anesthesia on the duration of first breastfeeding and mother-infant attachment in primiparous cesarean section cases	Midwifery	It is a cross-sectional and descriptive research.	The study was conducted with 200 women who met the inclusion criteria.	According to the scale results; The time to first breastfeeding and mother-baby bonding status in women who underwent spinal anesthesia were found to be significantly higher than in women who underwent general anesthesia [13].
2023 PhD	The effect of lactation support program on milk release, mother-infant attachment and maternal role	Midwifery	It is a research in a single group pre-test post-test trial model.	It was carried out with 34 mothers who had babies aged 1-4 months and who had stopped breastfeeding at least 15 days and at most 3 months ago.	It was concluded that the relaxation support program increased milk secretion, maternal bonding and the maternal role [14].

2023 MSc	Determination of the relationship between stress levels and mother-infant contact barriers and mother-infant attachment in mothers whose babies are hospitalized in the neonatal intensive care unit.	Nursing	The study was conducted in a descriptive and relationship-seeking nature.	111 mothers who met the inclusion criteria for the study were reached.	In order to increase mothers' contact with their babies, kangaroo care or increasing breastfeeding for babies whose general health condition is suitable is recommended. The mother's contact with her baby will reduce the stress level and increase mother-baby bonding [15].
2022 MSc	The effect of spontaneous and assisted reproductive techniques on postpartum mother-infant attachment and maternal anxiety level	Nursing	It was made in descriptive and comparative type.	A total of 121 mothers became pregnant, 47 using assisted reproductive techniques and 74 spontaneously.	While it was determined that the level of mother-infant attachment was higher in mothers who conceived through ART than in mothers who conceived spontaneously, there was no significant difference between stress and anxiety levels [16].
2022 MSc	Examining the relationship between mothers' fear of COVID-19 and mother-infant attachment and breastfeeding self-efficacy in the postpartum period	Nursing	It was conducted descriptively and cross-sectionally.	The research was conducted with 258 mothers who gave birth between the dates of the study.	In the study, it was determined that mothers' fear of COVID-19 in the postpartum period was at a moderate level. In the study, there was no significant relationship between fear of COVID-19 and mother-infant attachment; It has been determined that as the fear of COVID-19 increases, the level of breastfeeding self-efficacy decreases [17].
2022 PhD	The effect of infant massage on infant growth, mother-baby bonding and mothers' self-confidence.	Nursing	Randomized controlled pretest-posttest was carried out in experimental type.	The sample of the research consisted of 60 mothers and babies.	It is recommended that nurses working in FHCs explain baby massage, which is a non-pharmacological practice, to families, and that baby massage training is given online and synchronously to parents so that more babies can meet loving touches [18].

2022 MSc	The effect of postpartum obsessive-compulsive behaviors on mother-infant attachment.	Midwifery	It is a descriptive study.	The study was conducted with 260 mothers who met the inclusion criteria.	The increase in obsessive-compulsive behaviors in the postpartum period positively affects mother-infant attachment [19].
2022 MSc	Evaluation of birth outcomes and mother-infant attachment in planned and unplanned pregnancies	Midwifery	It is a descriptive study.	The study sample consists of 92 postpartum women who had 46 planned and 46 unplanned pregnancies and gave birth.	Since unplanned pregnancies cause depressive symptoms in the mother and negatively affect mother-baby bonding, it is recommended that they be detected as soon as possible and appropriate counseling be provided by midwives and nurses [20].
2022 PhD	The effect of video conferencing between preterm infants and their mothers on infants' physiological parameters and mother-infant attachment.	Nursing	The research is a prospective, randomized controlled, experimental study.	The sample of the research consists of 75 preterm babies and their mothers.	It is recommended to use video call technology as an effective method, which will improve the physiological parameters of preterm babies and increase mother-infant bonding [21].
2022 MSc	Determination of the effect of COVID-19 pandemic on breastfeeding and mother-infant attachment in mothers giving birth in a baby-friendly hospital.	Midwifery	It is a Case-Control study.	The sample of the study consisted of a total of 128 mothers and their babies, 64 of whom were cases (diagnosed and suspected of COVID-19) and 64 of whom were control groups (healthy).	Pandemic conditions caused mothers with a diagnosis or suspicion of COVID-19 to be separated from their babies in the postpartum period, unable to have skin-to-skin contact, and negatively affected the rates of breastfeeding their babies immediately after birth and within the first hour, and the duration of exclusive breastfeeding in the first six months [22].
2022 PhD	The effect of half swaddling and kangaroo care practices initiated early in preterm infants on breastfeeding, mother-infant attachment, maternal sleep quality and postpartum depression.	Nursing	It is a prospective, randomized controlled trial.	It consisted of n=160 mothers with premature babies between the ages of 18-49.	The combination of half-swaddle and kangaroo care, initiated at an early stage in preterm babies, has a positive effect on breastfeeding self-efficacy, perception of insufficient milk, breastfeeding success, mother-baby attachment, maternal sleep

