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Relationship between Antenatal Care Visit Compliance and Breastfeeding Self-Efficacy in Breastfeeding Mothers

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Abstract

Background: Breastfeeding self-efficacy (BSE) is a crucial factor in the success of exclusive breastfeeding, as it reflects a mother's confidence in her ability to breastfeed. One approach to enhancing BSE is ensuring maternal compliance with antenatal care (ANC) visits, which play a role by providing information, emotional support, and psychological readiness during pregnancy. **Objective**: This study aimed to examine the relationship between ANC visit compliance and BSE among breastfeeding mothers in the working area of Rejosari Public Health Center. **Methods**: This quantitative study employed a retrospective approach with a correlational analytic design. The sample consisted of 82 breastfeeding mothers with infants aged 0–6 months, selected using purposive sampling. Data were collected using the Breastfeeding Self-Efficacy Scale–Short Form (BSE-SF) questionnaire and by observing ANC visit records from Kesehatan Ibu dan Anak (KIA) books. Data analysis was performed using the chi-square test. **Results**: A significant relationship was found between ANC visit compliance and BSE in breastfeeding mothers (p = 0.001). **Conclusion**: Mothers who complied with ANC visits tended to have higher BSE compared to those who did not comply. These findings emphasize that ANC visits should be optimized as strategic opportunities for health professionals to deliver structured education, psychosocial support, and breastfeeding counseling, thereby enhancing maternal readiness and ensuring successful exclusive breastfeeding.

Keywords: antenatal care visits, breastfeeding self-efficacy, compliance

INTRODUCTION

Antenatal Care (ANC) services are a form of healthcare provided to pregnant women to monitor maternal health conditions and fetal development on a regular basis. These services encompass not only routine physical examinations such as blood pressure monitoring, fetal growth assessment, immunization, and laboratory tests but also educational components delivered through informative and supportive counseling sessions (1). Counseling during ANC visits aims to equip pregnant women with relevant knowledge, including pregnancy examination results, care according to gestational age, warning signs of pregnancy complications, newborn care, nutritional needs, postpartum contraceptive options, and mental readiness for childbirth and the postpartum period (2).

Within the breastfeeding context, mothers receive comprehensive education on the importance of early initiation of breastfeeding immediately after birth, proper breastfeeding techniques, identification and management of lactation issues, and the critical role of exclusive breastfeeding for the first six months of life without any additional food or fluids. In certain healthcare facilities, this education is further reinforced through antenatal classes that highlight the health benefits of breastfeeding for both mother and infant, while also equipping mothers with strategies to overcome breastfeeding challenges during the early postpartum phase (3). Through this integrated approach, ANC functions not only as a platform for physical health monitoring but also as a strategic avenue for fostering mental readiness and strengthening maternal breastfeeding self-efficacy (4).

Compliance with ANC visits is a key determinant in preparing mothers for childbirth and breastfeeding. A pregnant woman is considered compliant if she attends at least six ANC sessions: one in the first trimester, two in the second trimester, and three in the third trimester (5). Women who adhere to the recommended ANC schedule receive greater access to information and support related to pregnancy and breastfeeding, thereby enhancing their understanding of maternal and infant health. However, ANC compliance rates remain suboptimal in several regions across Indonesia (6). According to the Indonesia Health Profile (2023), ANC coverage stands at 74.4%, falling short of the national target of 80% (7). Similarly, data from the Riau Provincial Health Office (2023) indicate that only 67% of pregnant women comply with ANC visit recommendations (8).

The success of exclusive breastfeeding is strongly influenced by the effectiveness of the breastfeeding process itself. One of the key determinants of this success is a mother's confidence in her ability to breastfeed exclusively, a concept referred to as Breastfeeding Self-Efficacy (BSE) (9). BSE reflects a mother's belief in her capability to breastfeed, playing a crucial role in shaping decision-making, the effort exerted, and her ability to overcome various challenges during the breastfeeding process, including managing emotional difficulties that may arise (10). Mothers with high BSE tend to remain calm, confident, and capable of resolving lactation problems or declining milk production, thereby ensuring that their infant's needs are optimally met. Conversely, low BSE often leads to anxiety, self-doubt, and premature decisions to switch to formula feeding (11).

Regular maternal participation in ANC visits is an important factor in shaping BSE. The more frequently mothers attend these visits, the more opportunities they have to receive information regarding breastfeeding practices and exclusive breastfeeding (12). Continuous education provided during counseling sessions helps deepen mothers' understanding of proper breastfeeding techniques and strategies to address lactation challenges. Furthermore, direct interactions with healthcare providers during each visit offer mothers opportunities to seek clarification, receive emotional support, and gain motivation, ultimately strengthening their BSE (13).

