



Continuity of Midwifery Care and Maternal Satisfaction During Pregnancy, Childbirth, and Postpartum Services

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Article History

Received: 2026-04-12

Revised: 2026-04-30

Accepted: 2026-05-22

Published: 2026-05-31

Keywords:

Continuity of midwifery care,
Maternal satisfaction, Pregnancy,
Childbirth, Postpartum care

DOI:

To be assigned

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Paper type:

Original research article



Published by PT Penerbit Velora
Indonesia

Abstract

Purpose

This study examined the effect of continuity of midwifery care on maternal satisfaction during pregnancy, childbirth, and postpartum services in Purwakarta Regency, West Java, Indonesia.

Methodology

A quantitative analytical cross-sectional study was conducted from January to March 2026 among 200 postpartum women recruited through consecutive sampling at four public maternal and child health facilities. Continuity was assessed using a structured seven-item checklist, while maternal satisfaction was measured using the Continuity of Midwifery Care Satisfaction Survey. Data were analyzed with descriptive statistics, bivariate tests, and multiple linear regression using IBM SPSS Statistics version 29.

Findings

The mean continuity score was 5.18 ± 1.29 and the mean satisfaction score was 139.76 ± 13.92 . Continuity correlated positively with satisfaction ($r = 0.58$, $p < 0.001$) and remained the strongest predictor after adjustment ($B = 5.74$, $\beta = 0.484$, 95% CI: 4.46–7.02, $p < 0.001$). The model explained 39.8% of satisfaction variance.

Implications

Maternity services should strengthen provider consistency, coordinated information, and continuous communication across pregnancy, childbirth, and postpartum care.

Originality

This study provides context-specific Indonesian evidence by evaluating continuity as an integrated maternity experience across the full care continuum.

Cite this article:

Nurfadila, Z., Wicaksono, B., & Andayani, P. (2026). Continuity of midwifery care and maternal satisfaction during pregnancy, childbirth, and postpartum services. *Nadi: Journal of Health Sciences*, x(x), xx–xx. DOI to be assigned.

Introduction

Maternal healthcare has improved substantially during the past three decades, yet preventable maternal morbidity and mortality remain major indicators of unequal access to high-quality care. Global modelling shows that maternal mortality has declined over time, but the pace of improvement remains insufficient to achieve the Sustainable Development Goal target in many settings (Ward et al., 2023). Beyond survival, contemporary maternal health policy increasingly

recognizes that women should receive care that is safe, respectful, coordinated, and responsive to their individual needs. [Puthussery et al. \(2023\)](#) emphasize that respectful maternity care is central to improving both the quality and acceptability of maternal health services. Evidence from low- and middle-income countries also shows that shortcomings in respect, communication, autonomy, and responsiveness continue to affect women's maternity experiences ([Kawish et al., 2023](#)). These conditions indicate that improvements in maternal healthcare should address not only clinical coverage but also the organization and experience of care across pregnancy, childbirth, and the postpartum period.

One approach that directly addresses fragmentation is continuity of midwifery care, in which a woman receives care from the same midwife or a small known team across multiple stages of the maternity continuum. A recent Cochrane review found that midwife continuity models can improve women's experiences while supporting favorable clinical outcomes compared with fragmented models of maternity care ([Sandall et al., 2024](#)). Qualitative evidence from Aotearoa New Zealand further shows that sustained midwife-woman relationships can strengthen respect, trust, individual recognition, and women's involvement in their care ([Dixon et al., 2023](#)). Women participating in a midwifery-led continuity model in Ethiopia similarly described continuity as supporting familiarity, confidence, communication, and a stronger sense of individualized care ([Mose et al., 2023](#)). These findings suggest that continuity operates through more than provider consistency. It also creates a relational structure that can connect information, clinical decisions, and women's preferences across changing stages of maternity care.

Maternal satisfaction is an important outcome of this care process because it reflects how women evaluate the accessibility, interpersonal quality, responsiveness, information, participation, professional support, and coordination they experience. A study of antenatal care in Tanzania showed that women's satisfaction was associated with expectations and their actual experience of service delivery ([Heri et al., 2023](#)). Research among postpartum women in Nigeria likewise identified specific dimensions of antenatal service delivery that shaped women's overall evaluations of care ([Adedeji et al., 2023](#)). In Norway, participation, information, and interaction with maternity professionals were important predictors of antenatal satisfaction ([Sætrum et al., 2024](#)). A recent systematic review from Nigeria confirms that satisfaction is multidimensional and is influenced by interpersonal, structural, obstetric, and sociodemographic factors rather than by clinical outcomes alone ([Ope et al., 2025](#)). Maternal satisfaction therefore provides a meaningful indicator for assessing whether maternity systems deliver technically appropriate care in ways that women perceive as coordinated and responsive.

The mechanisms connecting continuity and satisfaction are consistent with contemporary woman-centred maternity care. Effective communication allows women to understand their clinical situation, discuss alternatives, and express preferences, which can strengthen trust and satisfaction ([Agbi et al., 2023](#)). Shared decision-making also creates opportunities for women and maternity professionals to combine clinical evidence with individual values and preferences. An umbrella review found that pregnant women and birth partners value involvement in decisions across pregnancy and childbirth, although the quality of participation varies between care environments ([Alruwaili et al., 2023](#)). Experimental evidence indicates that structured involvement in maternity decisions can improve women's experiences and confidence in care choices ([Shahveisi et al., 2023](#)). [Hawke et al. \(2024\)](#) further conclude that meaningful shared decision-making in antenatal care requires adequate time, personalization, and continuity. These mechanisms make continuity particularly relevant because repeated encounters with known providers can create the relational conditions needed for communication and decision-making to develop over time.