2022 MSc	The effect of early skin-to-skin contact on mother-infant attachment and perception of traumatic birth.	Midwifery	It was conducted as a randomized controlled experimental study.	A total of 350 women who agreed to participate as the study group (n:175) and control group (n:175) were formed.	In this study, it was found that early skin-to-skin contact increases maternal attachment and reduces the perception of traumatic birth [24].
2022 Master's MSc	The relationship between psychosocial health level and mother-infant attachment in primiparous pregnant women.	Nursing	It is a descriptive study.	It consisted of 232 pregnant volunteers.	It may be recommended to conduct more research with a high level of evidence examining the relationship between psychosocial health level and mother-infant attachment and the affecting factors [25].
2021 MSc	Investigation of mother-infant attachment according to perception of motherhood and some variables.	Nursing	It is a descriptive study.	It consisted of 368 mothers who agreed to participate in the study.	The effect of social support, motherhood perception and baby perception factors on mother-baby attachment was determined to be 42% [26].
2021 Master's MSc	Determining the relationship between mother-infant attachment and father-infant attachment.	Nursing	It is a descriptive study.	192 mothers and fathers were included in the study.	As a result of the effect of mother attachment levels, the interaction and love of father-infant attachment will be positively affected. As a result of fathers' patient and tolerant understanding, their bond towards their babies will increase [27].
2021 Master's MSc	Early mother-infant attachment in term and preterm women and factors affecting it.	Nursing	It is a descriptive study.	A total of 300 women, including 150 women who had a term birth and 150 women who had a preterm birth, were included in the study.	The risk of attachment problems and depression in mothers who give birth preterm is higher than in mothers who give birth at term. However, individual characteristics of all mothers in both groups, characteristics of the newborn, postpartum mother-baby communication and many characteristics related to receiving support may affect these problems [28].

2021 Master's MSc	The effect of induction of labor on postpartum mother-infant attachment and anxiety level.	Midwifery	It was done in case-control type.	It was conducted with 416 women.	In this study, it was observed that women who underwent oxytocin induction at birth had lower levels of mother-infant attachment and higher state anxiety levels than women who did not receive oxytocin induction. In addition, the study found that as women's anxiety levels increased in both groups, mother-infant attachment levels decreased [29].
2021 MSc	Assessment of mother-infant attachment and postpartum depression in women who conceived naturally and with assisted reproductive techniques.	Nursing	It was conducted descriptively and cross-sectionally.	It consisted of 52 women who got pregnant and gave birth using assisted reproductive techniques (ART) and 104 women who got pregnant and gave birth naturally (n=156).	It is especially recommended that women's health nurses plan counseling services for infertile women regarding their physical and psychosocial needs before pregnancy, during pregnancy and after pregnancy [30].
2021 MSc	Evaluation of the relationship between postpartum mothers' feelings of security and mother-infant attachment in the postpartum period.	Midwifery	It is a descriptive study.	The study included 130 women who agreed to participate in the study.	A negative ($r=-0.181$), significant and very weak relationship was found between the mothers' postpartum sense of security scale and the mother-infant attachment scale ($p<0.05$) [31].
2020 MSc	The effect of posttraumatic stress on mother-infant attachment in mothers who gave birth prematurely.	Nursing	It is a descriptive study.	It was conducted with 107 mothers who gave premature birth.	In the study, it was determined that post-traumatic stress levels of mothers who gave birth prematurely were high. It has been determined that as the level of posttraumatic stress increases, the level of maternal attachment increases [32].

