Journal Of Health Science Community
ISSN: 2714 7789 (print) – 2745 3561 (online)
DOI : https://doi.org10.30994/jhsc.v6i2.312
Vol. 6 No. November 2, 2025 , Pages 113-126

The Impact of Rooming-In on Bonding Attachment Among Postpartum Mothers After Spontaneous and Cesarean Birth
The Impact of Rooming-In on Mother–Infant Bonding Among Postpartum Mothers After Spontaneous and Cesarean Birth

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ABSTRACT
Efforts to reduce the Infant Mortality Rate (IMR) during the neonatal period include carrying out bonding attachments. There are various ways to support the occurrence of bonding attachment between mother and baby, including the implementation of rooming in and exclusive breastfeeding after delivery (Wijaya et al., 2023). By implementing rooming in, it is hoped that a good bonding attachment will be created between mother and baby it will have an impact on breastfeeding to support increased achievement of exclusive breastfeeding. This study used a cross-sectional method, with a population of 86 postpartum mothers. Using a purposive sampling technique, the sample was 50 mothers, consisting of 25 spontaneous postpartum mothers and 25 SC postpartum mothers. The results of the study, 84% of postpartum mothers have a good bonding. Based on the Chi-Square test, the result was p=0.000<0.05, H0 was rejected and H1 was accepted, which means there is a relationship between rooming in and bonding attachment in post partum mothers. The distribution of data from 2 groups after the normality test was performed not normal, then a statistical test of the difference between the 2 groups using Mann-Whitney U test with the result p = 0.445> 0.05, there was no significant difference between the spontaneous postpartum mother group and the postpartum SC mother group. Hopefully this research can be developed with a different research design as support for efforts to achieve exclusive breastfeeding.

Keywords: breast milk, attachment bonding, rooming-in

INTRODUCTION
The first month of life is the most vulnerable period for a child's survival. Most neonatal deaths (75%) occur during the first week of life, and approximately 1 million newborns die within the first 24 hours. Children who die in the first 28 days of life suffer from a range of conditions and diseases associated with a lack of quality care at birth or skilled care and treatment immediately after birth and in the first days of life . In 2022, Africa had the highest neonatal mortality rate in the world at 27 deaths per 1,000 live births, followed by Central and Southern Asia, with a neonatal mortality rate of 21 deaths per 1,000 live births. Premature birth, birth complications (asphyxia or birth trauma), neonatal infections, and congenital anomalies remain the leading causes of neonatal deaths (WHO, 2024).

According to WHO (2024), children who die within the first 28 days of birth suffer from a range of conditions and diseases associated with a lack of quality care at birth or skilled

care and management immediately after birth and in the first days of life. With the increase in births in health facilities (nearly 80% globally), there is a significant opportunity to provide essential newborn care and identify and manage high-risk newborns. However, few women and newborns stay in such facilities for the recommended 24 hours after birth, which is the most critical time when complications can arise.

Over the past six years, exclusive breastfeeding rates in Indonesia have surged from 52% in 2017 to 68% in 2023. However, significant challenges remain at the newborn stage. The National Health Survey (SKI, 2023) found that only 27% of newborns received breast milk in the first hour, one in five babies were given food or fluids other than breast milk in the first three days, and only 14% experienced skin-to-skin contact for at least one hour immediately after birth (UNICEF, 2024).

Based on data from Central Kalimantan Province, the coverage of Exclusive Breastfeeding in Central Kalimantan Province is in fourth place at 61.0% (Central Kalimantan Provincial Health Office, 2024) . According to the recapitulation data of indicator achievement at Sultan Imanuddin Regional Hospital, the clinical area quality indicator for newborns who received breast milk during hospitalization was 74.35% in 2022, but this data cannot describe the success of Exclusive Breastfeeding because it only takes place during the hospitalization period (PONEK RSSI, 2022).

Healthy mothers play a central role in laying the foundation for the health of future generations. Besides being key to achieving maternal health targets as individuals, healthy mothers also impact the health of the community as a whole. Mothers who receive adequate healthcare throughout their reproductive life cycle have the potential to give birth to healthier children, reduce the risk of infant mortality (IMR), and improve the survival and development of children. In the 2020-2024 National Medium-Term Development Plan (RPJMN), maternal health is a priority policy direction and strategy to reduce maternal and child mortality (Central Bureau of Statistics, 2023).