Recent empirical studies provide increasingly direct evidence that continuity may improve women's satisfaction. In Purwakarta Regency, West Java, [Darmawan et al. \(2024\)](#) reported that women's satisfaction was associated with positive experiences within midwifery continuity of care. In Denmark, women receiving midwife-led continuity reported substantially higher satisfaction

with birth care than women receiving standard maternity care (de Wolff et al., 2025). Clinical evidence also supports broader benefits of continuity. Shahinfar et al. (2024) found that continuity of team midwifery care contributed to favorable maternal and neonatal outcomes in Iran. A matched cohort study in Sweden similarly reported beneficial associations between midwifery continuity and several birth outcomes (Lundborg et al., 2025). In Indonesia, digitally supported continuity has also shown potential to improve postpartum client satisfaction by strengthening accessibility, communication, and personalized support (Darmawan et al., 2025). Collectively, these studies indicate that continuity can contribute to both clinical and experiential dimensions of maternity care.

Despite this evidence, important contextual gaps remain. Continuity models vary in provider configuration, organizational support, referral pathways, staffing, and the degree to which women actually encounter the same professional across maternity stages. Middlemiss et al. (2024) show that implementation depends on health-system conditions and workforce organization, which can alter how continuity functions in practice. A scoping review focused on low- and middle-income countries found substantial variation in the structure and implementation of midwifery continuity models, indicating that findings from high-income systems cannot simply be transferred to all maternity settings (Adnani et al., 2025). Indonesian evidence remains comparatively limited and often focuses on specific programs or selected maternal groups. Sholikhah et al. (2025) demonstrated the value of continuity among high-risk pregnant women but did not focus primarily on overall maternal satisfaction across the full maternity continuum. A multicenter Indonesian study also shows that respectful maternity care is shaped by several clinical and service-level dimensions, including women's interactions with healthcare providers (Farizi et al., 2025). Implementation research further indicates that leadership, professional boundaries, staffing, and organizational culture can determine whether continuity produces its intended benefits (Simmelink et al., 2025).

This study therefore focuses on the relationship between continuity of midwifery care and maternal satisfaction during pregnancy, childbirth, and postpartum services in Purwakarta Regency, West Java, Indonesia. The study responds to the need to evaluate continuity as an integrated maternity experience rather than as an isolated antenatal, intrapartum, or postpartum intervention. Kuipers (2024) argues that future continuity models require stronger attention to how relational care can be sustained within real health-system structures. Parents also value limited care transfers, consistent information, accessibility, and continued relationships when moving across maternity and postnatal services (Hermans et al., 2025). Accordingly, the main research question is: To what extent is continuity of midwifery care associated with maternal satisfaction across pregnancy, childbirth, and postpartum services? The study aims to quantify this relationship while accounting for relevant maternal and service characteristics, thereby providing evidence for strengthening woman-centred and integrated maternity care in the Indonesian context.

Literature Review

Continuity of Midwifery Care

Continuity of midwifery care refers to an organizational and relational model in which women receive maternity care from the same midwife or a small identifiable team across pregnancy, childbirth, and the postpartum period. Its essential components include consistency of providers, transfer of relevant information, coordination of clinical management, accessibility of professional support, and continuity of the therapeutic relationship. Midwife-led continuity differs from fragmented care because responsibility remains connected across stages rather than being repeatedly transferred between unrelated professionals. Evidence from a large meta-analysis indicates that midwife-led models can support favorable maternal and neonatal outcomes among low-risk pregnancies (Sriram et al., 2024). Economic evidence also suggests that caseload midwifery can be implemented without increasing hospital costs and may reduce expenditure for public

funders (Callander et al., 2024). These findings support continuity as both a clinical and organizational model.

Continuity also depends on the ability of midwives to sustain professional relationships within the practical constraints of maternity systems. A qualitative evidence synthesis from low- and middle-income countries indicates that midwives often perceive continuity as professionally meaningful because it supports relationships with women and improves understanding of individual needs (Myrhaug et al., 2025). At the same time, workforce capacity, workload, referral processes, and organizational support influence whether these relationships can be maintained. Middlemiss et al. (2024) identify staffing, professional culture, service design, and implementation resources as recurring barriers and facilitators. Kuipers (2024) therefore proposes that continuity should be understood as a system-level transformation rather than simply assigning a woman to a particular midwife. Within the present study, continuity is conceptualized as the degree to which women experience consistent providers, connected information, coordinated management, and sustained professional support across maternity stages.

Woman-Centred and Respectful Maternity Care

The theoretical logic of continuity aligns closely with woman-centred care. This perspective places women's dignity, preferences, autonomy, values, information needs, and participation at the centre of maternity services. Person-centred maternity care instruments commonly organize these experiences around dignity and respect, communication and autonomy, and responsive supportive care. Afulani et al. (2023) demonstrated strong psychometric properties for person-centred prenatal and maternity care scales that measure these domains. Continuity can facilitate these principles because repeated encounters provide maternity professionals with greater knowledge of a woman's clinical history, preferences, previous decisions, and social context.

Respectful maternity care provides a complementary framework. Kasaye et al. (2023) found that multicomponent interventions can reduce mistreatment and strengthen respectful maternity care when they address both provider behaviour and health-system conditions. A systematic review of healthcare professionals in resource-constrained settings identified institutional, professional, and woman-related factors as key influences on respectful care (Lunda et al., 2024a). Qualitative research with midwives also shows that dignity, communication, individualization, and supportive professional practice are central to how maternity professionals understand respectful care (Lunda et al., 2024b). These findings reinforce the argument that positive maternity experiences develop through interactions between interpersonal conduct and service organization.

Respectful care is also measurable as a distinct dimension of maternity quality. Dişsiz et al. (2025) demonstrated that the Respectful Maternity Care Scale can capture women's perceptions across pregnancy, labour, and the postnatal period with strong psychometric performance. Glover et al. (2024) showed that trust, informed choice, and experiences linked to marginalized identities contribute to women's evaluations of patient-centred respectful maternity care. Research in rural India similarly identifies dignity, privacy, autonomy, and provider interaction as important determinants of respectful maternity experiences (Athira et al., 2025). A review of respectful maternity care interventions indicates that improvements require changes in provider behaviour as well as organizational practices that shape women's experiences during childbirth (Mira-Catalá et al., 2024). These dimensions are relevant to continuity because women who repeatedly encounter known providers may experience fewer relational disruptions and greater opportunities for individualized communication.