2019 MSc	The effect of fear of childbirth on mother-infant attachment and breastfeeding attitude in the 4th stage of labor.	Midwifery	It is a descriptive study.	The total number of people was determined as 685 (162 mothers who had a cesarean section, 523 mothers who had a normal vaginal birth).	Pregnant women should be given education and counseling regarding pregnancy and birth, birth preparation classes should be expanded, and the participation of pregnant women and their partners in these classes should be supported [33].
2019 MSc	Mother-infant attachment and anxiety levels of mothers during pregnancy and postpartum period.	Nursing	It is a descriptive study.	The study consisted of 110 pregnant women who complied with the protocol.	It is observed that the demographic characteristics of the pregnant women, such as age, educational status, employment status, monthly income, smoking, and sleep problems, have an impact on the average scores of the prenatal, mother-infant, maternal attachment and state-trait anxiety scales ($p < 0.05$) [34].
2019 PhD	The effect of a health promotion follow-up program based on Meleis' Transition Theory on mother-infant attachment, maternal self-efficacy and infant development: A randomized controlled trial.	Nursing	This study is a parallel group, randomized controlled study.	64 pregnant women were randomly assigned to the intervention ($n = 32$) and control groups ($n = 32$).	It has been observed that theory-based nursing interventions, starting from pregnancy, in protecting and improving the health of the baby, have an effect on mother-baby attachment, parental self-efficacy and the baby's development. SGIP, which was prepared based on Meleis's Transition Theory, was found effective in supporting the transition to motherhood [35].
2019 MSc	Investigation of the relationship between kangaroo care applied to premature infants and mother-infant attachment.	Nursing	It was done semi-experimentally.	It consisted of 50 preterm babies who were hospitalized in the neonatal intensive care unit for at least 24 hours.	In order to initiate and maintain maternal attachment, it has been suggested that kangaroo care should be supported in mothers whose babies are in the Neonatal Intensive Care Unit, and that working nurses should have knowledge and equipment regarding

2018 MSc	The effect of umbilical cord cutting time on infant beta-endorphin levels and mother-infant attachment.	Midwifery	The research is in an experimental model with a control group.	It comprised 107 (55: Experimental group-late cord clamp, 52: Control group-early cord clamp) pregnant women selected by randomization method.	According to the research findings, it was determined that umbilical cord beta-endorphin and prolactin values were higher in babies who received delayed cord clamping, and that breastfeeding success and mother-baby bonding were higher in this group than in the group with early cord clamping [37].
2018 MSc	Mother-infant attachment and related factors in mothers whose premature infants are hospitalized in neonatal intensive care unit.	Nursing	It is a descriptive study.	The sample group consisted of 127 mothers of babies (n:127).	An increase in the frequency of visiting the baby, income level, and holding the baby in the arms of the mothers in the study causes an increase in their maternal attachment scores, while an increase in age and number of pregnancies affects their attachment scores in a decreasing way [38].
2018 MSc	Investigation of the effect of mental states of mothers in the postpartum period on mother-infant attachment.	Nursing	It is a descriptive study.	It consisted of 113 volunteer mothers.	It is thought that the process can be managed successfully with the conscious approach of health professionals to the mother and her relatives during and after pregnancy [39].
2017 MSc	The relationship between prenatal mother-infant attachment and prenatal depression.	Nursing	It is a descriptive study.	The study was conducted with 265 pregnant women who met the participation criteria.	As the prenatal attachment level of pregnant women increases, the rate of prenatal depression decreases. It is seen that the main factors that negatively affect mother-baby attachment and prenatal depression are the perception of low income, duration of marriage, pregnancy-related disease, chronic disease, psychiatric disease, and the desire for the baby [40].