Based on the Minister of Health Regulation No. 53 of 2014 concerning Essential Neonatal Health Services, to reduce infant mortality rates, especially during the neonatal period, essential neonatal health services are needed. These efforts can be started in the first 0-6 hours after the baby is born, including keeping the baby warm, early initiation of breastfeeding (IMD), cutting and caring for the umbilical cord, administering vitamin K injections, administering antibiotic eye ointment, administering Hepatitis B0 immunization, physical examination of the newborn, monitoring for danger signs, handling newborn asphyxia, providing identity tags, which are carried out in the same room as the mother or in a shared care unit.

One indicator of a child's health is emotional well-being. Providing essential neonatal health services, including 24-hour room care for mothers and babies, promotes *bonding and attachment* between the baby and family, which can positively impact their future lives. This process significantly impacts the health and well-being of both the baby and the mother, but also forms the foundation for an emotional bond, or *bonding,* between mother and baby (Central Bureau of Statistics, 2023) .

Furthermore, *attachment bonding* is an interaction that creates a bond of affection between parents and newborns, encompassing the giving of affection, the outpouring of mutual attention, and interdependence. Normal infant development is largely determined by the affectionate response between mother and newborn . The mother-child bond begins before birth and continues through the fetus's development as an individual (Mertasari & Sugandini, 2020).

Based on the Government Regulation of the Republic of Indonesia Number 33 of 2012 concerning the Provision of Exclusive Breastfeeding Article 10 paragraph (1) and (2) which states that health workers and providers of health service facilities are required to place mothers and babies in one room or joint care except for medical indications determined by the doctor

that do not allow joint care. This joint care is to make it easier for mothers to provide exclusive breastfeeding to their babies at any time. Joint care is an inpatient room in one room where the baby is within reach of the mother for 24 hours (Ernawati et al., 2023) .

Rooming *in* will help facilitate breastfeeding because the mother's body contains the hormone oxytocin, which significantly influences the mother's emotional state. If the mother is calm and happy because she can hold her baby, this hormone will increase and the milk will flow more quickly, making the baby feel more satisfied with the breast milk. Rooming in will further help facilitate breastfeeding. If the mother and baby are cared for in the same room, the mother will breastfeed her baby more often, which will stimulate an increase in the hormone oxytocin (BALQIS, 2020) .

Previous research found that the majority (96.90%) of postpartum mothers exhibited good attachment bonding behaviors. Statistical tests revealed a significant relationship between the implementation of outpatient care and attachment bonding behaviors in postpartum mothers (Oktiningrum et al., 2022) . Several factors influencing attachment bonding include parity, parental responsiveness, and social support (Susilawati et al., 2020) .

Data obtained from the maternity register in the Bengkirai Room of Sultan Imanuddin Hospital, Pangkalan Bun, showed that in 2023 there were 1,118 spontaneous birth patients and 1,054 CS birth patients.

Based on a preliminary survey conducted in the Bengkirai Room of Sultan Imanuddin Hospital, Pangkalan Bun, in September 2023, data was obtained from 7 patients who underwent spontaneous labor and 7 patients who underwent CS delivery who underwent 24-hour rooming. Observations and interviews revealed that during rooming, 4 postpartum mothers still entrusted their babies' care to their mothers, grandmothers, or in-laws. Mothers were reluctant to breastfeed their babies, citing postpartum fatigue. Patients who delivered at Sultan Imanuddin Hospital were referred from distant primary health care facilities. This left mothers feeling exhausted from the long journey and still having to go through the long and protracted stages of labor. Therefore, after delivery, mothers preferred to sleep rather than breastfeed their babies. Therefore, their babies' care was handed over to other family members and they were given formula milk until the mothers were ready to breastfeed. This was because the mothers felt their milk had not yet come in and were still tired from breastfeeding. This resulted in very little interaction between mother and baby in the early stages of their babies' lives.

Meanwhile, among mothers who underwent a C-section and were roomed in with their babies on the first day after the C-section, five of them stated they did not want to care for their babies because they were afraid their stitches would open. They were also reluctant to breastfeed and preferred to sleep to reduce the pain from their surgical scars. Therefore, the family decided to provide formula milk. Consequently, there was very little interaction between the baby and the mother in the early stages of labor, as the mother focused on alleviating her own pain.

Based on the problems above, the researcher is interested in conducting research on the effect of rooming in on bonding attachment in spontaneous postpartum and CS mothers in the Bengkirai Room of Sultan Imanuddin Hospital, Pangkalan Bun, West Kotawaringin.

