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Factors Affecting Bonding Attachment Formation in Postpartum Mothers: Literature Review

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Abstract

Background: The postpartum period is a very important transition stage for both mother and baby, and the development of bonding attachment is a crucial outcome. Many factors influence bonding attachment, but there are still few studies that combine these determinants.
Purpose: The aim of this study is to identify and analyse the factors that affect bonding attachment in postpartum mothers
Methods: This literature review was conducted by searching the literature in Google Scholar, PubMed, and ScienceDirect databases, selected based on inclusion and exclusion criteria.
Results: Out of 2,665 articles found, only 10 articles were used in this study. The synthesis results showed that the formation of bonding attachment in postpartum mothers is influenced by maternal characteristics, knowledge, family support, and postpartum depression.
Conclusions: Strengthening maternal knowledge, psychological well-being, and family support may provide important considerations for postpartum care aimed at facilitating positive maternal-infant bonding.

Keywords: bonding attachment, postpartum, factors

Introduction

Childbirth is a physiological and emotional experience that can affect a mother's readiness to take on her maternal role. This process is not just about the safety of the mother and baby, but also about feelings of security, self-control, comfort, and the support received during labour. The World Health Organization (WHO) states that intrapartum care should aim to create a positive childbirth experience by considering the mother's physical, psychological, and socio-cultural needs (Wulandari et al., 2026).

The postpartum period is a crucial transition stage for both mother and baby as they go through various changes after childbirth. At this stage, the mother not only recovers physically from pregnancy and delivery but also mentally adapts to her new caregiving responsibilities. Meanwhile, the baby starts to learn about the world outside the womb, getting used to feeding patterns, sleep

rhythms, and responding to different stimuli around them. A key outcome in the early postpartum phase is the bonding attachment between mother and child, which forms the foundation for future emotional closeness (Nur'aini et al., 2026).

Bonding attachment is an important process in building an emotional closeness between mother and baby, ideally starting immediately after birth. This process lays the foundation for a warm, safe, and responsive relationship between mother and baby. Bonding refers to the feelings of love, acceptance, and emotional attachment the mother feels towards her baby from the beginning of life. Meanwhile, attachment describes the emotional relationship that develops through repeated and continuous interactions between mother and baby over time. The quality of this relationship can help the baby feel secure and support emotional, social, and psychological development in later stages of life (Rahmawati, 2023).

Bonding attachment in early life is formed through various sensory stimuli between mother and baby, especially in the period immediately after birth. Direct physical touch, intense eye contact, the mother's voice, and even recognising her unique body scent act as the first language of communication, bringing calm, a sense of security, and trust to the baby. Physiologically, this interaction can trigger a surge of oxytocin secretion in the mother while helping reduce stress responses in the baby. This also supports the baby's adaptation process after birth, including maintaining stable heart rate and breathing patterns (Harmia & Zurrahmi, 2025).

A harmonious emotional bond between a mother and her child from the very first days of life is hugely important for the child's growth and development. A positively formed bond can help babies develop social and emotional skills better through the sense of security and responsiveness provided by the mother. On the other hand, difficulties in forming this attachment can trigger negative effects for both sides, such as increasing the mother's vulnerability to baby blues or postpartum depression, while also affecting the child's psychological trajectory. This highlights that bonding attachment isn't just a natural process after birth, but needs continuous support and attention so the emotional relationship can develop optimally (Satriawati et al., 2025).

Various previous empirical studies indicate that there is a connection between a mother's characteristics, knowledge, family support, and postpartum depression. However, academic studies that specifically combine these determinants into a single, in-depth analytical framework

are rarely found. Based on this, the aim of this study is to identify and analyse the factors that affect bonding attachment in postpartum mothers

Materials and Methods

Design

This study uses a literature review method to identify, examine, and synthesise various findings from previous research related to the topic under study. The search and selection process is carried out systematically with reference to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines.

Search methods

The article search was conducted through several electronic database sources, namely Google Scholar, PubMed, and ScienceDirect. The search strategy was arranged using a combination of keywords representing the variables of bonding attachment, postpartum mothers, and influencing factors including maternal characteristics, knowledge, family support, and postpartum depression. The keywords used in the search process were ("bonding attachment" OR "mother-infant bonding") AND ("postpartum mother") AND ("characteristics") AND ("knowledge") AND ("family support" OR "spousal support") AND ("depression").