2017 MSc	The effect of premenstrual syndrome on postpartum depression and mother-infant attachment.	Nursing	It is descriptive and cross-sectional.	322 mothers who agreed to participate in the study were included.	It was determined that mothers having premenstrual syndrome affected the development of postpartum depression, but did not affect the postpartum attachment problem. It was also determined that mothers at risk of postpartum depression experienced postpartum attachment problems at a higher rate than mothers without risk of depression [41].
2014 MSc	The effect of delivery room environment and conditions on labor pain, labor satisfaction and mother-infant attachment.	Nursing	It was carried out as a randomized controlled experimental study.	There were 30 case and 30 control groups of pregnant women.	With the changes made in the delivery room environment and conditions, pregnant women perceived less labor pain. On the other hand, due to the hospital conditions where the research was conducted, satisfaction with labor and mother-baby attachment were found to be high and similar in both groups [42].
2014 MSc	The effect of prenatal education on mother-infant attachment.	Midwifery	It is an experimental study.	The intervention group (45 pregnant women) and the pregnant women living in Doğanlar neighborhood constituted the control group (45 pregnant women).	As a result of this educational intervention study conducted to investigate the effect of the education given in prenatal education classes on maternal attachment; It was determined that the maternal attachment of the mothers who were taken to the prenatal education class and formed the intervention group was higher than the control group [43].
2012 MSc	The relationship between mother-infant attachment and postpartum depression.	Midwifery	It is a cross-sectional and descriptive research.	It consists of 315 mothers with 1-4 month old babies.	At the end of the study, mothers with a higher level of education, who got married later, who had a later age at first birth, who worked after giving birth, who were satisfied with

					<p>their marriage and economic situation, and whose husbands had a high level of education, had higher attachment levels, while those whose spouses and their spouses had low levels of education and whose husbands worked as workers had higher attachment levels. Depression scores were also found to be higher in mothers who were not employed and were housewives and described their marital satisfaction and economic situation as poor. An inverse relationship was found between mother-infant attachment and depression scores [44].</p>
<p>2011 MSc</p>	<p>The effect of number of births on mother-infant attachment.</p>	<p>Nursing</p>	<p>It is a descriptive study.</p>	<p>It was obtained from a total of 100 mothers, 50 primiparous and 50 multiparous, with 4-month-old babies.</p>	<p>In the study, the mean maternal attachment scale score of primiparous mothers was found to be significantly higher than that of mothers in the multiparous group. When the groups were compared in terms of the average scores they received from the maternal attachment scale, it was determined that primiparous mothers who were under the age of 30, who conceived their babies willingly, and whose babies were born male received significantly higher scores than multiparous mothers [45].</p>
<p>2010 PhD</p>	<p>The effect of infant massage on mother-infant attachment and breastfeeding success.</p>	<p>Nursing</p>	<p>It was carried out with a pretest-posttest quasi-trial model with a control group.</p>	<p>The research was completed with 117 mothers (57 experimental, 60 control group).</p>	<p>It showed that baby massage was effective in increasing mother-infant bonding and breastfeeding success of primiparous mothers. In line with the findings obtained; It may be recommended that nurses routinely provide baby massage training to mothers in neonatal clinics, and encourage mothers to massage their</p>

					babies, taking into account the positive contributions of massage to mother-baby bonding, breastfeeding success and child health [46].
2007 MSc	Investigation of grandmother-mother-infant attachment.	Nursing	It is a descriptive study.	140 mothers who volunteered to participate in the study were included in the study.	As a result of this study; Attachment styles are thought to pass from generation to generation [47].

Discussion

It has been determined that postgraduate theses on mother-infant attachment have examined mother-infant attachment levels and factors affecting mother-infant attachment, and randomized controlled experimental studies have examined the effects of applications on mother-infant attachment. When the distribution of postgraduate theses related to our research was examined over the years, it was determined that studies on mother-infant attachment increased.