METHODS

This study used *a cross-sectional method.* Data collection used a PBQ questionnaire and observation sheets. The population of 86 postpartum mothers with a *purposive sampling technique* obtained a sample of 50 mothers consisting of 25 spontaneous postpartum mothers and 25 postpartum CS mothers. Based on the *Chi-Square test* , the results obtained $p = 0.000 < 0.05$, so $H0_{is}$ rejected and H1 is accepted, which means there is a relationship between *rooming in* and *bonding attachment* in postpartum mothers. The distribution of data obtained

from 2 groups after the data normality test is not normal, then a statistical test of the difference between 2 groups using the *Mann-Whitney U test* obtained $p = 0.445 > 0.05$, so there is no significant difference between the group of spontaneous postpartum mothers and postpartum CS mothers.

RESULTS

Table 1. Frequency Distribution of Research Respondent Characteristics

Research result	Spontaneous (f)	SC (f)	Percentage (%)
Respondent Age			
< 20 Years	2	1	6%
20-35 Years	20	17	74%
>35 Years	3	7	20%
Education			
Elementary School	3	5	16%
JUNIOR HIGH SCHOOL	7	6	26%
SENIOR HIGH SCHOOL	11	10	42%
D3	1	2	6%
S1	3	2	10%
Parity			
P1	7	7	28%
P2-P4	17	17	68%
>P4	1	1	4%

Source: Riris Linda Ayuningrum Research Questionnaire, November 25 to December 10, 2024

Table 2. Frequency Distribution of Research Variables

Research result	Spontaneous (f)	SC (f)	Percentage (%)
Rooming In			

Immediately After Birth	25	0	50%
A Few Hours After Birth	0	25	50%
>24 hours	0	0	0%
Birth Weight			
>2,500 grams	1	1	4%
<2,500 grams	24	24	96%
Breastfeeding			
Breast Milk Only	16	7	46%
Breast milk + formula milk	9	11	44%
Just SUFOR	0	7	14%

Source: Riris Linda Ayuningrum Research Questionnaire, November 25 to December 10, 2024

Table 3. Cross Tabulation of Research Variables

Criteria *Bonding attachment*		*Rooming in* group		Total
		Spontaneous	SC	
Less Bond	f	5	3	8
	%	20.0%	12.0%	16.0%
Good Bond	f	20	22	42
	%	80.0%	88.0%	84.0%
Total	f	25	25	50
	%	100.0%	100.0%	100.0%

Source: Riris Linda Ayuningrum Research Questionnaire, November 25 to December 10, 2024

Based on table 2. above, from 2 sample groups of 25 spontaneous postpartum mothers and 25 postpartum CS mothers, the results of the bonding criteria *in* the spontaneous postpartum mother group were 20 mothers (80%) had good *bonding criteria* and 5 mothers (20%) had less criteria. In the postpartum CS mother group, there were 22 mothers (88%) who had good criteria and 3 mothers (12%) who had less criteria.

Table 4. Chi-Square Statistical Test Analysis

	Bonding attachment
Chi-Square	23.120 [a]
df	1
Asymp. Sig.	.000

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 25.0.

The results of the research analysis based on statistical tests using the *Chi-Square test* obtained $p = 0.000 < 0.05$, so H0 was rejected and H1 was accepted, which means there is a relationship between *rooming in* and *bonding attachment* in postpartum mothers. Then a normality test was carried out to determine the distribution of the data before testing the differences between the two groups. The distribution of data obtained from the 2 groups after the normality test using the *Shapiro-Wilk* test obtained *p = 0.000 <0.05, so the data is not normal. So to test the differences between the 2 groups, the Mann-Whitney U* test was used .

Table 5. Mann-Whitney U Statistical Test

	Bonding attachment
Mann-Whitney University	287,500
Wilcoxon W	612,500
Z	-.764
Asymp. Sig. (2-tailed)	.445

a. Grouping Variable: Childbirth

From the results of the statistical test of the difference between the 2 groups between spontaneous postpartum mothers and postpartum SC mothers from the Mann-Whitney U test, the results were $p = 0.445 > 0.05$, so there was no difference between the spontaneous postpartum mothers and postpartum SC mothers.