Enhancing BSE is closely linked to the urgency of exclusive breastfeeding. Exclusive breastfeeding during the first six months of life significantly contributes to optimal infant growth and development (14). According to the Ministry of Health of the Republic of Indonesia (2023), appropriate breastfeeding can prevent 45% of neonatal deaths caused by infections, 30% of deaths due to diarrhea, and 18% of deaths from respiratory tract infections

(15). Despite its importance, the World Health Organization (WHO) (2022) reports that global exclusive breastfeeding coverage for infants under six months is only 48%. In Indonesia, the 2023 exclusive breastfeeding rate reached 63%, surpassing the national target of 50% (7). However, several provinces have yet to meet this target.

Data from the Pekanbaru City Health Office (2023) show that several public health centers (puskesmas) have not yet achieved the national target for exclusive breastfeeding, including the Rejosari Public Health Center. Exclusive breastfeeding coverage in this facility stands at only 42%, below the 50% national target. Compliance with the minimum six ANC visits during pregnancy (K6) is also suboptimal at 61%, falling short of the 80% national target. Additionally, the Rejosari service area records the highest number of infants aged 0–6 months in Pekanbaru (8).

A preliminary study conducted in the Rejosari Public Health Center's working area involving eight breastfeeding mothers with infants aged 0–6 months revealed that five reported adhering to the ANC schedule as recommended by healthcare providers. In contrast, two mothers stated they only visited the health center when experiencing specific complaints. Of the eight participants, five expressed confidence in their ability to exclusively breastfeed for the first six months, whereas two voiced doubts, citing difficulties in managing breastfeeding challenges and concerns over insufficient milk production.

Previous studies have consistently demonstrated the positive impact of ANC compliance on breastfeeding self-efficacy (BSE) by highlighting the role of counseling, health education, and professional support during pregnancy in preparing mothers for exclusive breastfeeding. However, most of these studies were conducted in broader regional or national contexts, without addressing local variations in maternal and infant health outcomes (16).

This study fills that gap by focusing on the Rejosari Public Health Center, where both ANC compliance (61%) and exclusive breastfeeding coverage (42%) remain below national targets. A unique finding of this study is that some mothers with ANC non-compliance still demonstrated high levels of BSE (33.3%), suggesting that ANC visits alone do not entirely determine maternal confidence. Instead, factors such as parity, education level, and employment status were also found to influence BSE. These findings contribute new evidence to the existing literature by emphasizing that effective interventions should not only strengthen ANC compliance but also address sociodemographic and experiential factors that shape maternal self-efficacy in breastfeeding.

OBJECTIVE

This study aims to examine the relationship between antenatal care visit compliance and breastfeeding self-efficacy among breastfeeding mothers.

METHODS

Design

This study employed a quantitative research design with a correlational analytic approach and a retrospective method. The retrospective method involved examining existing records of mothers' ANC visits documented in KIA (Kesehatan Ibu dan Anak) books, while current breastfeeding self-efficacy (BSE) was measured using the BSE-SF questionnaire. This approach enabled the researchers to analyze the relationship between past ANC attendance and present BSE, effectively linking maternal compliance during pregnancy with their confidence in breastfeeding.

Sample, sample size, & sampling technique

The study population comprised breastfeeding mothers with infants aged 0–6 months between November 2024 and January 2025 in the working area of Rejosari Public Health Center, Pekanbaru City, totaling 436 individuals. The sample consisted of 82 participants selected using purposive sampling based on Slovin's formula, wich is expressed

$n = \frac{N}{1+N(e)^2}$, where n is the sample size, N is the population size, and e is the margin of error. Using a 10% margin of error ($e = 0{,}10$) the calculation was $n = \frac{436}{1+436(0{,}1)^2} = 81{,}3$, which was then rounded up to 82 participants. These respondents were subsequently

selected using purposive sampling based on the study's inclusion criteria, ensuring a representative and statistically reliable sample. Inclusion criteria were mothers who agreed to participate, had infants aged 0–6 months, were currently breastfeeding, and possessed a Kesehatan Ibu dan Anak (KIA) book. Exclusion criteria included mothers with a history of complicated pregnancies such as eclampsia, uncontrolled gestational diabetes, chronic hypertension, and TORCH infections (Toxoplasmosis, Other infections, Rubella, Cytomegalovirus, and Herpes Simplex Virus). Mothers with postpartum medical conditions that could interfere with breastfeeding such as severe mastitis, severe hypothyroidism, Sheehan's syndrome, or severe psychiatric disorders including postpartum depression and severe anxiety were also excluded, as were those with severe pathological conditions such as cancer.

Instrument for data collection

The study was conducted from March 16 to April 17, 2025. The research instruments included the Indonesian version of the Breastfeeding Self-Efficacy Scale–Short Form (BSE-SF), which had been validated and tested for reliability by Yuliani et al. (2023). The instrument consisted of 14 items scored on a 5-point Likert scale, where a score of 1 indicated "not at all confident" and a score of 5 indicated "very confident"(17). Additionally, an observation sheet was used to record ANC visit compliance based on data from the participants' KIA books.