Jang (2009) states the relationship between kangaroo care applied to premature babies and mother-infant attachment [48]. It was concluded that care has a positive effect on mother-infant attachment. Kangaroo care: It is reported that it enables mothers to take responsibility earlier for the health indicators of the newborn, their adaptation to the motherhood role increases, mothers' sense of competence also increases, and mother-baby bonding is strengthened [15]. For this reason, nurses/midwives It seems that kangaroo care should be widely practiced and that it is essential for mothers to be educated about kangaroo care.

It is reported in the literature that breastfeeding or the intention to breastfeed positively affects the mother-infant bonding process. It is reported that skin-to-skin contact, especially in the early postpartum period, facilitates mother-baby bonding and breastfeeding [49]. The mother-infant attachment of mothers whose premature babies were in the neonatal intensive care unit concluded that as the frequency of mothers visiting the baby and holding the baby increases, mother-infant attachment becomes more muscular [50].

The fear of birth experienced by mothers: It is known that the postpartum period delays mothers' adaptation to the parenting role, especially mother-baby attachment. Fear/stress experienced by the mother; By suppressing the oxytocin hormone, it prolongs the vaginal birth process, disrupts the milk secretion reflex, and therefore causes a decrease in milk synthesis/amount, initiates lactation late, and negatively affects the bond between mother and baby [51]. The results of the studies in theses on mother-infant attachment are parallel to the literature. The effect of fear of birth in the 4th stage of labor on mother-baby attachment and breastfeeding attitude, it was reported that as the fear of birth increases, the level of mother-baby attachment decreases [33]. Therefore, It is essential to give all women during pregnancy the opportunity to express their feelings/fears about birth. It is thought that active

management of the birth process, especially in the delivery room/labor, by applying evidence-based practices will contribute to the reduction of women's fears of birth and postpartum mother-baby bonding.

Conclusions

The concept of mother-infant attachment is an interaction process that is affected by pregnancy, birth, and postpartum periods in women's lives. It requires care and importance and must be addressed during these three periods. It has been determined that master's theses are primarily descriptive of the current situation. In contrast, doctoral theses are experimental studies that include intervention, often done in nursing and midwifery. It is recommended that more studies be conducted with a high level of evidence and an experimental or qualitative design examining the relationship between mother-infant attachment and the affecting factors.

Limitations

The results of this study consist only of postgraduate theses on mother-infant attachment in the field of nursing, which were made available in the National Thesis Database of the Council of Higher Education between 2007 and 2023, and the general characteristics of the theses accessed and expressed in the objectives of the study.

Disclosure statement

No potential conflict of interest was reported by the authors.

References

1. Bowlby J. Attachment and loss: retrospect and prospect. *Am J Orthopsychiatry*. 1982;52(4):664-678. <https://psycnet.apa.org/doi/10.1111/j.1939-0025.1982.tb01456.x>
2. Erhart A, Olsavsky AK, Kim P. bonding The Encyclopedia of Child and Adolescent Development. 2020;6:1853-1866.
3. Woolgar M. Attachment theory. The Encyclopedia of Child and Adolescent Development. 2019; 5:1-10. <https://doi.org/10.1002/9781119171492.wecad208>
4. Karakaş NM, Dağlı FŞ. The importance of attachment in babies and affecting factors. *Turkish Archives of Pediatrics*. 2019;54(2): 76-81. <https://doi.org/10.14744%2FTurkPediatriArs.2018.80269>
5. Nacar E, Gökkaaya FA review on attachment and maternal attachment. *Cyp Turk J of Psychiatry and Psychol*. 2019;1(1):50-56. <https://doi.org/10.35365/ctjpp.19.1.06>
6. Cetisli NE, Arkan G, Top ED. Maternal attachment and breastfeeding behaviors according to type of delivery in the immediate postpartum period. *Rev Assoc Med Bras*. 2018; 64:164-169. <https://doi.org/10.1590/1806-9282.64.02.164>
7. Medina IME, Granero-Molina J, Fernández-Sola C, Hernández-Padilla JM, Ávila MC, Rodríguez ML. Bonding in