DISCUSSION

Identification of Rooming in in spontaneous postpartum mothers in the Bengkirai Room of Sultan Imanuddin Hospital, Pangkalan Bun, West Kotawaringin

Based on data collection on the observation sheet for spontaneous postpartum mothers, all babies (100%) were *roomed in* immediately after delivery. For the birth weight category, 24 babies (96%) had a birth weight of >2,500 grams and there was 1 baby (4%) with a weight <2,500 grams. However, after consultation and supervision of the baby, due to good sucking reflexes and good breastfeeding abilities, *rooming in was still permitted* with close supervision from both parents and midwives. When seen from Table 2, more than half of the mothers or 16 mothers (64%) in the spontaneous postpartum group only gave breast milk after delivery and 7 mothers (36%) gave breast milk interspersed with formula milk.

Rooming- *in care* is a care method where, after birth, the baby is immediately placed in the same room with the mother for 24 hours to ensure exclusive breastfeeding and facilitate lactation. *Rooming-in* aims to strengthen the emotional bond between mother and baby, facilitate lactation, and instill confidence in the mother by caring for her baby, thus forming *a bond* between mother and baby (Fardila et al., 2020). As explained by Retno et al., (2021), babies and mothers who can be *roomed in* must meet the criteria. There are several conditions that do not meet the requirements for rooming-in care, such as very premature babies weighing <2,000 grams, babies born with sepsis, respiratory problems, or congenital defects.

Based on the researchers' observations, in this study, spontaneous *rooming-in* for postpartum mothers occurred after the fourth stage of labor, two hours after delivery. If the postpartum mother and baby were in stable condition and showed no signs of bleeding or distress, they were *roomed in* and transferred to the appropriate treatment room.

Researchers argue that spontaneous *rooming in* of postpartum mothers during care still involves formula feeding, even though all mothers had already tried breastfeeding early after delivery. In terms of its purpose, *rooming in* aims to ensure the baby receives breast milk as soon as possible through *skin-to-skin contact* . However, in practice, many postpartum mothers experience fatigue due to the lengthy labor process and the travel time to Sultan Imanuddin

Regional Hospital. Most mothers are referred from other districts or from company clinics, which can take more than 3 hours. Therefore, mothers will use the time to rest and will breastfeed again if their babies cry.

Initially, all mothers after giving birth will try several times to breastfeed. However, after several hours have passed since being transferred to the nursing room, the mother will spend time resting, and the role of caring for the baby will be transferred to her waiting family. Despite breastfeeding counseling, some families, unable to stand the baby's crying, feel that the mother's breast milk is not enough for her baby. The family, especially the husband, will ask the midwife for formula. Even after being assisted in breastfeeding again and given an explanation about formula, the family still feels that breast milk is not enough and continues to ask for formula. This makes postpartum mothers feel that their breast milk is not enough, thus affecting exclusive breastfeeding.

Identification of Rooming in for postpartum mothers with SC in the Bengkirai Room of Sultan Imanuddin Hospital, Pangkalan Bun, West Kotawaringin

Based on data collection on the spontaneous postpartum mother observation sheet, all babies (100%) were *roomed in* a few hours after delivery. For the birth weight category of babies who were roomed in based on Table 2, there were 24 babies (96%) with a birth weight of >2,500 grams and there was 1 baby (4%) with a weight <2,500 grams. In the group of postpartum mothers with CS, the majority gave breast milk (ASI) and interspersed with formula milk, there were 11 mothers (44%) and there were 7 mothers (28%) who only gave formula milk. This was due to the discomfort caused by pain from the CS scar, which made mothers give formula milk rather than breast milk alone.

According to Azizah & Rosyidah (2019), readiness for *rooming in* is determined by the condition or health status of the baby and the mother's health condition as well as the mother's ability to mobilize. *Rooming in* can be done immediately after the baby is born spontaneously or by CS, the mother can start breastfeeding her baby as early as possible, skin-to-skin contact in the *bonding process* , so that the mother feels calmer and more relaxed, this can stimulate the release of the hormone oxytocin from the posterior pituitary which can affect the release of breast milk.

Based on its category, in the study conducted in the Bengkirai Room, *rooming-in* was implemented continuously, *where* the baby remained beside the mother for 24 hours. According to Retno et al., (2021), babies can be placed in bed with their mothers or in a crib next to the mother's bed. The most important thing is that the mother must see and supervise her baby, when the baby cries due to hunger, urination, or mosquito bites. The baby's cry is a stimulus for the mother to produce breast milk. In the implementation in the Bengkirai Room, all babies are placed in a crib next to the bed where the mother is being treated. This is done to prevent the risk of falling incidents in babies.