Initially, the researchers visited the designated study sites to identify potential participants who met the inclusion criteria. The purpose and objectives of the study were clearly explained to each participant, and permission to participate was requested. Participants were given the opportunity to ask questions and clarify any doubts before providing their consent. Once participants agreed to join the study, they were asked to sign an informed consent form, confirming their voluntary participation. The researchers then distributed the questionnaires and simultaneously extracted information on antenatal care (ANC) visits from each participant's KIA book, recording it in a structured observation sheet. During this process, the researchers remained present to provide guidance or clarification whenever necessary, ensuring accurate completion of the questionnaires. All collected data were reviewed for completeness and accuracy before being processed using computer-based analysis.

The data were processed using a computer-based approach to ensure accuracy and efficiency in analysis. The process began with editing, where all collected data were carefully reviewed for clarity, readability, consistency, and completeness to minimize potential errors before analysis. Following this, coding was performed by converting responses into numerical values according to predetermined categories for each variable, thereby facilitating efficient processing through statistical software. After coding, the data were processed by entering them into SPSS for Windows, which enabled systematic statistical analysis. To ensure reliability, a cleaning procedure was carried out to identify and correct errors, inconsistencies, outliers, and incomplete responses. Finally, the data were tabulated, organizing the responses into structured tables and descriptive statistics to provide a clear overview and support subsequent analytical procedures

Data analysis

Data analysis comprised univariate and bivariate analyses. Univariate analysis employed descriptive statistics to describe respondents' characteristics, including maternal age, infant age, education, occupation, and parity, as well as the frequency distribution of ANC visit compliance and BSE variables. Bivariate analysis used the chi-square test with a significance level of $\alpha = 0.05$ to examine the relationship between ANC visit compliance and BSE among breastfeeding mothers.

Ethical consideration

Ethical approval for this study was obtained from the Research Ethics Committee of Nursing and Health at STIKES Tengku Maharatu on March 13, 2025, with approval number 086/STIKes-T.MHRT/KEPK/III/2025.

RESULTS

The study was conducted from March 16 to April 17, 2025, in the working area of the Rejosari Public Health Center. A total of

eighty two breastfeeding mothers with infants aged 0–6 months participated. The collected data were analyzed using univariate and bivariate analysis.

Respondent's Characteristics

Table 1 presents the characteristics of the respondents in this study. The majority of breastfeeding mothers were aged between 20 and 35 years, totaling 69 respondents (84.1%). Most infants were 4 months old, accounting for 19 babies (23.2%). Regarding the highest level of education, the largest group of respondents had attained higher education, with 34 respondents (41.5%). In terms of employment status, most respondents were unemployed, comprising 55 respondents (67.1%). Lastly, based on parity, the majority of mothers were multiparous, totaling 47 respondents (57.3%).

Table 1. characteristic of respondents

Characteristics	Frequency (n)	Percentage (%)
Mother's age		
20 – 35 years	69	84.1
> 35 years	13	15.9
Amount	82	100.0
Infant age		
0 month	9	11.0
1 month	9	11.0
2 month	10	12.1
3 month	14	17.1
4 month	19	23.2
5 month	13	15.8
6 month	8	9.8
Amount	82	100.0
Educational level		
Elementary school	7	8.5
Junior high school	14	17.1
Senior high school	27	32.9
Higher education	34	41.5
Amount	82	100.0

Characteristics	Frequency (n)	Percentage (%)
Working status		
Unemployed	55	67.1
Employed	27	32.9
Amount	82	100.0
Parity		
Primiparous	35	42.7
Multiparous	47	57.3
Amount	82	100.0

History of antenatal care visit compliance among breastfeeding mothers

Table 2 shows the results of the study involving 82 breastfeeding mothers. The majority, 49 mothers (59.8%), were categorized as compliant with antenatal care visits, while 33 mothers (40.2%) were non-compliant. These findings indicate that the level of compliance with antenatal care visits tends to be higher in the compliant group compared to the non-compliant group.

Table 2. History of Antenatal Care Visit Compliance Among Breastfeeding Mothers

History of Antenatal Care Visit Compliance	Frequency (n)	Percentage (%)
Compliant	49	59.8
Non-compliant	33	40.2
Amount	82	100.0

Breastfeeding Self-Efficacy Among Breastfeeding Mothers

Table 3 presents the results from 82 breastfeeding mothers, showing that the majority had high breastfeeding self-efficacy, totaling 39 mothers (47.6%). Twenty-nine mothers (35.4%) were categorized as having moderate self-efficacy, while 14 mothers (17.1%) fell into the low category. These findings indicate that more than half of the breastfeeding mothers in the study area possess a good level of confidence in their ability to breastfeed their infants.

