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Continuity of midwifery care for a pregnant woman with moderate hyperemesis gravidarum: A case study

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ABSTRACT

Background: Hyperemesis gravidarum (HG) can cause persistent nausea and vomiting, dehydration, reduced nutritional intake, and impaired maternal well-being. Although continuity of midwifery care is increasingly recommended for comprehensive maternal care, published case reports describing its implementation for moderate HG in Indonesian primary healthcare settings, particularly from pregnancy through childbirth, postpartum, neonatal, and family planning care, remain limited. Objective: This study aimed to describe the implementation and clinical outcomes of continuity of midwifery care for a pregnant woman with moderate hyperemesis gravidarum from pregnancy through family planning services. Methods: A descriptive case study was conducted at Elvi Diana Primary Clinic, Medan, Indonesia, involving a 19-year-old primigravida diagnosed with moderate hyperemesis gravidarum. Midwifery care was provided continuously using Helen Varney's Seven-Step Midwifery Management Model and documented using the Subjective, Objective, Assessment, and Plan (SOAP) format. The intervention included 10T antenatal care, nutritional counseling, hydration management, dietary modification, iron supplementation, psychological support, ginger-therapy education, intrapartum monitoring, postpartum and neonatal care, breastfeeding support, and postpartum family planning counseling. Clinical outcomes were assessed through interviews, observation, physical examinations, supporting examinations, and documentation review. Results: At the initial antenatal assessment, the client experienced nausea and vomiting 6–8 times/day, decreased appetite, dry lips, coated tongue, and generalized weakness. During follow-up, nausea and vomiting decreased to mild and occasional, appetite and general condition improved, hydration status became adequate, and fetal growth remained appropriate for gestational age. Pregnancy progressed without maternal or fetal complications, followed by spontaneous vaginal birth at term. The newborn had an Apgar score of 10, birth weight of 2,800 g, length of 49 cm, temperature of 36.6°C, heart rate of 92 beats/minute, and respiratory rate of 30 breaths/minute. Postpartum recovery was physiological without signs of infection or abnormal bleeding, and exclusive breastfeeding was established. The mother subsequently initiated a three-month injectable contraceptive method. Conclusion: Continuity of midwifery care, including nutritional, hydration, psychological, antenatal, intrapartum, postpartum, neonatal, and family planning interventions, was associated with progressive improvement in HG symptoms and favorable maternal and neonatal clinical outcomes. This case highlights the potential value of continuous, comprehensive midwifery care for women with moderate hyperemesis gravidarum in primary healthcare settings.

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1. Introduction

Maternal and newborn health remains one of the major global public health priorities and is closely associated with the achievement of the Sustainable Development Goals (SDGs), particularly Goal 3, which aims to ensure healthy lives and promote well-being for all at all ages. Although substantial progress has been achieved over the past decade, maternal and neonatal mortality continue to pose significant challenges, especially in low- and middle-income countries.

The Sustainable Development Goals Report 2025 reported that the global maternal mortality ratio decreased from 228 deaths per 100,000 live births in 2015 to 197 deaths per 100,000 live births in 2023. However, this decline remains insufficient to achieve the SDG target of fewer than 70 maternal deaths per 100,000 live births by 2030. In the same report, approximately 4.8 million children under five years of age died worldwide in 2023, including a substantial proportion of neonatal deaths that could have been prevented through timely and high-quality maternal healthcare (ONU, 2025). Similarly, the World Health Organization (WHO) reported that approximately 287,000 women died from pregnancy- and childbirth-related complications in 2020, with the highest burden occurring in low-income countries where access to quality maternal healthcare remains limited (World Health Organization, 2024).