By implementing *rooming in* It is hoped that this will foster a close relationship between the baby and the mother, making it easier for the mother to care for the baby independently, breastfeed at any time, and allow the mother to observe changes in her baby. This closeness between mother and baby will create a bond *between* the mother and baby, fostering affection that is beneficial for the baby's survival (Retno et al., 2021).

The purpose of *rooming in* is to facilitate the breastfeeding process and achieve exclusive breastfeeding. Mothers will gain valuable experience, especially primipara mothers or those with their first child. The skills gained during *rooming in* are expected to provide mothers with the necessary skills to care for their babies independently once they return home. Furthermore, early breastfeeding provides babies with quality nutrition through colostrum, which boosts their immune system and future development.

The downside of *rooming in ,* as explained by (Fardila et al., 2020), is that mothers have less rest time because their energy is used up during labor. This can lead to fatigue, making

mothers reluctant to breastfeed. Babies who don't receive enough breast milk early in life will cry constantly and be fussy, making mothers uncomfortable because their rest time is disrupted and can even lead to stress during the postpartum period.

Researchers believe that many postpartum CS mothers have difficulty breastfeeding or providing breast milk due to discomfort caused by post-CS pain, which makes mothers afraid to move. Therefore, almost half of the postpartum CS mothers provide breast milk alternated with formula. *Rooming-in* babies in postpartum CS mothers have a 2-3 day hospitalization period depending on the mother's condition. This causes the baby to be exposed to visitors other than the immediate family, including other patients, which can trigger nosocomial infections acquired from visitors or other patients.

Identification of Bonding Attachment in spontaneous postpartum mothers in the Bengkirai Room of Sultan Imanuddin Hospital, Pangkalan Bun, West Kotawaringin

Based on Table 3, in postpartum CS mothers, the results of the bonding criteria *in* the spontaneous postpartum mother group were 20 mothers (80%) had good *bonding criteria* and 5 mothers (20%) had poor criteria. When viewed based on the age characteristics of the respondents, the majority of spontaneous postpartum mothers were in the 20-35 year age range. This shows that among spontaneous postpartum mothers in the 20-35 year age range is a good reproductive age, so mothers are physically and mentally ready to go through pregnancy, childbirth, postpartum and childcare. So that the spontaneous postpartum mother group has a good bond.

Based on tabulated data from the results of filling out the questionnaire in the spontaneous postpartum mother group, if seen there are several statements that have a score of 0 including statements number 12, 19, 20, 21, and 22. Based on the explanation by Susilawati (2020) that *the Postpartum Bonding Questionnaire* (PBQ) is a tool used to assess the bond of affection between a mother and her child. Statement number 12 is related to the relationship dimension. In this statement, some mothers feel that their babies often cry, according to the mother, the baby should not cry often. Crying in babies is a signal given by the baby to the mother that the baby is feeling uncomfortable. With the presence of crying, it will cause the mother to interact with her baby, this is what creates a relationship through touch. However, in the overall relationship dimension, only 1 statement has a score of 0 in the spontaneous postpartum mother group.

Statements 19, 20, and 22 relate to the dimension of infant care readiness. In these statements, some mothers expressed worry and insecurity about their own abilities to care for their babies, leading to concerns about being unable to care for them. Mothers also expressed concern about their babies' well-being, as the small amount of breast milk they produce after delivery might not be enough, leading to hunger and fussiness.

Bonding is a step in expressing feelings of affection (love) by a mother to her baby, while *attachment* is the interaction between the mother and baby specifically (Azizah & Rosyidah, 2019). According to Fardila et al., (2020), one factor that influences *attachment bonding* is the number of parities and *sibling rivalry* , or jealousy from siblings. This proves that mothers with more than one parity have experience in caring for babies.

According to research by Oktiningrum et al. (2022), parity influences parental responses to *attachment bonding* . However, as Faradila (2020) explains, the presence of siblings triggers jealousy. This poses a problem for parents faced with the task of caring for a new child without leaving their other siblings. This can impact *attachment bonding* in their babies.

Researchers argue that several respondent characteristics, such as age, educational background and parity, can influence *bonding.* Spontaneous postpartum maternal *attachment* . Postpartum mothers aged 20-35 years are in their prime reproductive years, where all their reproductive organs are ready for pregnancy and childbirth. This allows both mother and

husband to be mentally prepared to have and raise a child, thus fostering *bonding.* Good *attachment* . Furthermore, mothers with more than one parity have previous childbirth experience and previous childcare experience.