Table 3. Breastfeeding self-efficacy among breastfeeding mothers

Breastfeeding self-efficacy among breastfeeding mothers	Frekuency (n)	Persentage (%)
High	39	47.6
Moderate	29	35.4
Low	14	17.1
Amount	82	100.0

The relationship between antenatal care visit compliance and breastfeeding self-efficacy among breastfeeding mothers

Table 4 indicates that among 49 breastfeeding mothers who complied with antenatal care (ANC) visits, the majority were categorized as having high breastfeeding self-

efficacy (BSE), with 28 mothers (57.1%), followed by 19 mothers (38.8%) with moderate BSE, and only 2 mothers (4.1%) with low BSE. Conversely, among the 33 mothers who were non-compliant with ANC visits, most fell into the low BSE category (12 mothers, 36.4%), followed by moderate BSE (10 mothers, 30.3%), and high BSE (11 mothers, 33.3%).

The chi-square test results showed a p-value of 0.001, which is less than the significance level α = 0.05, indicating a significant relationship between antenatal care visit compliance and breastfeeding self-efficacy among breastfeeding mothers. This finding suggests that the more compliant a mother is with ANC visits, the higher her breastfeeding self-efficacy tends to be. Conversely, mothers who are non-compliant with ANC visits tend to have lower levels of BSE.

Table 4. The Relationship between antenatal care visit compliance and breastfeeding self-efficacy among breastfeeding mothers

Antenatal Care Compliance (ANC)	Breastfeeding Self-Efficacy (BSE)						Amount		*P - value*
	High		Moderate		Low				
	N	%	N	%	N	%	N	%	
Compliant	28	57.1	19	38.8	2	4.1	49	100	
Non-compliant	11	33.3	10	30.3	12	36.4	33	100	0.001
Amount	39	47.6	29	35.4	14	17.1	82	100	

DISCUSSION

Based on age distribution, the majority of respondents were between 20 and 35 years old, totaling 69 individuals (84.1%). Age influences cognitive abilities, learning motivation, and engagement in various activities. The 20–35 age range is considered the productive age group and is regarded as an ideal reproductive period because, physiologically, a mother's ability to breastfeed is generally optimal during this phase (18). Meanwhile, maternal age above 35 years is classified as high-risk due to a decline in reproductive organ function and other bodily systems, which can increase the likelihood of complications during pregnancy, childbirth, and the breastfeeding period (19). These findings align with the study by Suhartiningsih and Samaria (2020), which reported that the majority of breastfeeding mothers were aged 20–35 years (85.7%), while mothers aged over 35 years accounted for 14.3% (20). Similar results were reported by Zubaida *et al*. (2024) where most breastfeeding mothers were in the 20–35 year age group (21).

This study found that most infants were 4 months old, totaling 19 babies (23.2%). At 4 months of age, infants still depend on breast milk as their primary source of nutrition without any additional intake (23,2%) (22). The World Health Organization (2022) recommends exclusive breastfeeding for the first six months without any supplemental feeding, including water or other foods. This period is critical in early life because breast milk sufficiently meets all nutritional needs, supporting bodily growth, brain development, and enhancing immunity against infections. Infants aged 3 to 6 months typically have more regular sucking patterns, receive a stable amount of breast milk, and can meet their nutritional needs, allowing breastfeeding to proceed without obstacles (23).

These findings are consistent with Afrida and Sulistyorini's (2024) research, which showed that the majority of infants receiving breast milk from their mothers were 4 months old, accounting for 20% (24).

The results also indicate that most respondents had attained higher education, with 34 individuals (41.5%) having completed tertiary education. Higher education refers to advanced studies beyond secondary education, including diploma, bachelor's, master's, specialist, and doctoral programs, as defined in the Indonesian National Education System Law No. 20 of 2003, Article 19. Educational level plays a role in shaping one's knowledge, attitudes, and behaviors (25). For mothers, education is crucial in the caregiving process, especially in breastfeeding. Mothers with higher education levels tend to have better understanding of breastfeeding, as education influences an individual's ability to

receive, process, and comprehend information (1). This is supported by Pertiwi et al. (2022), who found that 12 out of 15 mothers with higher education were able to exclusively breastfeed during the first six months of their infants' lives (26).

The majority of respondents in this study were unemployed breastfeeding mothers, totaling 55 individuals (67.1%). Unemployed mothers are more likely to provide optimal exclusive breastfeeding compared to working mothers. This is due to greater availability of time and fewer barriers such as limited breastfeeding time, inadequate lactation facilities, and the high workload often experienced by working mothers (27). Mothers employed outside the home often face dilemmas in breastfeeding their infants due to limitations in time and space. This situation is exacerbated by insufficient workplace facilities, such as dedicated rooms for breastfeeding or milk expression, which make it difficult for mothers to express or store breast milk during working hours (28). Consistent with these findings, a study by Olya et al. (2023) in the Menteng Public Health Center working area reported that most breastfeeding mothers were unemployed, totaling 34 respondents (54.8%) (29).