- neonatal intensive care units: Experiences of extremely preterm infants' mothers. *Women and Birth*. 2018;31(4):325-330. <https://doi.org/10.1016/j.wombi.2017.11.008>
8. Tuncel NT Süt HK. The effect of anxiety, depression and prenatal distress levels in pregnancy on prenatal attachment. *J Gynecol Obstetr Neonatol*. 2019;16(1):9-17.
 9. Çınar N, Köse D, Altinkaynak S. The relationship between maternal attachment, perceived social support and breast-feeding sufficiency. *J Coll Physicians Surg Pak*. 2015;25(4):271-275.
 10. Akarsu RH, Oskay Ü. Determination of knowledge about danger signs and prenatal attachment levels of high-risk pregnant women. *Ege University Faculty of Nursing Journal*. 2017;33 (2):16-26.
 11. Yılmaz MS, Kostak MA. Postpartum depression and maternal attachment levels of mothers whose premature babies were hospitalized in the neonatal intensive care unit. *Eurasian J Health Sci*. 2010;4(2):71-79.
 12. Salehi K, Taleghani F, Kohan S. Effect of attachment-based interventions on prenatal attachment: a protocol for systematic review. *Reproductive health*. 2019; 16:1-5.
 13. Humadi ZS, Rabe'a MA. Relationship between general and spinal anesthesia and its impact upon breast feeding: Comparative study. *Iraqi National Journal of Nursing Specialties*. 2016;29(2). <https://doi.org/10.58897/injns.v29i2.253>
 14. Ninan B, Balakrishnan U, Mohamed A, Manjula M, Abiramalatha T, Chandrasekaran A, et al. Impact of lactation support program on initiation of breastfeeding in term infants. *Asian/Pacific Island Nursing Journal*. 2019;4(3):108. <https://doi.org/10.31372%2F20190403.1059>
 15. Flacking R, Thomson G, Ekenberg L, Löwegren L, Wallin L. Influence of NICU co-care facilities and skin-to-skin contact on maternal stress in mothers of preterm infants. *Sexual & reproductive healthcare*. 2013;4(3):107-112. <https://doi.org/10.1016/j.srhc.2013.06.002>
 16. Monti F, Agostini F, Fagandini P, Paterlini M, La Sala GB, Blickstein I. Anxiety symptoms during late pregnancy and early parenthood following assisted reproductive technology. *J Perinat Med*. 2008;36(5):425-432. <https://doi.org/10.1515/JPM.2008.074>
 17. Polat M, Yildiz İ. The relationships between the COVID-19 fears of mothers and their mother-infant bonding and breastfeeding self-efficacy in the postpartum period. *Early Child Dev Care*. 2023;193(15-16):1517-1529. <https://doi.org/10.1080/03004430.2023.2257003>
 18. Erçelik ZE, Yılmaz HB. Effectiveness of infant massage on babies growth, mother-baby attachment and mothers' self-confidence: A randomized controlled trial. *Infant Behav Dev*. 2023; 73:101897. <https://doi.org/10.1016/j.infbeh.2023.101897>
 19. Challacombe FL, Salkovskis PM, Woolgar M, Wilkinson EL, Read J, Acheson R. Parenting and mother-infant interactions in the context of maternal postpartum obsessive-compulsive disorder: Effects of obsessional symptoms and mood. *Infant Behav Dev*. 2016; 44:11-20. <https://doi.org/10.1016/j.infbeh.2016.04.003>
 20. Eslaminia T, Kaviani M, Akbarzadeh M. The effect of skin contact on maternal-infant attachment behaviors in emotional, proximity-seeking, and caretaking dimensions in planned and unplanned pregnancies in 2017, Iran: a research. *Curr Women's Health Rev*. 2020;16(3):206-213. <https://doi.org/10.2174/1573404816666200219102513>
 21. Tooten A, Hoffenkamp HN, Hall RA, Winkel FW, Eliëns M, Vingerhoets AJ, et al. The effectiveness of video interaction guidance in parents of premature infants: A multicenter randomised controlled trial. *BMC pediatrics*. 2012;1-9. 10.1186/1471-2431-12-76
 22. Cinquetti M, Marchiotta C, Fingerle M, Salani M, Adami A, Dainese D, et al. Breastfeeding rates fell in an Italian baby friendly hospital during the 2020 COVID-19 pandemic year and difficulties increased. *Acta Paediatrica*. 2023;112(4):770-775. <https://doi.org/10.1111/apa.16674>