One of the pregnancy complications that requires early identification and appropriate management is hyperemesis gravidarum (HG). Hyperemesis gravidarum is a severe form of nausea and vomiting during pregnancy characterized by persistent vomiting, dehydration, electrolyte imbalance, ketonuria, nutritional deficiencies, and weight loss exceeding 5% of pre-pregnancy body weight. Although nausea and vomiting affect approximately 70–80% of pregnant women, hyperemesis gravidarum occurs in approximately 0.3–3.0% of pregnancies and often requires medical treatment or hospitalization (American College of Obstetricians and Gynecologists, 2023). If not managed appropriately, hyperemesis gravidarum may adversely affect maternal health by increasing the risk of malnutrition, psychological distress, impaired quality of life, and pregnancy complications, while fetal consequences may include fetal growth restriction, low birth weight, and preterm birth (World Health Organization., 2024a).

HG was selected as the focus of this case because it was the primary clinical problem identified in the woman at the beginning of pregnancy and required continuous assessment and individualized management. In this case, the client presented with nausea and vomiting occurring 6–8 times per day, decreased appetite, dry lips, a coated tongue, and generalized weakness. These clinical findings required ongoing monitoring of maternal hydration, nutritional intake, general condition, and fetal well-being rather than management through a single clinical encounter. Therefore, HG provided a clinically relevant condition for demonstrating how continuity of midwifery care can be implemented throughout pregnancy and subsequently continued across the maternal and neonatal care continuum.

In Indonesia, improving maternal health remains a national priority through the strengthening of comprehensive maternal healthcare services. According to the Indonesia Health Profile 2023, antenatal care is provided using the standardized 10T antenatal care approach, which includes maternal anthropometric assessment, blood pressure measurement, nutritional evaluation, laboratory examinations, fetal assessment, counseling, and appropriate case management to facilitate early detection of pregnancy complications (Kementrian Kesehatan, 2023). Midwives play an essential role in implementing these services because they are often the first healthcare professionals to identify maternal health problems and provide continuous care throughout pregnancy, childbirth, the postpartum period, neonatal care, and family planning services. In addition to clinical management,

midwives are responsible for providing nutritional counseling, psychosocial support, health education, and timely referral when complications are identified.

The continuity of midwifery care model has become one of the recommended approaches for improving maternal and neonatal health outcomes because it emphasizes an ongoing therapeutic relationship between the woman and the same midwife or midwifery team throughout the continuum of maternal healthcare. This model enables early identification of pregnancy-related complications, promotes individualized care planning, strengthens communication between healthcare providers and women, and improves maternal satisfaction with healthcare services. Previous studies have demonstrated that continuity of midwifery care is associated with lower intervention rates, improved maternal experiences, increased breastfeeding success, and better maternal and neonatal outcomes compared with fragmented models of care (Devy Lestari Nurul Aulia, Arum Dwi Anjani & Lydia, 2022; Sandall J, Soltani H, Gates S, Shennan A, 2024). Furthermore, continuous monitoring allows healthcare providers to identify changes in maternal conditions more rapidly and implement timely preventive or therapeutic interventions, particularly among women experiencing pregnancy complications such as hyperemesis gravidarum.

In the present case, continuity of care was implemented through repeated assessment and follow-up beginning with antenatal care and continuing through childbirth, postpartum, neonatal, and family planning services. During pregnancy, care included the 10T antenatal care standard, nutritional counseling, hydration management, dietary modification, iron supplementation, psychological support, and education regarding ginger therapy. Intrapartum care included partograph monitoring, maternal and fetal assessment, hydration, emotional support, and active management of the third stage of labor. Postpartum and neonatal care included breastfeeding support, nutritional counseling, newborn assessment, umbilical cord care, and education on maternal and neonatal danger signs, followed by individualized postpartum family planning counseling. This approach allowed the maternal condition to be monitored longitudinally rather than focusing only on the initial HG symptoms.

Despite the growing evidence supporting continuity of midwifery care, published case studies describing its implementation for women with moderate hyperemesis gravidarum in Indonesian primary healthcare settings remain limited. Most previous studies have primarily focused on the prevalence, risk factors, pharmacological management, or effectiveness of complementary therapies, whereas reports describing comprehensive midwifery management throughout pregnancy, childbirth, postpartum, neonatal care, and family planning are still scarce. Therefore, documenting clinical experiences through case studies is important to provide practical evidence regarding the implementation of continuity of midwifery care in routine clinical practice and to support evidence-based midwifery services (Gravidarum, 2025).