The majority of respondents in this study were multiparous mothers, totaling 47 individuals (57.3%). Multiparous mothers are women who have given birth two to four times or more. Parity, which refers to the number of live births a mother has experienced, is an important factor influencing breastfeeding experience (30). Primiparous mothers, those giving birth for the first time, generally face various challenges during breastfeeding and infant care due to lack of experience. They tend to feel uncertain, lack confidence, and have not yet mastered effective breastfeeding techniques (31). Multiparous mothers, having previously breastfed other children, are usually more skilled and confident in breastfeeding, resulting in a smoother and more effective breastfeeding process. These findings align with research by Retnawati and Khoriyah (2022), which found that the majority of mothers providing exclusive breastfeeding were multiparous, accounting for 31 respondents (70.5%) (32).

The study also showed that most respondents were compliant with antenatal care (ANC) visits, numbering 49 individuals (59.8%). ANC visits during pregnancy play a vital role in maintaining the health and safety of both mother and baby, providing health information and education, and helping mothers prepare for childbirth, postpartum care, and breastfeeding (33). This contributes to increasing mothers' knowledge and readiness to maintain health during pregnancy and prepare for childbirth (34). Consistent with this, Ismail et al. (2024) found that most mothers who exclusively breastfed had complete ANC visit histories, totaling 203 respondents (71.7%). Mothers who completed ANC visits were 1.787 times more likely to succeed in exclusive breastfeeding compared to those with incomplete visits (35).

This study found that most breastfeeding mothers had high breastfeeding self-efficacy (BSE), with 39 individuals (47.6%). According to Dennis (2010, cited in Widiastuti & Ramayanti, 2021), BSE is a mother's confidence in her ability to breastfeed. This factor significantly influences a mother's motivation to breastfeed, the intensity of effort applied, and the formation of positive or negative mindsets affecting breastfeeding success (36). BSE is an important variable to identify whether a mother will continue breastfeeding, how long she will breastfeed, how she responds to challenges, and how she thinks about the breastfeeding process in the future. Mothers with low BSE tend to have a higher risk of not exclusively breastfeeding, while those with high BSE generally demonstrate consistency in providing breast milk without supplementary foods or drinks (37). This is supported by Cahyalestari et al. (2020), who found that the majority of breastfeeding mothers had good BSE (83%) (38).

The chi-square statistical test conducted on 82 breastfeeding mothers yielded a p-value of 0.001, which is less than $\alpha = 0.05$, indicating that the null hypothesis (H_0) is rejected. Thus, it can be concluded that there is a significant relationship between antenatal care visit compliance and breastfeeding self-efficacy among breastfeeding mothers. Compliance with ANC visits during pregnancy can influence BSE during the breastfeeding period, which contributes to

exclusive breastfeeding (39). During pregnancy, access to accurate and relevant information about maternal and fetal health is critical, one channel being ANC services. ANC visits not only function as monitoring tools for maternal and fetal physical conditions but also as educational media designed to enhance pregnant women's health literacy (33). During counseling sessions, healthcare providers deliver important topics ranging from nutritional fulfillment, mental preparedness for childbirth, to awareness of pregnancy complication risks. Education on the benefits and practice of exclusive breastfeeding is a key aspect in building breastfeeding readiness starting from pregnancy (40).

Maternal compliance with ANC visits is closely related to increased knowledge, skills, and confidence in BSE. Healthcare workers play a vital role during ANC visits by providing motivation, problem-solving support for breastfeeding issues, and positive encouragement, all of which contribute to enhancing BSE. Active maternal involvement in ANC services improves physical and psychological readiness to breastfeed because the focus extends beyond pregnancy health monitoring to include education on postpartum breastfeeding preparation, which boosts BSE (4). This study's findings align with Gonzales (2020), who identified ANC visit frequency as a factor influencing postpartum mothers' BSE (p-value 0.003) (16). Similarly, Amahoru et al. (2022) in Dobo, Maluku, reported that ANC utilization affected pregnant women's understanding of breastfeeding practices and improved BSE (p-value 0.010) (41).

However, this study also found that among mothers who were non-compliant with ANC visits, some still had high BSE levels (33.3%). This phenomenon suggests that factors other than ANC compliance also influence BSE development in breastfeeding mothers. BSE is affected by four main sources: previous breastfeeding experience (mastery experience), vicarious experience (observing or hearing others' experiences), verbal persuasion (support from the environment), and the mother's physiological and psychological conditions (42). The majority of respondents were multiparous mothers, who tend to have higher BSE due to direct breastfeeding experience with previous children. This experience makes mothers more confident, knowledgeable about breastfeeding techniques, and capable of overcoming lactation challenges (37).