 23. Erduran B, Yaman Sözbir Ş. Effects of intermittent kangaroo care on maternal attachment, postpartum depression of mothers with preterm infants. *J Reprod Infant Psychol*. 2023;41(5):556-565. <https://doi.org/10.1080/02646838.2022.2035703>
 24. Karimi A, Tara F, Khadivzadeh T, AAghamohammadian Sharbaf HR. The effect of skin-to-skin contact immediately after delivery on the maternal attachment and anxiety regarding infant. *The Iranian Journal of Obstetrics, Gynecology and Infertility*. 2013;16(67):7-15.
 25. Karakoç H, ÖZKAN H. The relationship with prenatal attachment of psychosocial health status of pregnant women. 2017.
 26. Huth-Bocks AC, Levendosky AA, Bogat GA, Von Eye A. The impact of maternal characteristics and contextual variables on infant-mother attachment. *Child development*. 2004;75(2): 480-496. <https://doi.org/10.1111/j.1467-8624.2004.00688.x>
 27. Braungart-Rieker JM, Zentall S, Lickenbrock DM, Ekas NV, Oshio T, Planalp E. Attachment in the making: Mother and father sensitivity and infants' responses during the Still-Face Paradigm. *J Exp Child Psychol*. 2014;125:63-84. <https://doi.org/10.1016/j.jecp.2014.02.007>
 28. Fuertes M, Martelo I, Almeida R, Gonçalves JL, Barbosa M. Attachment and mother-infant interactions in dyads with infants born full-term, moderate-to-late preterm, and very-to-extreme preterm. *Early human development*. 2024;189:105943. <https://doi.org/10.1016/j.earlhumdev.2024.105943>
 29. Ponti L, Ghinassi S, Tani F. Spontaneous and induced labor: association with maternal well-being three months after childbirth. *Psychol Health Med*. 2022;27(4):896-901. <https://doi.org/10.1080/13548506.2021.1956554>
 30. Amirchaghmaghi E, Malekzadeh F, Chehrizi M, Ezabadi Z, Sabeti S. A comparison of postpartum depression in mothers conceived by assisted reproductive technology and those naturally conceived. *Int J Fertil Steril*. 2020;13(4):277. <https://doi.org/10.22074%2Fijfs.2020.5466>
 31. Britton HL, Gronwaldt V, Britton JR. Maternal postpartum behaviors and mother-infant relationship during the first year of life. *J Pediatr*. 2001;138(6):905-909. <https://doi.org/10.1067/mpd.2001.113358>
 32. Forcada-Guex M, Borghini A, Pierrehumbert B, Ansermet F, Muller-Nix C. Prematurity, maternal posttraumatic stress and consequences on the mother-infant relationship. *Early human development*. 2011;87(1):21-26. <https://doi.org/10.1016/j.earlhumdev.2010.09.006>
 33. Tatarlar A, Tokat MA. The effect of birth fear on lactation, infant sucking ability and first breastfeeding results. 2016.
 34. Daglar G, Nur N. Level of mother-baby bonding and influencing factors during pregnancy and postpartum period. *Psychiatria Danubina*. 2018;30(4):433-440. <https://doi.org/10.24869/psyd.2018.433>
 35. Turk Dudukcu F, Tas Arslan F. Effects of health promotion program on maternal attachment, parenting self-efficacy, infant development: a randomised controlled trial. *Journal of Obstetrics and Gynaecology*. 2022;42(7):2818-2825. <https://doi.org/10.1080/01443615.2022.2109949>
 36. Jang M. Effects of Kangaroo Care on Growth in Premature Infants and on Maternal Attachment. *Journal of Korean Academy of Child Health Nursing*. 2009;15(4):335-342. <https://doi.org/10.4094/jkchn.2009.15.4.335>
 37. Dinç T, Kanbur A. The effect of delayed umbilical cord clamping on the infant's beta-endorphin level, mother-infant attachment and breastfeeding. *Eur J Obstet Gynecol Reprod Biol*. 2023; 285:187-192. <https://doi.org/10.1016/j.ejogrb.2023.04.025>
 38. Dezvaree N, Alaeekarahroudi F, KhanaliAgan L, TalebiGhane E. The mother-newborn's attachment and its related factors in mothers of hospitalized preterm neonates. 2016
 39. McMahon CA, Barnett B, Kowalenko NM, Tennant CC. Maternal attachment state of mind moderates the impact of postnatal depression on infant attachment. *J Child Psychol Psychiatry*. 2006; 47(7):660-669. <https://doi.org/10.1111/j.1469-7610.2005.01547.x>
 40. Rollè L, Giordano M, Santoniccolo F, Trombetta T. Prenatal attachment and perinatal depression: A systematic review.