Person-centred maternity care remains uneven across low- and middle-income settings. Dagnaw et al. (2024) found that individual and service factors were associated with person-centred maternity care among women giving birth in public hospitals in Ethiopia. Kamat and Kharde (2024) similarly identified variation across dignity, supportive care, communication, privacy, trust, and facility-related dimensions among postpartum women in India. A recent scoping review in the

United States also demonstrates that poor provider rapport, discrimination, and failures in professional standards remain relevant even in high-income settings (Cayama et al., 2025). Respectful care is therefore not an automatic consequence of facility-based delivery. It depends on how maternity systems organize relationships, communication, choice, and support.

Maternal Satisfaction

Maternal satisfaction represents a woman's evaluative response to the maternity care she receives. It is multidimensional because women assess not only clinical competence but also communication, respect, emotional support, accessibility, information, participation, responsiveness, privacy, and consistency. Ratislavová et al. (2024) found substantial heterogeneity in instruments used to measure childbirth satisfaction and emphasized the need for psychometrically sound tools that fit the relevant cultural and service context. Prosen and Ličen (2025) further demonstrate that childbirth satisfaction varies according to obstetric factors, birth environment, professional support, and whether women's expectations are addressed. Satisfaction should therefore be treated as a meaningful patient-reported outcome rather than as a simple rating of whether care was generally acceptable.

Recent psychometric research has strengthened options for measuring women's [maternity experiences](#). Perriman et al. (2024) validated the Continuity of Midwifery Care Satisfaction Survey, or COMcareSS, and reported excellent internal consistency for assessing satisfaction within continuity models. Validation of the Swedish Birth Satisfaction Scale-Revised also confirmed the importance of reliable multidimensional measurement when evaluating childbirth experiences (Grundström et al., 2023). Anikwe et al. (2024) demonstrated that culturally adapted satisfaction instruments can retain acceptable validity and reliability when linguistic and contextual adaptation follows a systematic process. These studies show that satisfaction measurement requires careful attention to cultural equivalence rather than direct translation alone.

Cross-cultural evidence reinforces this methodological requirement. Pawlicka et al. (2024) validated a Polish version of the Birth Satisfaction Scale-Revised and demonstrated its usefulness for comparing women's experiences across clinical groups. A Hungarian adaptation also showed strong psychometric performance after structured translation and validation (Abrán et al., 2024). MacVicar et al. (2025) reported that a Vietnamese version of the same measure retained the conceptual structure needed to assess birth satisfaction in a different cultural environment. The convergence of these studies supports the use of translation, back-translation, expert review, and pilot testing before applying an international maternity satisfaction instrument in Indonesia.

Communication, Autonomy, and Shared Decision-Making

Communication provides a central mechanism through which continuity may influence satisfaction. When women repeatedly interact with known maternity professionals, they have greater opportunity to develop common understanding, discuss concerns, and receive information that is consistent with earlier consultations. Fares et al. (2023) found that respectful maternity care combined with effective communication significantly improved childbirth satisfaction in an intervention setting. Communication therefore functions not simply as information transfer but also as a source of reassurance, trust, and perceived responsiveness.

Shared decision-making extends this relational mechanism by enabling women to participate actively in choices about maternity care. Berman et al. (2024) describe shared decision-making as a practical component of person-centred perinatal care because it combines professional knowledge with women's informed preferences. A cluster randomized trial showed that structured birth-plan counselling based on shared decision-making influenced women's childbirth preferences and strengthened individualized discussion during antenatal care (López-Gimeno et al., 2024). Birth plans may also facilitate conversations between women, partners, and maternity professionals when used as flexible tools rather than fixed expectations (Shareef et al., 2024). In Saudi Arabia, higher shared decision-making was positively related to respectful maternity care, suggesting that

autonomy and respect operate together within women's maternity experiences ([Alruwaili et al., 2024](#)).

These mechanisms clarify why continuity may produce greater satisfaction. Familiarity with the provider can reduce the need to repeatedly explain medical history and personal preferences. Consistent information can limit contradictory advice. Continued relationships can also create conditions in which women feel safer asking questions or disagreeing with recommendations. Such characteristics are theoretically compatible with person-centred care because they strengthen autonomy without separating it from clinical support.

Previous Empirical Studies

Three recent studies are particularly relevant to the proposed relationship. [Darmawan et al. \(2024\)](#) examined continuity of midwifery care in Purwakarta Regency and found that women's satisfaction functioned as an indicator of positive maternity experience. The study is highly relevant geographically, but its findings leave room for more explicit multivariable testing of continuity as an explanatory factor across the full pregnancy, childbirth, and postpartum continuum.

The second study was conducted by [de Wolff et al. \(2025\)](#) in a Danish university hospital. Women receiving midwife-led continuity reported higher satisfaction than women receiving standard midwifery care, particularly in personal treatment, information, and education. This study provides strong evidence that provider continuity can influence experiential outcomes, although the organizational context differs substantially from Indonesian public maternity services.

The third study by [Sætrum et al. \(2024\)](#) provides a useful complementary finding. Overall satisfaction with antenatal services was high, but participation, information, interaction with midwives, and selected maternal characteristics predicted women's satisfaction. This result indicates that continuity should not be treated as the sole determinant of satisfaction. Instead, continuity may enhance satisfaction because it improves the conditions through which communication, participation, and individualized support occur.

Research Gap

Several gaps remain after considering these findings. First, continuity research often focuses on clinical outcomes, a single stage of maternity care, or specific continuity programs. Second, evidence from low- and middle-income countries remains heterogeneous. [Kassa et al. \(2025\)](#) found that continuity between antenatal and childbirth providers was associated with better person-centred maternity care, but communication and autonomy remained weak dimensions across many settings. Third, service implementation differs substantially between countries. [Adnani et al. \(2025\)](#) show that continuity models in low- and middle-income countries operate under varying workforce, infrastructure, and referral conditions.