This study shows most respondents had higher education. Mothers with higher education levels tend to have higher BSE because they can more easily access accurate and scientific information about the benefits, techniques, and challenges of breastfeeding through literature, digital media, or other educational sources independently (10). Mothers with a higher educational background typically possess more mature analytical skills and better decision-making abilities, which increase confidence in breastfeeding activities (43).

Most respondents in this study were unemployed. Unemployed mothers tend to have higher BSE because they have more time and opportunity to focus on infant care and the breastfeeding process. This condition allows mothers to have more frequent contact with their babies, deepen breastfeeding experience, and easily access support from family and the surrounding environment (27).

This study indicates a relationship between antenatal care (ANC) visit compliance and breastfeeding self-efficacy (BSE) among breastfeeding mothers. However, despite ANC compliance playing an important role in increasing BSE, other factors such as parity, education level, and employment status also influence BSE in breastfeeding mothers with a history of ANC non-compliance. These findings highlight the need for clinical practice to not only strengthen the quality of ANC services but also to incorporate targeted interventions that address maternal characteristics beyond ANC compliance, such as tailored breastfeeding counseling for primiparous mothers, educational support for those with lower schooling levels, and flexible guidance for working mothers. For future research, it is recommended to explore these influencing factors more comprehensively using larger and more diverse populations, as well as longitudinal designs, to provide deeper insights into the complex determinants of BSE and to guide the development of more effective, context-specific interventions.

CONCLUSION

This study found a significant relationship between compliance with antenatal care (ANC) visits and breastfeeding self-efficacy (BSE) among breastfeeding mothers, with a p-value of $0.001 < \alpha\ 0.05$. Healthcare providers are expected to strengthen individual counseling sessions during ANC using a more interactive, informative, and psychosocially supportive approach for mothers. The implementation of quality and consistent ANC is crucial to be optimized as a strategic intervention to improve BSE, which ultimately can support the success of exclusive breastfeeding. Future research is recommended to explore the relationship between ANC visit compliance and other aspects of maternal and child health services, such as nutritional fulfillment, mental preparedness before delivery, and the success of exclusive breastfeeding. Further studies are also encouraged to investigate additional factors influencing BSE, such as the quality of ANC, family support, previous breastfeeding experience, and the psychological condition of mothers during pregnancy and the postpartum period.

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REFERENCES

(1) Zelalem M, Akale Z, Tadesse Y, Humnessa S, Bekele D, Bayu H, et al. National antenatal care guidelines. Ministry of Health Ethiopia. Addis Ababa: Ministry of Health Ethiopia; 2022. 80 p.

(2) Geltore TE, Anore DL. The impact of antenatal care in maternal and perinatal health. Empowering Midwives and Obstetric Nurses. London: IntechOpen; 2022.

(3) Ernawati, Sunarsih T, Daryanti MS. Pengaruh Self Efikasi Ibu Menyusuidalam Pemberian Asi Eksklusif Pada Ibu Hamil Trimester III. Med Respati J Ilm Kesehat. 2020;15(3):217–26.

(4) Öztürk R, Ergün S, Özyazıcıoğlu N. Effect of antenatal educational intervention on maternal breastfeeding self-efficacy and breastfeeding success: a quasi-experimental study. Rev da Esc Enferm. 2022;56:1–8.

(5) Kementrian Kesehatan RI. Buku Kesehatan Ibu dan Anak. Jakarta: Kementrian Kesehatan RI; 2024. 80 p.

(6) Sunarto A, Fadlina F, Agusfar AZ, Wahyuni T. Hubungan Kepatuhan Kunjungan Antenatal Care dengan Cara Persalinan di Puskesmas Sukaindah Kabupaten Bekasi. Muhammadiyah J Midwifery. 2024;5(1):77–86.

(7) Seviana T, Manullang EV, Wardah, Indrayani YA, Ellysa, Zolaiha, et al. Profil Kesehatan Indonesia Tahun 2023. Sibuea F, editor. Jakarta: Kementrian Kesehatan RI; 2024. 550 p.

(8) Dinas Kesehatan Provinsi Riau. Laporan Kinerja Instansi Pemerintah Dinas Kesehatan Provinsi Riau. Dinas Kesehatan Provinsi Riau. Pekanbaru: Dinas Kesehatan Provinsi Riau; 2023. 200 p.