Inclusion and exclusion criteria

The literature considered in this study includes articles published between 2021 and 2026, written in Indonesian or English, and available in full text containing abstract, introduction, methods, results, and discussion sections. The selected studies were limited to primary research with a quantitative approach and observational design. The population focused on was postpartum mothers, with a main interest in various factors related to bonding attachment. Articles that were not relevant to the research focus, did not meet the search keywords, or did not discuss the specified outcomes were not included in the analysis.

Data extraction

Data from articles that met the criteria were then systematically extracted using a data extraction table. The information collected included the author's name, year of publication, research

design, sample size, factors studied, and research findings. This data was used to identify and analyse the determinants of attachment bonding formation in postpartum mothers.

Quality appraisal

The methodological quality of articles that met the inclusion criteria was assessed using the Joanna Briggs Institute (JBI) Critical Appraisal Tools, adapted to each article's research design.

Data analysis

The analysis was done by comparing the research results from articles that met the criteria. Data were grouped based on factors related to the formation of attachment bonding in postpartum mothers. The final synthesis is presented narratively in the form of descriptions and tables to give a comprehensive picture of the factors affecting attachment bonding in postpartum mothers

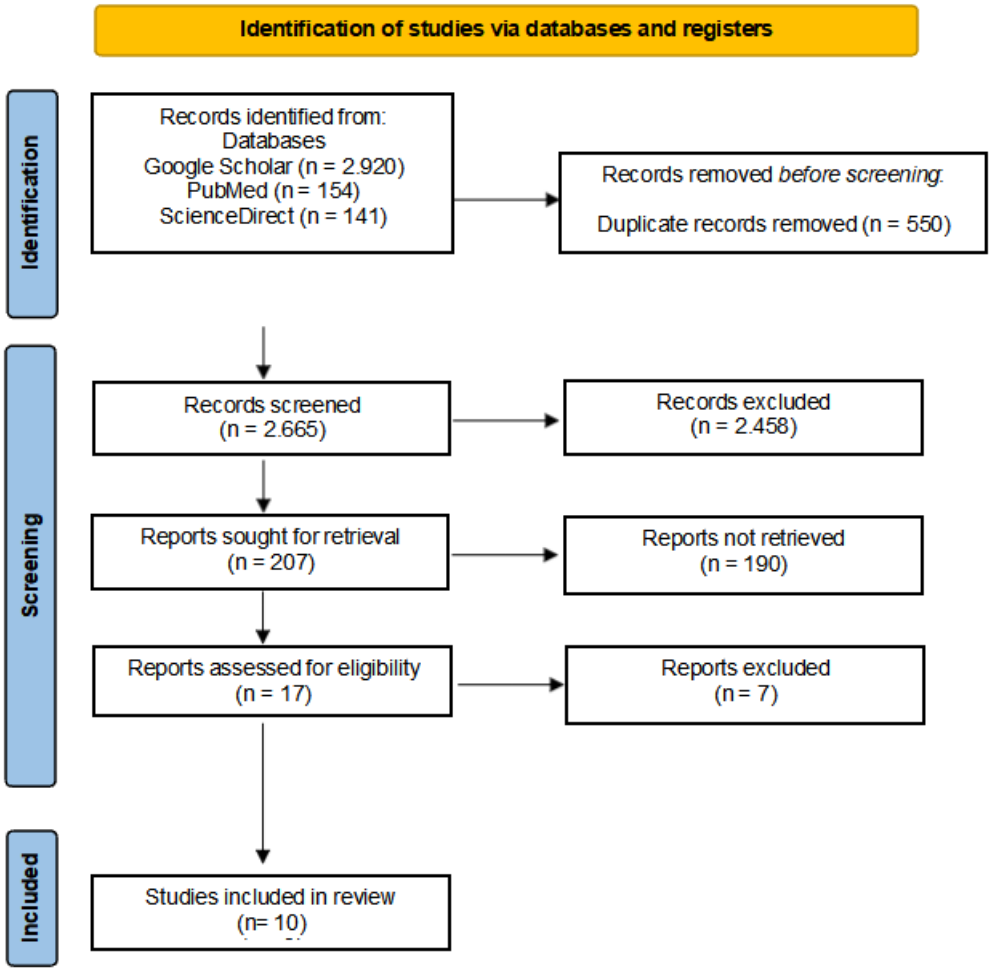


Figure 1. PRISMA Flowchart

Results

A total of 2,665 articles were obtained from Google Scholar (n = 2,920), PubMed (n = 154), and ScienceDirect (n = 141). After removing duplicates, 550 articles were eliminated. Next, 2,458 articles were excluded during the title and abstract screening stage, leaving 207 articles for further assessment. At the full-text stage, 190 articles were inaccessible, so only 17 articles were fully assessed for eligibility. Of these, 7 articles did not meet the inclusion criteria, leaving 10 articles used in this study.