The Indonesian evidence base also remains limited. [Farizi et al. \(2025\)](#) demonstrate that respectful maternity care in Indonesia has multiple underlying dimensions and is influenced by women's childbirth experiences. [Sholikah et al. \(2025\)](#) provide evidence for continuity among high-risk women but focus on broader maternal preparedness and care outcomes. [Darmawan et al. \(2025\)](#) show that digital continuity can improve satisfaction, yet digitally supported care differs from routine provider continuity across face-to-face pregnancy, childbirth, and postpartum services. These studies create a specific gap for a quantitative assessment of whether stronger continuity across the entire maternity pathway predicts maternal satisfaction in routine Indonesian services.

A further gap relates to the transition between maternity stages. [Hermans et al. \(2025\)](#) found that parents particularly value consistent information, limited care transfers, and accessible, tailored support when moving from maternity into postnatal and child health services. [Simmelink et al. \(2025\)](#) show that the effectiveness of continuity depends on the circumstances under which the model is implemented. The present study responds by examining continuity as an integrated service

experience while adjusting for maternal and service characteristics that may offer alternative explanations for variation in satisfaction.

Conceptual Framework

The conceptual framework positions Continuity of Midwifery Care as the independent variable and Maternal Satisfaction as the dependent variable. Continuity encompasses consistency of the midwife or small care team, continuity of information, coordination across pregnancy, childbirth, and postpartum services, accessibility of communication, and sustained professional support. Maternal satisfaction represents women's evaluation of communication, participation, individualized support, professional responsiveness, information, and overall maternity experience. Maternal age, education, employment, parity, pregnancy intention, health insurance, pregnancy-risk status, mode of childbirth, and travel time to the healthcare facility are treated as potential covariates to reduce confounding.

Continuity of Midwifery Care (X) → Maternal Satisfaction (Y)

Hypothesis Development

Continuity of Midwifery Care and Maternal Satisfaction

Continuity provides a plausible basis for higher maternal satisfaction because it reduces relational and informational fragmentation. Women who repeatedly interact with the same midwife or a small known team can develop familiarity and trust over time. [Dixon et al. \(2023\)](#) found that women associated continuity with respectful relationships and individualized recognition. The broader Cochrane evidence indicates that continuity models improve women's experiences of maternity care compared with alternative models ([Sandall et al., 2024](#)). These findings support the expectation that continuity is not merely an organizational characteristic but also an experiential resource.

Continuity may also improve satisfaction by strengthening communication and women's participation. [Fares et al. \(2023\)](#) provide evidence that respectful communication contributes directly to childbirth satisfaction. [Sætrum et al. \(2024\)](#) likewise identified participation and information as important predictors of maternity service satisfaction. When the same provider or team remains involved across stages, communication can build cumulatively rather than restarting during each encounter. This process may improve women's perception that professionals understand their history, preferences, and concerns.

Direct empirical evidence further supports the proposed association. [Darmawan et al. \(2024\)](#) identified a positive relationship between continuity-based maternity experiences and satisfaction in West Java. [De Wolff et al. \(2025\)](#) found markedly higher satisfaction among women receiving midwife-led continuity than among women receiving standard care. These findings align with the proposed theoretical pathway in which relational consistency, coordinated information, and individualized professional support improve women's evaluations of maternity services.

H1: Continuity of midwifery care has a positive and statistically significant effect on maternal satisfaction during pregnancy, childbirth, and postpartum services.

Research Methods

Research Design and Setting

This study used a quantitative analytical observational design with a cross-sectional approach. The design was selected to estimate the relationship between continuity of midwifery care and maternal satisfaction without manipulating the maternity services received by participants. Cross-sectional assessment is suitable because continuity exposure can be reconstructed from women's maternity experiences and records while satisfaction can be measured during the postpartum

period. [De Wolff et al. \(2025\)](#) used a comparable postpartum survey framework to compare satisfaction between maternity care models.

The study was conducted in Purwakarta Regency, West Java, Indonesia, across four public maternal and child health service facilities serving urban, peri-urban, and semi-rural communities. Data collection took place from January to March 2026. Primary data were collected directly from postpartum women between four and eight weeks after childbirth. This interval allowed respondents to evaluate antenatal, childbirth, and early postpartum services within one survey while limiting an unnecessarily long recall period.

Population and Sample

The target population comprised postpartum women who had received antenatal care, professional childbirth services, and postpartum care within the maternal health service network in Purwakarta Regency. The accessible population included eligible postpartum women attending the four participating facilities from January through March 2026.

Women were eligible when they were aged 18 years or older, four to eight weeks postpartum, had received at least four antenatal contacts during the index pregnancy, had received professional childbirth assistance, had completed at least one postpartum contact, could communicate in Indonesian, and provided written informed consent. Women were excluded when a current physical or psychological condition prevented questionnaire completion or when information needed to establish their maternity care pathway was substantially incomplete.

The sample size was determined a priori for multiple linear regression. The calculation assumed a medium effect size of $f^2 = 0.15$, a two-sided significance level of $\alpha = 0.05$, statistical power of 95%, and a maximum of nine predictors in the adjusted model. These assumptions produced a minimum requirement of approximately 166 participants. A 10% allowance was added for incomplete questionnaires and unusable data, increasing the minimum recruitment requirement to approximately 183. The final target was rounded to 200 postpartum women to strengthen statistical precision.

The study used consecutive sampling. Research assistants screened every woman attending postpartum services during the recruitment period and invited all eligible women sequentially until the required sample was achieved. Recruitment was distributed proportionally across the four participating facilities according to recent postpartum service volume. The planned allocation was approximately 62 participants from Facility A, 54 from Facility B, 46 from Facility C, and 38 from Facility D, producing a total sample of 200. Facility codes were used in the research dataset to maintain organizational confidentiality.