(9) Li L, Wu Y, Wang Q, Du Y, Friesen D, Guo Y, et al. Determinants of breastfeeding self-efficacy among postpartum women in Rural China: a cross-sectional study. Plos One. 2022;17(4):1–18. Available from: http://dx.doi.org/10.1371/journal.pone.0266273

(10) Can V, Bulduk M, Can EK, Ayşin N. Impact of social support and breastfeeding success on the self-efficacy levels of adolescent mothers during the postpartum period. Reprod Health. 2025;22(19). Available from: https://doi.org/10.1186/s12978-025-01960-z

(11) Brani P, Mrvoljak-Theodoropoulou I, Pechlivani F, Gourounti K, Iliadou M, Palaska E, et al. Mothers' breastfeeding self-efficacy after a high-risk or normal pregnancy: a greek longitudinal cohort study. Eur J Investig Heal Psychol Educ.

2024;14(6):1803–20.
(12) Li J, Zhao C, Wang Y, Wang YP, Chen CY, Huang Y, et al. Factors associated with exclusive breastfeeding practice among mothers in nine community health centres in Nanning city, China: a cross-sectional study. Int Breastfeed J. 2021;16(1):1–14.
(13) Kehinde J, O'Donnell C, Grealish A. A qualitative study on the perspectives of prenatal breastfeeding educational classes in Ireland: Implications for maternal breastfeeding decisions. vol. 19, Plos One. 2024. 1–35 p. Available from: http://dx.doi.org/10.1371/journal.pone.0315269
(14) Modak A, Ronghe V, Gomase KP. The psychological benefits of breastfeeding: fostering maternal well-being and child development. Cureus. 2023;15(10).
(15) Wardiah A, Rilyani, Arizandi A. Hubungan Dukungan Keluarga Terhadap Efikasi Diri Ibu Menyusui Dalam Memberikan ASI Eksklusif Di Puskesmas Sumur Batu Kota Bandar Lampung Aryanti. Mahaliyati Nurs J. 2021;3(4):627–35.
(16) Gonzales AM. Breastfeeding Self-Efficacy of Early Postpartum Mothers in an Urban Municipality in the Philippines. Asian Pacific Isl Nurs J. 2020;4(4):135–43.
(17) Yuliani DR, Aini FN, Winarso SP, Amalia R. The Breastfeeding Self-Efficacy Scale-Short Form (BSES-SF) Versi Indonesia: Studi Pendahuluan Uji Validitas Dan Reliabilitas Pada. J Midwifery Sci Basic Appl Res. 2023;5(2):38–42.
(18) Eslami E, Pakseresht S, Niknami M, Roshan ZA. Comparison of breastfeeding self-efficacy in mothers with different ages. J Holist Nurs Midwifery. 2020;30(4):208–16.
(19) Correa-De-Araujo R, Yoon SS. Clinical outcomes in high-risk pregnancies due to advanced maternal age. J Women's Heal. 2021;30(2):160–7.
(20) Suhartiningsih ED, Samaria D. Gambaran Karakteristik Ibu Menyusui Di Group Exclusive Pumping (E-Ping) Mama Indonesia. Nurs Curr J. 2020;8(2):168–77.
(21) Zubaida A, Immawati, Dewi TK. Penerapan Pendidikan Kesehatan Tentang ASI Ekslusif Pada Ibu Menyusui Di Puskesmas Iringmulyo Metro Timur. Cendikia Muda. 2024;4(2):194–200.
(22) Apriani R, Rohani T, Darmawansyah. Faktor-Faktor Yang Berhubungan Dengan Pemberian ASI Eksklusif Di Puskesmas Rawat Inap Muara Pinang Kabupaten Empat Lawang Factors Associated with Exclusive Breastfeeding at the Muara Pinang Inpatient Health Center , Empat Lawang Regency. J Kebidanan Manna. 2023;2(1):7–22.
(23) Rahayu S, Zulala NN. Hubungan Usia Ibu dengan Pencapaian ASI Ekslusif di Puskesmas Pajangan. J Inf dan Promosi Kesehat. 2023;2(2):129–41.
(24) Afrida RR, Sulistyorini Y. Hubungan Pemberian Asi Eksklusif Terhadap Perkembangan Bayi. Holistik J Kesehat. 2024;18(6):795–803.
(25) Damayanti M, Sofyan O. Hubungan Tingkat Pendidikan Terhadap Tingkat Pengetahuan Masyarakat di Dusun Sumberan Sedayu Bantul Tentang Pencegahan Covid-19 Bulan Januari 2021. J Farm. 2021;18(2):220–6.
(26) Pertiwi AP, Mu'ti A, Buchori M. Gambaran Pengetahuan ibu Tentang ASI Eksklusif dan Cara Pemberian ASI Eksklusif pada Bayi Usia 0-6 Bulan di Puskesmas Segiri Samarinda. J Kedokt Mulawarman. 2022;9(3):103–9.
(27) Zewdie A, Taye T, Kasahun AW, Oumer A. Effect of maternal employment on exclusive breastfeeding practice among mothers of infants 6–12 months old in Wolkite town, Ethiopia: a comparative cross-sectional study. BMC Womens Health. 2022;22(1):1–11. Available from: https://doi.org/10.1186/s12905-022-01816-9
(28) Basrowi RW, Darus F, Partiwi IGAN, Sutanto LB, Sulistomo A, Soemarko DS, et al. The strategic effort to ensure successful breastfeeding practice in the workplace: an Indonesian expert opinion. Open Public Health J. 2024;17(1):1–7.
(29) Olya F, Ningsih F, Ovany R. Hubungan Status Pekerjaan Ibu dengan Pemberian ASI Eksklusif di Wilayah Kerja UPT