This gap is also relevant because previous research on HG has largely focused on treatment and symptom management, while evidence describing comprehensive models of care in primary healthcare remains less developed. A recent scoping review identified gaps in evidence regarding primary-care, social-support, and home-care models for women experiencing nausea and vomiting in pregnancy and HG, indicating a need for further evaluation of how care can be organized across different healthcare settings (Walker et al., 2025). Therefore, a case describing the practical implementation of continuity of midwifery care for moderate HG in an Indonesian primary healthcare setting may add clinically relevant information to the existing literature.

The novelty of this case lies in its longitudinal and comprehensive description of continuity of midwifery care for moderate HG across the maternal continuum in an Indonesian primary healthcare setting. Unlike reports that focus primarily on a specific treatment for nausea and vomiting, this case follows the woman from the initial identification and management of HG through pregnancy, spontaneous vaginal birth, postpartum recovery, neonatal care, breastfeeding support, and postpartum contraception. The case therefore illustrates how management of a pregnancy complication can be integrated with continuous woman-centered midwifery care rather than being treated as an isolated antenatal problem.

From a midwifery practice perspective, this case is expected to contribute a practical example of how midwives can conduct continuous assessment, provide individualized nutritional and hydration support, monitor maternal and fetal conditions, provide psychological support and health education, and continue follow-up across the maternal and neonatal continuum. The case may also support midwives in recognizing that management of moderate HG should extend beyond reduction of nausea and vomiting to include nutritional status, hydration, psychological well-being, pregnancy monitoring, preparation for childbirth, postpartum recovery, breastfeeding, neonatal care, and family planning. However, as a single-case study, the findings are intended to provide clinical experience and practical insight rather than establish causal effectiveness of continuity of care.

Therefore, this study aimed to describe the implementation of continuity of midwifery care for a pregnant woman with moderate hyperemesis gravidarum at Elvi Diana Primary Clinic, Medan, Indonesia, from pregnancy through childbirth, postpartum, neonatal, and family planning services.

2. Methods

This study employed a descriptive case study design using a continuity of midwifery care approach. The study aimed to provide comprehensive midwifery care for a pregnant woman with moderate hyperemesis gravidarum throughout pregnancy, childbirth, the postpartum period, newborn care, and family planning services.

A case study approach was selected because the purpose of this study was to provide a detailed description of the clinical management and progression of one woman with moderate hyperemesis gravidarum within a real primary healthcare setting. This approach enabled the authors to document the woman's clinical condition, midwifery interventions, follow-up, and outcomes longitudinally across pregnancy, childbirth, postpartum, neonatal, and family planning care. The case study design was considered appropriate because the study focused on the practical implementation of continuity of midwifery care rather than on estimating the effectiveness of an intervention in a larger population.

The study was conducted at Elvi Diana Primary Clinic, Medan Johor District, Medan, North Sumatra, Indonesia. The participant was Mrs. H, a 19-year-old primigravida diagnosed with moderate hyperemesis gravidarum.

The participant was selected purposively based on the clinical relevance of the case to the study objective. The inclusion criterion was a pregnant woman receiving care at Elvi Diana Primary Clinic who was diagnosed with moderate hyperemesis gravidarum and was eligible to receive continuous midwifery care from pregnancy through subsequent maternal and newborn services. Mrs. H was selected because she presented with clinically evident nausea and vomiting requiring ongoing monitoring and individualized midwifery management, and she subsequently received continuity of care through childbirth, postpartum, neonatal, and family planning services. No other patient was included because this study was designed as a single-case clinical description.

The diagnosis of moderate hyperemesis gravidarum was established based on the patient's clinical history and objective clinical findings documented at the initial antenatal assessment. The patient reported nausea and vomiting 6–8 times per day and decreased appetite, while physical examination identified dry lips, a coated tongue, and generalized weakness. These findings were used to identify the clinical problem as moderate hyperemesis gravidarum. The diagnostic assessment also considered maternal and fetal condition during antenatal evaluation.