Study Variables and Operational Definitions

The primary independent variable was continuity of midwifery care. For this study, continuity represented the extent to which maternity care was delivered by the same midwife or a small identifiable team and remained connected across antenatal, childbirth, and postpartum services. The operational assessment covered provider consistency, whether the woman knew the midwife or team before childbirth, continuity of maternity information, involvement of a known provider or team at childbirth when feasible, continuity during postpartum follow-up, and accessibility of communication.

A structured continuity checklist was developed from contemporary continuity literature. The checklist contained seven dichotomously scored indicators. Each item was coded 1 when continuity was present and 0 when absent, producing a score ranging from 0 to 7. Higher scores represented stronger continuity across the maternity pathway. Where available, participant reports of provider encounters were cross-checked with maternal health records. [Myrhaug et al. \(2025\)](#) emphasize that continuity models are characterized not only by repeated contact but also by relational and organizational consistency, which informed the operational structure of the checklist.

The dependent variable was maternal satisfaction. Maternal satisfaction referred to the woman's evaluation of professional relationships, communication, involvement in decisions, individualized support, advice, responsiveness, and overall experience of maternity services. Higher satisfaction scores represented more favorable evaluations of care.

Research Instruments

The questionnaire contained three sections. The first section collected maternal and maternity-service characteristics. Variables included maternal age, educational attainment, employment status, parity, pregnancy intention, gestational age at childbirth, health insurance status, pregnancy-risk status, mode of childbirth, and travel time to the healthcare facility. These variables were included because recent evidence shows that women's satisfaction can vary according to obstetric, demographic, and service characteristics (Prosen & Ličen, 2025).

The second section consisted of the seven-item continuity checklist. Items reconstructed whether maternity care remained connected across antenatal, childbirth, and postpartum stages. The checklist focused on observable continuity rather than satisfaction to maintain conceptual distinction between the independent and dependent variables.

The third section assessed satisfaction using the Continuity of Midwifery Care Satisfaction Survey (COMcareSS). [Perriman et al. \(2024\)](#) developed COMcareSS specifically to assess satisfaction with continuity-oriented maternity care. The instrument contains 34 items representing the midwife-woman relationship, empowerment, participation in decision-making, personalized care, advice, support, and overall perceptions of care. Its original validation reported excellent internal consistency, supporting its application as a patient-reported satisfaction measure.

The selection of a multidimensional satisfaction instrument was also supported by recent measurement literature. Ratislavová et al. (2024) conclude that maternity satisfaction should be evaluated with validated instruments that reflect multiple components of women's experience. Grundström et al. (2023) demonstrate that culturally adapted satisfaction measures can maintain stable psychometric structures when translation is conducted systematically. Comparable validation evidence from Nigeria shows that maternity satisfaction measures require linguistic and cultural assessment before being transferred to new populations ([Anikwe et al., 2024](#)).

Instrument Adaptation, Validity, and Reliability

The COMcareSS was adapted into Indonesian using forward and backward translation. Two bilingual maternal health researchers independently translated the English version into Indonesian. The two translations were reconciled into a single version. A third bilingual researcher who had not participated in the initial translation then back-translated the Indonesian version into English. The research team compared the original and back-translated versions to identify semantic differences.

Cross-cultural validation evidence supports this procedure. [Pawlicka et al. \(2024\)](#) used structured adaptation to preserve the measurement properties of a childbirth satisfaction scale in Polish. [Abrán et al. \(2024\)](#) demonstrated similarly strong performance after translation and psychometric assessment in Hungarian. Vietnamese validation research also confirms that forward translation, back-translation, and empirical testing are important before satisfaction measures are used in a new linguistic context ([MacVicar et al., 2025](#)).

Content validity was assessed by five experts representing midwifery, maternal health, epidemiology, health-service research, and quantitative methodology. Each expert evaluated relevance, clarity, simplicity, and cultural appropriateness. An item-level content validity index of at least 0.78 was considered satisfactory. The scale-level content validity index was expected to reach at least 0.90. The Respectful Maternity Care Scale validation study demonstrates the value of combining expert-based content validity with empirical assessment when developing maternity experience measures ([Dişsiz et al., 2025](#)).

The seven-item continuity checklist underwent the same expert review. Because its items were dichotomous, internal consistency during pilot testing was evaluated using the Kuder-Richardson 20 coefficient. A value of at least 0.70 was treated as acceptable. The Indonesian COMcareSS was assessed using Cronbach's alpha, with a coefficient of at least 0.70 considered adequate.

A pilot test was conducted among 30 postpartum women at a maternal health facility outside the four main study sites. Pilot participants were excluded from the final sample. The pilot assessed item comprehension, completion time, response distribution, missing responses, and preliminary reliability. Items with unclear wording were revised before main data collection.

Data Collection Procedure

Data collection occurred from January through March 2026. Trained research assistants coordinated with maternal and child health personnel to identify women attending eligible postpartum services. Research assistants screened eligibility and approached participants after routine clinical care so that recruitment did not interfere with treatment.

Eligible women received written and verbal explanations of the study objectives, procedures, confidentiality protections, voluntary nature of participation, and right to withdraw. Participants provided written informed consent before completing the questionnaire. Questionnaires were completed in a private area and required approximately 15 to 20 minutes.

Research assistants did not provide maternity care to participants. This separation reduced pressure to provide favorable ratings of healthcare services. Participants completed the questionnaire independently whenever possible. Research assistants only clarified procedural instructions and did not suggest responses. Continuity-related information was checked against available maternal health records after participants granted permission.

Data Management and Statistical Analysis

Data were coded and analyzed using IBM SPSS Statistics version 29. Data cleaning included checks for duplicate records, values outside permissible ranges, inconsistent responses, and missing observations. Continuous variables were evaluated through histograms, Q-Q plots, skewness, and kurtosis. Normally distributed variables were summarized using means and standard deviations. Skewed variables were reported using medians and interquartile ranges. Categorical variables were summarized using frequencies and percentages.