Puskesmas Menteng Tahun 2022. J Surya Med. 2023;9(1):137–45.
(30) Anindia LS, Widjanarko B, Kusumawati A. Determinan Perilaku Pemberian ASI Eksklusif pada Ibu Usia Remaja di Wilayah Kerja Puskesmas Genuk Kota Semarang. Media Kesehat Masy Indones. 2021;20(4):240–50.
(31) Oberfichtner K, Oppelt P, Fritz D, Hrauda K, Fritz C, Schildberger B, et al. Breastfeeding in primiparous women – expectations and reality: a prospective questionnaire survey. BMC Pregnancy Childbirth. 2023;23(1):1–9. Available from: https://doi.org/10.1186/s12884-023-05971-1
(32) Retnawati SA, Khoriyah E. Relationship of Parity With Exclusive Breast Milk in Infants Age 7-12 Months. Estu Utomo Heal Sci Ilm Kesehat. 2022;16(1):15–9. Available from: https://ejurnal.stikeseub.ac.id/index.php/JEU/article/view/580/432
(33) Lori JR, Kukula VA, Liu L, Apetorgbor VEA, Ghosh B, Awini E, et al. Improving health literacy through group antenatal care: results from a cluster randomized controlled trial in Ghana. BMC Pregnancy Childbirth. 2024;24(1):1–9.
(34) Acosta BG, Alicaya KNE, Atang RLD, Balagtas HADR, Barlis KIM, Bautista KAA, et al. Awareness and Readiness on Pregnancy Attending Antenatal Care. Proc Ser Heal Med Sci. 2025;6:85–93.
(35) Ismail IU, Harahap AS, Siregar YD. Hubungan Riwayat ANC, Riwayat IMD , Dan Dukungan Sosial Terhadap Pelaksanaan ASI Eksklusif di Kota Binjai. J Kesehat Ilm Indones. 2024;9(1):77–84.
(36) Rahmi J, Darmayanti D, Sumarni R, Zahrah FN, Febbyanti B. Health Education on the Techniques of Milking, Storing and Giving Breastfeeding Women in Kadamangan Village 1. J Abdi Masy. 2020;1(1):55–61.
(37) Al-Thubaity DD, Alshahrani MA, Elgzar WT, Ibrahim HA. Determinants of high breastfeeding self-efficacy among nursing mothers in Najran, Saudi Arabia. Nutrients. 2023;15(8):1–13.
(38) Cahyalestari H, Arya ID, Gurnida DA. Breastfeeding Self-Efficacy pada Ibu Menyusui di Kecamatan Soreang, Kabupaten Bandung Tahun 2019. Vol. 8, eJournal Kedokteran Indonesia. Bandung; 2020. p. 179–84.
(39) Islam MJ, Zobair KM. Do timing and frequency of antenatal care make a difference in maternal micronutrient intake and breastfeeding practices? Insights from a multi-country study in South Asia. PLOS Glob Public Heal. 2024;4(3). Available from: http://dx.doi.org/10.1371/journal.pgph.0002993
(40) Torlesse H, Benedict RK, Craig HC, Stoltzfus RJ. The quality of maternal nutrition and infant feeding counselling during antenatal care in South Asia. Matern Child Nutr. 2021;17(3):1–13.
(41) Amahoru RG, Titaley CR, Asmin E, Susanto AR. Knowledge and Breastfeeding Experience are Associated with High Levels of Exclusive Breastfeeding Self-Efficacy in Pregnant Women from Dobo, Maluku. Indones J Heal Promot Heal Educ. 2022;10(2):157–63.
(42) Davoudi Kiakalayeh A, Mohammadi R, Pourfathollah AA, Siery Z, Davoudi-Kiakalayeh S. Enhancing breastfeeding home based education on self-efficacy: a preventive strategy. Int J Prev Med. 2020;11(63):1–5.
(43) Wayan Dian Ekayanthi N, Besral B. Research Trends on Self-Efficacy in Breastfeeding Mothers During 2000-2023: A Bibliometric Analysis. Turkish Arch Pediatr. 2024;59(5):440–8.