In the group of spontaneous postpartum mothers, there was a lack of bonding, based on observations during the study, due to fear and anxiety about their inability to care for their babies. Primipara mothers, aged <20, felt unprepared for the arrival of their babies. An unwanted pregnancy made the arrival of their babies unplanned. Mothers and their husbands feared they would struggle financially to support their children, leading to concerns other than childcare. This led to mothers experiencing a lack of bonding.

Identification of Bonding Attachment in postpartum mothers with CS in the Bengkirai Room of Sultan Imanuddin Hospital, Pangkalan Bun, West Kotawaringin

Based on the cross-tabulation in Table 3, in the postpartum CS group, almost all of the mothers had a good bond, there were 22 mothers (88%), there were only 3 mothers (12%) who had a poor bond. When viewed from the respondent characteristics data, the age of the majority in this group was in the 20-35 years age range, there were 17 mothers, while the characteristics of the number of parities were the same as the spontaneous postpartum group, 17 mothers were multiparous mothers who had more than one child. This means that the mothers had previous experience caring for children. In the postpartum CS group, many patients had a history of previous CS. So the mothers had experience facing CS deliveries in previous pregnancies.

Based on the tabulation results of the *bonding attachment questionnaire* in the postpartum CS group of mothers, the statements that most often received a score of 0 in the postpartum CS group were statements 2, 12, 19, 20, 21, and 23. These results were almost the same as the spontaneous postpartum group of mothers. Statements 2 and 12 relate to the relationship dimension. Some mothers still feel like they want to return to the condition when they were not pregnant because of their previous CS history, which makes the current pregnancy feel more difficult. Mothers often experience discomfort in the CS scar in late pregnancy, so if they want to repeat the time, they choose not to get pregnant first. Similar to the spontaneous postpartum group, some mothers are always worried if their babies cry. Postpartum CS mothers experience limited mobility due to pain from the CS scar after delivery, so when their babies cry frequently, mothers feel overwhelmed to get up and breastfeed or do other baby care.

Statements 19 and 20 concern the dimensions of infant care readiness. Mothers are still unprepared for the experience of caring for a baby while simultaneously managing pain from a CS wound. They choose to prioritize pain management in the early postpartum period, so the role of family members, including husbands, mothers, grandmothers, and other caregivers, is crucial at this time to assist them in caring for their babies.

Statements 21 and 23 concern the dimension of acceptance. When viewed from the mother's condition in the early postpartum period, this is similar to the mother's condition in the dimension of readiness for infant care. Some mothers are still disturbed by their babies. During rooming-in, some mothers even refuse to be cared for with their babies and ask the midwife to return them to the nursery to wait until the mother is ready to breastfeed. This results in the baby's arrival not being a happy experience for the mother. However, with proper education from the midwife to the mother and family, the mother finally understands and is willing to try to care for her baby with her family.

Bonding attachment involves a parent's genuine feelings of love and acceptance toward their child, as well as providing supportive care. *Bonding attachment* reflects a mother's ability to accept her baby's presence and provide affection. This creates a strong emotional bond between mother and baby. This bond is built through interactions such as touch, caress, expressions of love, affectionate gaze, and attention given by the mother to the baby. Social

interactions such as *bonding attachment* can also stimulate the release of the hormone oxytocin (Kunang & Sulistianingsih, 2023).

Mothers who are breastfeeding or giving breast milk will go through the stages of *bonding attachment* . The stages of *bonding attachment* according to Mertasari & Sugandini (2020): are through 3 stages: the introduction stage (*acquaintance*), by making eye contact, touching, talking, and exploring immediately after getting to know the baby. The attachment stage (*bonding*) that occurs when there is, response, and satisfaction, and attachment is developed and maintained through bonds and interactions by the existence of a bond of affection. The final stage is *Attachment* , a feeling of affection that binds an individual to another individual. It begins during pregnancy, increases in the early postpartum period, and becomes continuous and consistent. Affection is very important for physical and mental health throughout life.