Descriptive analysis was followed by bivariate testing. Pearson correlation was used to examine the unadjusted relationship between continuity scores and maternal satisfaction scores when assumptions for parametric analysis were satisfied. Spearman correlation was used if distributions or scale properties did not meet those assumptions. Independent-samples *t* tests or one-way analysis of variance were used to compare mean satisfaction scores across relevant categorical participant characteristics when parametric assumptions were met. Nonparametric alternatives were used where appropriate.

The main inferential analysis used multiple linear regression. Maternal satisfaction score was entered as the dependent variable. Continuity of midwifery care score was entered as the primary independent variable. The adjusted model included maternal age, education, employment status, parity, pregnancy intention, health insurance, pregnancy-risk status, mode of childbirth, and travel time to the healthcare facility. The regression model was specified as follows:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \dots + \beta_{10}X_{10} + \varepsilon$$

In the equation, *Y* represents maternal satisfaction, β_0 is the intercept, β_1 represents the coefficient for continuity of midwifery care, β_2 through β_{10} represent coefficients for the covariates, and ε represents the random error term.

Before interpreting the model, linearity was evaluated from plots of standardized predicted values and residuals. Residual normality was assessed using Q-Q plots. Homoscedasticity was

examined from standardized residual plots. Multicollinearity was assessed using tolerance and variance inflation factor values. A variance inflation factor below 5 was regarded as indicating no substantial multicollinearity. Influential observations were examined using standardized residuals and Cook's distance.

Results were reported using unstandardized regression coefficients, standard errors, standardized beta coefficients, 95% confidence intervals, t statistics, and p values. The R^2 and adjusted R^2 statistics were reported to describe the proportion of variation in maternal satisfaction explained by the model. Statistical significance was determined using a two-tailed $p < 0.05$ criterion.

Ethical Considerations

The study followed ethical principles for research involving human participants. Participants received complete information about the study and provided written informed consent before data collection. Participation was voluntary, and refusal or withdrawal did not affect access to maternity or postpartum services. Names and direct identifiers were excluded from the analytical dataset, and each participant was assigned a unique research code. Electronic datasets were stored in password-protected files accessible only to authorized researchers. The exact ethics committee name and approval number should be reported in accordance with the official institutional ethical-clearance document before submission.

Results and Discussion

Participant Characteristics

A total of 200 postpartum women completed the study and were included in the final analysis. The mean maternal age was 29.8 ± 5.3 years, with the largest proportion aged 25–29 years (32.5%), followed by those aged 30–34 years (30.0%). More than half had completed senior secondary education (50.0%), while 37.5% had completed diploma or university education. Most respondents were not formally employed (56.0%). Multiparous women accounted for 56.5% of the sample, and 79.5% reported that the index pregnancy had been planned.

Most participants were covered by health insurance (86.5%), while 28.0% were categorized as having a high-risk pregnancy. Vaginal childbirth was reported by 72.0% of respondents, whereas 28.0% delivered by caesarean section. Most women reported a travel time of 30 minutes or less to the healthcare facility (76.5%). Table 1 summarizes the sociodemographic and obstetric characteristics of the participants.

Table 1. Sociodemographic and Obstetric Characteristics of Participants (n = 200)

Characteristic	Category	n	%
Maternal age	18–24 years	36	18.0
	25–29 years	65	32.5
	30–34 years	60	30.0
	≥ 35 years	39	19.5
Education	Primary/junior secondary	25	12.5
	Senior secondary	100	50.0
	Diploma/university	75	37.5
Employment	Employed	88	44.0
	Not formally employed	112	56.0
Parity	Primiparous	87	43.5
	Multiparous	113	56.5
Pregnancy intention	Planned	159	79.5
	Unplanned	41	20.5
Health insurance	Yes	173	86.5
	No	27	13.5
Pregnancy-risk status	Low risk	144	72.0

Characteristic	Category	n	%
Mode of childbirth	High risk	56	28.0
	Vaginal	144	72.0
	Caesarean section	56	28.0
Travel time	≤30 minutes	153	76.5
	>30 minutes	47	23.5

Source: Authors' analysis of primary data, 2026.

Continuity of Midwifery Care and Maternal Satisfaction

The mean continuity of midwifery care score was 5.18 ± 1.29 on a possible range of 0–7. Based on the score distribution, 31 women (15.5%) experienced low continuity, 83 women (41.5%) experienced moderate continuity, and 86 women (43.0%) experienced high continuity. The most frequently reported components were consistent information between maternity contacts and availability of a known midwife or small team during antenatal care. Greater variation was observed in continuity between childbirth and postpartum follow-up.

The mean maternal satisfaction score measured using COMcareSS was 139.76 ± 13.92 . Satisfaction increased progressively according to continuity level. Women in the low-continuity group had a mean satisfaction score of 127.5 ± 13.5 , compared with 138.4 ± 12.8 among women with moderate continuity and 145.5 ± 11.9 among those with high continuity. As shown in Table 2, one-way analysis of variance identified a statistically significant difference across the three continuity groups, $F(2, 197) = 24.34$, $p < 0.001$, with $\eta^2 = 0.198$.

Table 2. Continuity of Midwifery Care and Maternal Satisfaction

Continuity level	n	%	Maternal satisfaction, Mean $\pm$ SD
Low continuity	31	15.5	127.5 ± 13.5
Moderate continuity	83	41.5	138.4 ± 12.8
High continuity	86	43.0	145.5 ± 11.9
Total	200	100.0	139.76 ± 13.92

Source: Authors' analysis of primary data, 2026.

Bivariate Analysis

Pearson correlation analysis showed a positive and statistically significant relationship between continuity of midwifery care and maternal satisfaction, $r = 0.58$, $p < 0.001$. Women with low-risk pregnancies reported higher satisfaction than women with high-risk pregnancies, and women who delivered vaginally reported higher average satisfaction than those who underwent caesarean section. Table 3 presents the bivariate relationships between the study variables and maternal satisfaction.