Table 1. Article Search Results

No	Researcher and Year of Publication	Study Title	Study Design	Population and Sample	Results
1.	(Harmia & Zurrahmi, 2025)	Hubungan Pengetahuan Ibu Nifas Dengan Pelaksanaan Bonding Attachment Pada Bayi Baru Lahir	*Cross sectional*	69 postpartum mothers with a total sampling technique	The study results showed a p-value of 0.001, so it can be concluded that there is a significant relationship between postpartum mothers' knowledge and the implementation of bonding attachment
2.	(Mangaranap et al., 2025)	*The Relationship Between Postpartum Mothers' Knowledge And The Implementation Of Bounding Attachment In Newborns*	*Cross sectional*	33 postpartum mothers were chosen using purposive sampling	The chi-square test showed a p-value of 0.002 for the relationship between postpartum mothers' knowledge and the implementation of attachment care
3.	(Pratiwi, 2023)	Hubungan Pengetahuan Ibu Nifas Dan Dukungan Suami Dengan Pelaksanaan Bounding Attachment	*Cross sectional*	36 postpartum mothers were sampled using a saturated sampling technique	The study showed that there was a relationship between knowledge (p value = 0.002) and husband support (p = 0.005) of postpartum mothers with the implementation of Bonding Attachment
4.	(Italia & Sari, 2022)	Faktor-Faktor Yang Berhubungan Dengan Bounding Attachment Pada Masa Nifas	*Cross sectional*	25 postpartum mothers were selected using accidental sampling	Statistical tests showed a significant relationship between parity (p value = 0.017) and husband support (p value = 0.010) with bonding attachment in postpartum mothers.
5.	(Puspasari et al., 2023)	*Family Support Affect Bonding Attachment Of Baby And Adolescent Mother*	*Cross sectional*	106 mothers were selected using purposive sampling	Bivariate analysis showed that family support affects the bonding between babies and teenage mothers (p<0.05)
6.	(Samaria et al., 2026)	*Analysis Of Perceived Social Support On Bonding Attachment In Mothers Giving Birth During The COVID-19 Pandemic*	*Cross sectional*	118 postpartum mothers	There is a moderate positive correlation between support and emotional bonding (r = 0.537; p = 0.001).
7.	(Maulina et al., 2025)	Hubungan Postpartum Depression Dengan Mother Infant Bonding	*Cross sectional*	59 mothers using	A positive correlation was found between postpartum depression and disrupted bonding (r = 0.279; p = 0.032)

		Dan Faktor Sosiodemografis		purposive sampling	
8.	(Ernawati & Rahayuningsih, 2025)	*Relationship Between The Risk Of Postpartum Depression And The Quality Of Mother Infant Bonding Attachment In Postpartum Mothers*	*Cross sectional*	93 postpartum mothers were selected using a simple random sampling technique	There is a significant relationship between postpartum depression risk and bonding difficulties ($p < 0.001$).
9.	(Mazúchová et al., 2021)	*Mother-Infant Bonding And Its Associated Factors During Postpartum Period*	*Cross sectional*	204 postpartum mothers using convenience sampling	There is a significant relationship between education level ($p<0.001$) and risk of depression ($p<0.001$) with mother-infant bonding after childbirth
10.	(Hailemeskel et al., 2022)	*Mother-Infant Bonding And Its Associated Factors Among Mothers In The Postpartum Period, Northwest Ethiopia, 2021*	*Cross sectional*	420 postpartum mothers	There is a relationship between maternal depression status (β = 2.31; 95% CI: 1.98–2.64), working as a government employee (β = 15.58; 95% CI: 9.88–21.27), experiencing current pregnancy complications (β = −7.28; 95% CI: −12.27—−2.29), not breastfeeding the baby (β = 7.66; 95% CI: 2.94–12.38), and social support (β = −2.00; 95% CI: −2.49–−1.50) with mother-infant bonding