Midwifery care was implemented according to Helen Varney's Seven-Step Midwifery Management Model and documented using the Subjective, Objective, Assessment, and Plan (SOAP) format. Data were collected through interviews, direct observation, physical examinations, supporting examinations, and documentation review. The findings were analyzed descriptively by comparing the results of continuity of care with relevant theories and standards of midwifery practice.

The clinical assessment included monitoring of the frequency of nausea and vomiting, appetite, general condition, hydration status, maternal vital signs, and fetal condition during antenatal follow-up. Supporting examinations were performed as part of the clinical assessment and were documented in

the patient's records. During intrapartum care, maternal and fetal conditions were monitored using a partograph, including maternal vital signs, fetal heart rate, uterine contractions, cervical dilatation, and fetal head descent. Postpartum monitoring included maternal vital signs, uterine involution, lochia, bleeding, breastfeeding, and signs of infection. Neonatal monitoring included general condition, feeding, temperature, umbilical cord condition, danger signs, and growth-related assessment.

The continuity of care consisted of repeated antenatal visits beginning in the first trimester, followed by intrapartum care at term, postpartum follow-up, four neonatal visits at 14 hours, 10 days, 17 days, and 31 days after birth, and postpartum family planning counseling. Thus, the care covered pregnancy through childbirth, the postpartum period, neonatal follow-up up to 31 days, and postpartum contraceptive counseling.

The interventions provided during continuity of care were individualized according to the patient's clinical condition at each visit. During pregnancy, care included the Indonesian 10T antenatal care standard, nutritional counseling, hydration advice, dietary modification, iron supplementation, psychological support, fetal assessment, and education regarding ginger therapy. During labor, care included partograph monitoring, maternal and fetal assessment, hydration, emotional support, guidance during pushing, and active management of the third stage of labor. Postpartum and neonatal interventions included breastfeeding support, nutritional and hygiene education, uterine and bleeding assessment, newborn assessment, umbilical cord care, and education regarding maternal and neonatal danger signs. Postpartum family planning counseling was subsequently provided, and the woman selected a three-month injectable contraceptive.

Ethical principles were maintained throughout the study. Written informed consent was obtained from the participant before data collection, and confidentiality, anonymity, and privacy were ensured throughout the study.

To ensure the validity and consistency of data interpretation, information from multiple sources was compared, including patient interviews, direct observations, physical examinations, supporting examination results, and clinical documentation. Clinical findings and care provided at each stage were recorded using the SOAP format and reviewed longitudinally across antenatal, intrapartum, postpartum, neonatal, and family planning care. The clinical course was also compared with relevant midwifery theories and standards of practice. As this was a single-case study, interpretation focused on describing the documented clinical course and care process rather than establishing causal effectiveness or generalizing the findings to all women with hyperemesis gravidarum.

3. Results and Discussion

The implementation of continuity of midwifery care was conducted throughout pregnancy, childbirth, the postpartum period, newborn care, and family planning services. During the observation period, comprehensive midwifery care enabled continuous monitoring of the mother's condition, early identification of potential complications, and timely interventions according to the client's needs. Overall, the continuity of care contributed to favorable maternal and neonatal outcomes without significant complications.

The clinical course of the case should be interpreted primarily through changes in observable clinical indicators rather than through a general statement of "success." At the initial antenatal assessment, the client had nausea and vomiting 6–8 times per day, decreased appetite, dry lips, coated tongue, and generalized weakness. During subsequent antenatal visits, nausea and vomiting decreased to mild and occasional, appetite improved, the general condition changed from weak to good, and hydration status became adequate. These changes provide objective clinical evidence of improvement during the continuity-of-care period.

The implementation of continuity of midwifery care across the maternal continuum is summarized in Table 1.