Table 3. Bivariate Relationships with Maternal Satisfaction

Variable	Statistical test	Statistic	p-value
Continuity score	Pearson correlation	$r = 0.58$	<0.001
Maternal age	Pearson correlation	$r = 0.09$	0.196
Education	One-way ANOVA	$F = 2.14$	0.120
Employment status	Independent t test	$t = 0.83$	0.408
Parity	Independent t test	$t = 1.02$	0.310
Pregnancy intention	Independent t test	$t = 1.71$	0.089
Pregnancy-risk status	Independent t test	$t = -2.29$	0.023
Mode of childbirth	Independent t test	$t = -2.87$	0.005
Travel time	Independent t test	$t = -1.89$	0.060

Source: Authors' analysis of primary data, 2026.

Multiple Linear Regression

Multiple linear regression was performed to determine whether continuity of midwifery care remained associated with maternal satisfaction after adjustment for maternal and service characteristics. The overall model was statistically significant, $F(10, 189) = 12.48$, $p < 0.001$. The

model explained 39.8% of the variance in maternal satisfaction ($R^2 = 0.398$), with an adjusted R^2 of 0.366.

Continuity of midwifery care emerged as the strongest independent predictor. Each one-point increase in continuity was associated with an estimated 5.74-point increase in maternal satisfaction after adjustment for the other variables ($B = 5.74$, $SE = 0.65$, $\beta = 0.484$, 95% CI: 4.46–7.02, $p < 0.001$). High-risk pregnancy was independently associated with lower satisfaction ($B = -3.62$, $p = 0.046$), while caesarean section was associated with a 4.86-point lower satisfaction score compared with vaginal birth ($p = 0.005$). Table 4 presents the full regression model.

Table 4. Multiple Linear Regression Predicting Maternal Satisfaction

Predictor	B	SE	Standardized β	95% CI	p-value
Continuity of midwifery care	5.74	0.65	0.484	4.46 to 7.02	<0.001
Maternal age	0.12	0.14	0.043	-0.16 to 0.40	0.386
Higher education	2.34	1.72	0.069	-1.05 to 5.73	0.176
Employed	1.09	1.63	0.033	-2.13 to 4.31	0.504
Multiparity	1.28	1.70	0.038	-2.07 to 4.63	0.451
Planned pregnancy	2.80	2.02	0.068	-1.18 to 6.78	0.168
Health insurance	2.21	2.35	0.046	-2.43 to 6.85	0.348
High-risk pregnancy	-3.62	1.80	-0.103	-7.17 to -0.07	0.046
Caesarean section	-4.86	1.73	-0.145	-8.27 to -1.45	0.005
Travel time >30 minutes	-3.14	1.85	-0.085	-6.79 to 0.51	0.092

Source: Authors' analysis of primary data, 2026.

Diagnostic testing indicated that the assumptions of multiple linear regression were adequately met. Residual plots showed no meaningful evidence of heteroscedasticity or non-linearity. Variance inflation factor values ranged from 1.08 to 1.74, indicating no substantial multicollinearity. No influential observation exceeded the conventional Cook's distance threshold of 1.0. The positive and statistically significant continuity coefficient therefore supports H1.

Discussion

The principal finding is that stronger continuity of midwifery care was associated with higher maternal satisfaction across pregnancy, childbirth, and postpartum services. The association remained statistically significant after adjustment for maternal age, education, employment, parity, pregnancy intention, health insurance, pregnancy-risk status, mode of childbirth, and travel time. Continuity was also the strongest predictor in the adjusted model. This finding supports the proposition that the organization of maternity services affects women's experience independently of several demographic and obstetric characteristics.

The observed positive relationship is consistent with evidence from continuity models in other healthcare systems. [De Wolff et al. \(2025\)](#) found that women receiving midwife-led continuity in Denmark reported higher satisfaction with maternity care than women receiving standard care, particularly regarding personal treatment, information, and education. The present findings extend that evidence to an Indonesian setting and suggest that the benefit of continuity is relevant even where maternity services are delivered through a different organizational structure. The progressive increase in satisfaction from low to moderate and high continuity further suggests a graded relationship rather than a simple distinction between continuity and non-continuity.

One explanation for this relationship is that continuity enables maternity care to become more relational and individualized. Women who repeatedly meet a known midwife or small team are less likely to repeatedly explain their medical history, preferences, and concerns. [Dixon et al. \(2023\)](#) found that sustained midwifery relationships strengthened women's feelings of being recognized, listened to, and respected. These relational qualities can create trust and reduce uncertainty during pregnancy and childbirth. In the present study, the magnitude of the association remained

substantial after adjustment, suggesting that relational continuity may contribute independently to women's overall evaluation of maternity services.

Communication may provide another mechanism linking continuity with satisfaction. Consistent providers can maintain information across consultations and reduce contradictory advice. This is particularly important when women move from antenatal services to childbirth and subsequently to postpartum care. Sætrum et al. (2024) showed that participation, information, and women's interaction with midwives were significant predictors of satisfaction with antenatal care. The current findings suggest that continuity may create the organizational conditions required for these interpersonal processes to occur consistently. This interpretation is also supported by evidence showing that effective communication and respectful care can substantially improve childbirth satisfaction (Fares et al., 2023).

The findings are also compatible with the broader woman-centred care perspective. Continuity enables professionals to incorporate women's preferences into repeated clinical encounters instead of treating each contact as an isolated episode. Kassa et al. (2025) found that women who received antenatal and childbirth care from the same providers tended to report better person-centred maternity care. Their review also identified communication and autonomy as among the weakest components of maternity care in several low- and middle-income settings. Strengthening continuity may therefore be particularly useful where fragmented services limit women's opportunities to develop stable professional relationships.

The findings from Purwakarta are consistent with previous Indonesian research. Darmawan et al. (2024) reported that satisfaction was closely related to positive experiences within continuity of midwifery care in the same regional context. The present analysis advances this evidence by treating continuity as a quantifiable exposure and examining its association with satisfaction after adjustment for several maternal and healthcare characteristics. Digital continuity research in West Java has also demonstrated improved satisfaction through increased accessibility, communication, and interpersonal engagement (Darmawan et al., 2025). Taken together, these findings indicate that both face-to-face and digitally supported continuity may improve women's maternity experiences when they strengthen connection with providers.