Discussion

The synthesis results show that the formation of bonding attachment can be influenced by maternal characteristics including parity (Italia & Sari, 2022), employment status (Hailemeskel et al., 2022), pregnancy complications (Hailemeskel et al., 2022), exclusive breastfeeding (Hailemeskel et al., 2022), education (Mazúchová et al., 2021), knowledge (Harmia & Zurrahmi, 2025; Mangaranap et al., 2025; Pratiwi, 2023), family support (Hailemeskel et al., 2022; Italia & Sari, 2022; Pratiwi, 2023; Puspasari et al., 2023; Samaria et al., 2026), and postpartum depression (Ernawati & Rahayuningsih, 2025; Hailemeskel et al., 2022; Maulina et al., 2025; Mazúchová et al., 2021)

Parity is one of the maternal conditions that can be related to a mother's ability to build bonding attachment after childbirth. Itali explains that the experience of giving birth and the number of children a mother has can affect her psychological adaptation process. First-time mothers tend to face challenges as they are just taking on the role of a mother, making them more vulnerable to stress and postpartum depression (Italia & Sari, 2022). Employment status and economic conditions can also be related to bonding attachment. Individuals with financial limitations are more likely to experience stress, which can disrupt the emotional bond between mother and baby.

Pregnancy complications can increase the physical and psychological burden on the mother, including concerns about her own health and the fetus, potentially affecting her readiness to build bonding attachment (Hailemeskel et al., 2022).

Hailemeskel et al. (2022) also mentioned that exclusive breastfeeding is a characteristic of mothers that goes hand in hand with bonding attachment. Breastfeeding meets nutritional needs while strengthening the mother-baby bond through physical contact and the release of oxytocin, which supports emotional closeness. Education is also linked to bonding attachment. Mazúchová et al. (2021) found that more educated mothers show better attachment, which is thought to be influenced by differences in emotional, rational, and social desirability responses.

A mother's knowledge about bonding attachment is one of the factors that can support the formation of a bond between mother and baby. Harmia & Zurrahmi (2025) state that mothers who understand the concept, purpose, benefits, and how to carry out bonding attachment will have a better foundation for applying it in newborn care. This finding is reinforced by Mangaranap et al. (2025), who explain that a mother's understanding of bonding attachment can encourage active involvement in various closeness practices with the baby, such as Early Breastfeeding Initiation (IMD) and skin-to-skin contact.. Similarly, Pratiwi (2023), stating that mothers in the postpartum period with good knowledge tend to engage more in bonding attachment practices. Understanding the benefits and goals of bonding attachment can increase a mother's willingness to immediately interact in ways that support the formation of a bond with her baby.

The family environment is one source of support that can help mothers navigate the transition after childbirth while also building a relationship with their baby. Puspasari et al. (2023) explained that emotional, informational, and instrumental support can boost confidence, reduce stress, and lighten the mother's burden, thus supporting the formation of bonding attachment. Along the same line, Italia & Sari (2022) stated that support from the husband, as part of the family, can strengthen the mother's motivation to interact and build a bond with her baby. Pratiwi (2023) also explains that the involvement of a partner as a family member in baby care can ease the mother's burden, especially for first-time mothers who still need help and lack experience in taking care of a baby. Samaria et al. (2026) show that multiparous mothers with high social support are more likely to have a good bonding attachment. Meanwhile, Hailemeskel explains that limited

emotional and social support from a partner can increase stress, lower self-confidence, and hinder mother-baby bonding (Hailemeskel et al., 2022).

Postpartum depression also affects bonding attachment. Maulina et al. (2025) explain that depression can disrupt a mother's emotional management and responses to her baby's needs, including reducing sensitivity and feelings of closeness due to hormonal changes and nervous system activity related to parenting. This aligns with Ernawati & Rahayuningsih (2025), who revealed that postpartum depression can lower sensitivity, emotional engagement, and a mother's ability to respond to her baby's cues, making interaction and bonding less optimal. Mazúchová et al. (2021) add that maternal depression can reduce a mother's confidence in her parenting abilities, while Hailemeskel et al. (2022) explain that depressive symptoms make mothers less responsive and attentive to their baby's needs.

Conclusions

The formation of attachment bonding in postpartum mothers is influenced by various interconnected factors, including maternal factors, psychological aspects, baby characteristics, childbirth experiences, and social support. Therefore, postpartum care should consider the mother's psychological state, improve knowledge about baby interaction and care, and involve the family in providing support to help form an optimal attachment bond between mother and baby.

Declaration of Interest

The author declares that there are no conflicts of interest in writing and publishing this article.

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Data Availability

The data used in this literature review were obtained from scientific articles available on the electronic databases Google Scholar, PubMed, and ScienceDirect. The data and information analysed in this study are available in the public sources cited as references.

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