Researchers believe that the group of postpartum mothers with CS has similarities with spontaneous postpartum mothers, in that most of them have *bonding.* Good *attachment* . *Although the baby is not immediately given to the mother for rooming in after delivery* , post-CES mothers often ask the midwife about their baby's condition while the baby is still being observed in the perinatology room. Concern about the baby's condition and the baby's adequate fluid intake, which is not yet breastfed, creates an indirect *bond between mother and baby. Although the mother faces pain from the C-section scar, this does not affect the bond* between mother and baby. The mother continues to try to breastfeed while enduring the discomfort after the C-section. When viewed from the *attachment bonding stage* , during the 2-3 day recovery period after the C-section, the mother interacts a lot with her baby, resulting in a good *bond* .

Analysis of the Relationship Between *Rooming in* and *Bonding Attachment* in Spontaneous Postpartum and CS Mothers in the Bengkirai Room of Sultan Imanuddin Hospital, Pangkalan Bun, West Kotawaringin

The results of the research analysis on the effect *of rooming in* on *bonding attachment* in postpartum mothers based on statistical tests using the *Chi-Square test* obtained the result $p = 0.000 < 0.05$ then H_0 is rejected and H1 is accepted which means there is a relationship between *rooming in* and *bonding attachment* in postpartum mothers. The distribution of data obtained from 2 groups after the normality test using the *Shapiro-Wilk test* obtained the result $p = 0.000 < 0.05$ *then the data is not normal. So to test the difference in 2 groups, the Mann-Whitney U* test was used . The results of the statistical test of the difference in 2 groups between spontaneous postpartum mothers and postpartum SC mothers from the *Mann-Whitney U test* obtained the result $p = 0.445 > 0.05$ then there is no difference between the groups of spontaneous postpartum mothers and postpartum SC mothers.

Based on table 3 from 2 sample groups of 25 spontaneous postpartum mothers and 25 postpartum CS mothers, the results of the bonding criteria *in* the spontaneous postpartum group of mothers were 20 mothers (80%) had good *bonding criteria* and 5 mothers (20%) had poor criteria. In the postpartum CS group of mothers, there were 22 mothers (88%) had good criteria and 3 mothers (12%) had poor criteria. This shows that among spontaneous postpartum mothers and postpartum CS mothers, the majority of both have good *bonding attachment bonds.*

Efforts to reduce the Infant Mortality Rate (IMR), especially during the neonatal period, include *bonding attachment* . Various methods can support *bonding attachment* between mother and baby, including *rooming-in* and exclusive breastfeeding after delivery (Wijaya et al., 2023). Implementing *rooming-in* is expected to foster a strong *bonding attachment* between mother and baby. Table 4.8 demonstrates that 84% of postpartum mothers have a strong bond. This impacts breastfeeding, further supporting the achievement of exclusive breastfeeding.

Breast milk released through the baby's sucking stimulates the hormone oxytocin, which triggers uterine contractions, preventing postpartum hemorrhage due to uterine atony

(Wijaya et al., 2023). Oxytocin release is influenced by the baby's sucking, which can cause nipple erection, thus helping milk flow through the lactiferous sinuses to the nipple pores. Oxytocin is also a hormone that stimulates uterine contractions during labor and postpartum, preventing postpartum hemorrhage and accelerating uterine involution (Azizah & Rosyidah, 2019).

According to the WHO (WHO & UNICEF, 2020), the 10 steps to successful breastfeeding are explained in step seven, which states that, whenever possible, mothers and babies should stay together and participate in 24-hour care. Babies who are immediately attached to their mothers are more likely to receive breast milk earlier, which contributes to the success of exclusive breastfeeding. Furthermore, breastfeeding fosters a bond of affection, or *attachment* .

chi-square analysis test between *rooming in* and *bonding attachment* stated that there was a relationship between *rooming in* and *bonding attachment* in postpartum mothers. This is in accordance with research conducted by Oktiningrum et al., 2022) on the relationship between the implementation of *rooming in and bonding attachment* behavior in postpartum mothers at RB Pelita, which found a significant relationship between the implementation of joint care and *bonding attachment behavior* . Oktiningrum also explained that in its implementation, it is necessary to increase support from midwives and families to mothers in the joint care process so that good *bonding attachment behavior is created. Nurul Hidayat Hafid et al., (2022) also* explained that the success of *bonding attachment* is also influenced by the role of midwives in providing health education during the postpartum period.