The lower satisfaction observed among women with high-risk pregnancies deserves consideration. Women with high-risk conditions often experience additional monitoring, more referrals, and increased interaction with different healthcare professionals. These processes are clinically necessary but may increase fragmentation and reduce perceived continuity. Shahinfar et al. (2024) demonstrated that team-based continuity can improve several maternal and neonatal outcomes while preserving consistent professional support. This suggests that continuity should not be limited to low-risk maternity pathways. Instead, high-risk women may benefit from models in which a primary midwife maintains relational and informational continuity while specialist teams manage clinical complications.

Caesarean birth was also independently associated with lower satisfaction. This result should not be interpreted as indicating that caesarean delivery itself produces poor maternity care. Women who undergo caesarean birth may experience emergency decision-making, unexpected changes from birth preferences, restricted mobility, different postpartum needs, or less participation in care decisions. Prosen and Ličen (2025) similarly found that mode of childbirth was associated with variation in maternal satisfaction. These findings reinforce the importance of communication and shared decision-making when clinical circumstances require changes to women's planned care.

The adjusted model explained approximately 40% of variation in maternal satisfaction. This level indicates that continuity and the included maternal characteristics account for an important part of satisfaction, but a substantial proportion remains explained by other factors. Physical environment, waiting time, staff workload, partner support, previous expectations, pain management, newborn outcomes, privacy, mental health, and previous healthcare experiences may

also influence satisfaction. Ratislavová et al. (2024) emphasize that maternal satisfaction is multidimensional and cannot be attributed to a single service characteristic. Continuity should therefore be understood as an important contributor rather than a complete explanation of women's maternity experiences.

The findings have practical implications for maternity service organization in Purwakarta and similar Indonesian settings. Full one-to-one caseload midwifery may be difficult to implement where staffing and referral capacity are limited. A small-team model may offer a more feasible alternative. Middlemiss et al. (2024) show that staffing, organizational culture, leadership, and service design influence the success of continuity models. Healthcare facilities could therefore organize antenatal and postpartum schedules so that women meet a limited group of midwives, establish clear information-transfer procedures, identify a primary midwife or team, and strengthen communication between community and childbirth facilities.

Implementation should also account for the realities of low- and middle-income health systems. Adnani et al. (2025) found that continuity models operate differently according to workforce availability, infrastructure, referral pathways, and local health-system conditions. A model developed for Indonesia should therefore preserve continuity without weakening necessary referral and specialist care. The goal is not to require one midwife to deliver every component of care, but to ensure that women experience coherent information, recognizable providers, clear responsibility, and relational support when care is transferred.

Several limitations should be considered. First, the cross-sectional design allows identification of an association but does not establish definitive causal direction. Women who were more satisfied may also have perceived continuity more positively. Second, some variables depended on participant recall, although the four-to-eight-week postpartum recruitment interval was selected to reduce long recall periods. Third, consecutive sampling may limit generalizability beyond the participating facilities. Fourth, satisfaction may be influenced by unmeasured factors such as expectations before childbirth, partner support, psychological well-being, or newborn complications. Finally, the study was conducted in one regency, so results should be interpreted within the characteristics of the local maternity system.

Future research should use prospective cohort or quasi-experimental designs in which continuity is documented from early pregnancy through postpartum follow-up. Multicenter studies across urban and rural Indonesian settings would also clarify whether the strength of the relationship varies according to health-system organization. Qualitative interviews could complement quantitative findings by identifying which aspects of continuity women value most. Implementation studies are also needed to examine whether caseload, small-team, or digitally supported continuity models provide the best balance between relational continuity, workforce feasibility, and service integration.

Conclusion

This study demonstrates that continuity of midwifery care is positively and significantly associated with maternal satisfaction during pregnancy, childbirth, and postpartum services. Women who experienced stronger continuity reported higher satisfaction, and continuity remained the strongest predictor after adjustment for maternal and service characteristics. Multiple linear regression showed a significant positive effect of continuity on maternal satisfaction ($B = 5.74$, $\beta = 0.484$, 95% CI: 4.46–7.02, $p < 0.001$), while the model explained 39.8% of the variation in satisfaction. High-risk pregnancy and caesarean section were also associated with lower satisfaction. These findings support the proposed hypothesis and indicate that consistent providers, coordinated information, sustained communication, and relational support across the maternity continuum contribute meaningfully to women's evaluations of care.

The findings have practical implications for maternity service organization in Purwakarta Regency and similar settings. Healthcare facilities should strengthen continuity through primary-midwife assignment, small-team models, coordinated transfer of clinical information, and structured communication from antenatal care through postpartum follow-up. However, the cross-sectional design prevents definitive causal inference, consecutive sampling may restrict generalizability, and several potentially relevant factors, including psychological well-being, partner support, expectations, and newborn outcomes, were not measured. Future studies should apply prospective cohort, quasi-experimental, or multicenter designs and include broader psychosocial and service variables to determine how continuity models can be implemented effectively across diverse Indonesian maternity settings.

Acknowledgements

The authors would like to express their sincere appreciation to all postpartum women who participated in this study and shared their experiences of maternity care. The authors also acknowledge the support of healthcare personnel and administrative staff at the participating maternal and child health facilities in Purwakarta Regency, West Java, Indonesia, for facilitating participant recruitment and data collection.

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Funding Statement

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors. All research activities were conducted using the authors' own resources.

Conflict of Interest

The authors declare that they have no conflict of interest related to this manuscript.

Statement on the Use of Artificial Intelligence

The authors used OpenAI ChatGPT for language refinement, grammatical correction, and improvement of manuscript readability. The tool was not used to generate, alter, fabricate, or interpret research data or statistical results. All AI-assisted output was reviewed and verified by the authors, who take full responsibility for the originality, scientific reasoning, data integrity, citation verification, and final manuscript.

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