- International journal of environmental research and public health. 2020;17(8):2644. <https://doi.org/10.3390/ijerph17082644>
41. Yücesoy H, Erbil N. Relationship of premenstrual syndrome with postpartum depression and mother–infant bonding. Perspectives in psychiatric care. 2021;58(3):1112-1120. <https://doi.org/10.1111/ppc.12909>
 42. Wrønding T, Argyraki A, Petersen JF, Topsøe MF, Petersen PM, Løkkegaard EC. The aesthetic nature of the birthing room environment may alter the need for obstetrical interventions—an observational retrospective cohort study. Sci Rep. 2019;9(1):303. <https://doi.org/10.1038/s41598-018-36416-x>
 43. Bellieni CV, Ceccarelli D, Rossi F, Buonocore G, Maffei M, Perrone S, Petraglia F. Is prenatal bonding enhanced by prenatal education courses?. Minerva ginecologica. 2007;59(2):125-130.
 44. Smith-Nielsen J, Tharner A, Steele H, Cordes K, Mehlhase H, Vaever MS. Postpartum depression and infant-mother attachment security at one year: The impact of co-morbid maternal personality disorders. Infant Behavior and Development. 2016; 44:148-158. <https://doi.org/10.1016/j.infbeh.2016.06.002>
 45. McGowan S. Does the maternal experience of childbirth affect mother–infant attachment and bonding? Journal of Health Visiting. 2014;2(11):606-616. <https://doi.org/10.12968/johv.2014.2.11.606>
 46. Dehghani K, Kargar Z, Mirjalili SR, Fallahzade H. The Effect of Infant Massage on Attachment Behaviors in Mothers of Premature Infants. J Babol Univ Med Sci. 2020;22(1). <http://dx.doi.org/10.22088/jbums.22.1.412>
 47. Cook GA, Roggman LA. Three-generation attachment: How grandmothers and mothers contribute to children's attachment security. Family Science. 2010;1(2):112-122. <https://doi.org/10.1080/19424620.2010.531051>
 48. Jang M. Effects of kangaroo care on growth in premature infants and on maternal attachment. Journal of Korean Academy of Child Health Nursing. 2009;15(4):335-342. <https://doi.org/10.4094/jkachn.2009.15.4.335>
 49. Scharfe E. Maternal Attachment Representations and Initiation and Duration of Breastfeeding. Journal of Human Lactation. 2012;28(2):218-225. <https://doi.org/10.1177/0890334411429111>
 50. Yurdakul Z, Akman I, Kuşçu MK, Karabekiroglu A, Yaylı G, Demir F, Özek E. Maternal psychological problems associated with neonatal intensive care admission. International Journal of Pediatrics. 2009;2009(1):591359. <https://doi.org/10.1155/2009/591359>
 51. Tatars A and Aluş Tokat M. The effect of fear during vaginal birth on lactation, sucking behaviors and first breastfeeding results. TAF Prev Med Bull. 2016; 5:83-91. 10.5455/pmb.11435819087