The statistical test results of the two groups of deliveries between spontaneous postpartum mothers and CS mothers in this study showed no significant difference between the two groups. This result is inconsistent with research conducted by Sembiring et al., (2021), at SK Lerik Regional Hospital, Kupang City, which showed a difference between *attachment bonding* in post-CS mothers and normal postpartum mothers at SK Lerik Regional Hospital, Kupang City. According to Sembiring, good *attachment bonding* is influenced by experience, the mother's emotional health, culture, social support, socioeconomic conditions, and personal aspirations. This is because the characteristics of the respondents differ from those in previous studies. Another difference in this study is that all mothers were given the same treatment by doing *rooming in* . In addition, differences in cultural factors and community characteristics make the results of this study inconsistent with previous research.

Researchers argue that the implementation *of rooming in* for mothers after spontaneous and CS creates a bonding *attachment* between mother and baby through the breastfeeding process. In this breastfeeding process, there are several *bonding criteria* such as touching, making eye contact, talking, and exploring to get to know the baby better, so that affection arises between mother and baby. With different treatment during the implementation of *rooming in* for mothers after spontaneous and CS, where mothers after spontaneous and CS are immediately *roomed in* or mothers after CS who wait for their babies to be observed in the nursery for at least 6 hours, there is no significant difference between these two groups. This is because mothers after CS receive good information from midwives about their babies' conditions in the perinatology room, plus modern developments make it easier to find information on baby care. The stages of *bonding attachment* can be obtained while the mother is in the post-CS recovery period during treatment. Although in mothers after CS, the baby is not given directly for *rooming in* , the mother and baby still have a good bond. In addition, a good educational background and family support during the treatment period also support the formation of a good bond between mother and baby.

CONCLUSION AND SUGGESTIONS

CONCLUSION

1. In accordance with the previously determined sample inclusion and exclusion criteria, 2 groups were obtained with 25 spontaneous postpartum mothers and 25 postpartum mothers by CS.
2. Based on the *rooming-in variable* from 50 respondents, in the spontaneous postpartum group, all babies (100%) were *roomed in* immediately after delivery. Meanwhile, in the postpartum CS group, all babies (100%) were *roomed in* several hours after delivery.
3. Based on the characteristics of the respondents, the largest age range was 37 postpartum mothers (74%) aged between 20 and 35 years. The highest level of education for postpartum mothers was high school, with 21 postpartum mothers (42%). Of the 50 postpartum mothers, 34 mothers (68%) were multipara or had more than 1 child. Almost all of the babies cared for and *roomed in* with their mothers had a birth weight of >2,500 grams, with 48 babies (96%).
4. Of the 50 postpartum mothers who were given a questionnaire, the results of *the bonding attachment were obtained* , including 8 mothers (16%) having poor bonding criteria and 42 mothers (84%) having good bonding criteria.
5. Based on the statistical results between the variables *of rooming in* and *bonding attachment, the Chi-Square* test obtained the result $p = 0.000 < 0.05$, so H0 is rejected and H1 is accepted, which means there is a relationship between *rooming in* and *bonding attachment* in postpartum mothers. The distribution of data obtained from 2 groups after the normality test using the *Shapiro-Wilk test obtained the result p = 0.000 <0.05, so the data is not normal. So to test the difference between the 2 groups, the Mann Whitney U* test was used . The results of the statistical test of the difference between the 2 groups between spontaneous postpartum mothers and postpartum SC mothers from the *Mann-Whitney U test* obtained the result $p = 0.445 > 0.05$, so there is no difference between the groups of spontaneous postpartum mothers and postpartum SC mothers.

SUGGESTION

It is hoped that by implementing *rooming in,* mothers can provide breast milk immediately after delivery. This aims to increase the achievement of exclusive breastfeeding. With *rooming in ,* it is hoped that a bond or *bonding is formed* between mother and baby, thereby creating *attachment* or affection that supports the baby's future psychological survival. Breastfeeding also reduces the risk of bleeding after delivery due to the formation of the hormone oxytocin. Breast milk is a good quality food for newborns, the sooner newborns receive breast milk, the lower the neonatal mortality rate because babies gain immunity through colostrum produced through breast milk at birth.

This research is expected to motivate midwives working in the Bengkirai Ward to assist mothers and babies during the *rooming-in process* , thereby achieving the goal of exclusively breastfeeding without formula after delivery, an indicator of service quality at Sultan Imanuddin Regional Hospital. The results of this study are expected to serve as a resource for innovations in services, particularly for postpartum mothers, in the obstetrics ward.

It is hoped that this research can be further developed as support in efforts to achieve exclusive breastfeeding, and the results of this research can be used as a reference in further research.

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