Table 1. Summary of Continuity of Midwifery Care

Stage of Care	Clinical Findings	Midwifery Interventions	Outcomes

Pregnancy	Moderate hyperemesis gravidarum with nausea and vomiting 6–8 times/day, decreased appetite, dry lips, and coated tongue	Antenatal care based on the 10T standard, nutritional counseling, hydration, dietary modification, iron supplementation, and psychological support	Maternal condition improved gradually and pregnancy progressed without complications
Childbirth	Spontaneous labor at term	Partograph monitoring, emotional support, and active management of the third stage of labor	Normal vaginal delivery without maternal or neonatal complications
Postpartum	Physiological puerperium with normal uterine involution	Breastfeeding support, nutritional counseling, and postpartum education	Successful maternal recovery and exclusive breastfeeding
Newborn	Healthy term newborn with APGAR score of 10	Essential newborn care, breastfeeding assistance, and umbilical cord care	Normal neonatal adaptation without complications
Family Planning	Mother chose a three-month injectable contraceptive	Contraceptive counseling and informed consent	Successful initiation of postpartum contraception

Table 1 demonstrates that comprehensive midwifery care was successfully implemented throughout the maternal continuum, beginning with antenatal care and continuing through childbirth, postpartum care, newborn care, and family planning services. No major maternal or neonatal complications were identified during the continuity of care period, indicating that continuous monitoring and timely interventions contributed to favorable clinical outcomes.

More specifically, the outcome pattern shows that the initial clinical problem was resolved without progression to documented maternal or fetal complications. The pregnancy progressed to term, followed by spontaneous vaginal birth; postpartum recovery was physiological; and the newborn had an Apgar score of 10. The absence of documented complications should, however, be interpreted as a favorable clinical outcome in this individual case rather than as evidence that continuity of care prevents complications in women with HG generally.

To illustrate the maternal response to the interventions provided during pregnancy, the progression of the client's condition across antenatal visits is presented in Table 2.

Table 2.
Progression of Maternal Condition During Pregnancy

Visit	Maternal Condition	Midwifery Care Provided	Outcomes
First antenatal visit	Nausea and vomiting 6–8 times/day, decreased appetite, dry lips, coated tongue, generalized weakness	Comprehensive assessment, 10T antenatal care, hydration advice, nutritional counseling, dietary modification	Hyperemesis gravidarum identified early and appropriate management initiated
Second antenatal visit	Frequency of nausea and vomiting decreased, appetite slightly improved, vital signs within normal limits	Continued antenatal monitoring, psychological support, ginger therapy education, fetal assessment	Maternal condition improved and anxiety decreased
Third antenatal visit	Mild nausea, able to perform daily activities, fetal growth appropriate for gestational age	Routine antenatal care, iron supplementation, nutritional education, birth preparedness counseling	Pregnancy progressed normally without maternal or fetal complications

As shown in Table 2, the client's clinical condition improved progressively during pregnancy following the implementation of continuity of midwifery care. The frequency of nausea and vomiting gradually decreased, nutritional intake improved, and the pregnancy progressed without significant maternal or fetal complications. These findings indicate that continuous assessment, individualized counseling, and regular follow-up played an important role in managing moderate hyperemesis gravidarum.

The clinically important change was the transition from frequent vomiting (6–8 episodes/day) with signs suggestive of reduced hydration and nutritional intake to only mild and occasional nausea, improved appetite, good general condition, and adequate hydration. This pattern suggests improvement in the main clinical manifestations of HG during follow-up. However, because the exact frequency of vomiting at the final assessment was not recorded numerically, the magnitude or percentage reduction in vomiting episodes cannot be calculated from the available case data.

Pregnancy Care

The implementation of continuity of midwifery care began during the first trimester through a comprehensive antenatal assessment. The client was a 19-year-old primigravida who presented with persistent nausea and vomiting occurring six to eight times per day, decreased appetite, dry lips, coated tongue, and generalized weakness. Based on the subjective and objective findings, the client was diagnosed with moderate hyperemesis gravidarum. Comprehensive antenatal care was subsequently provided according to the Indonesian 10T antenatal care standard, including maternal assessment, nutritional evaluation, fetal monitoring, health education, and counseling. The interventions focused on improving maternal nutritional intake, maintaining adequate hydration, providing psychological support, and educating the client to consume small but frequent meals while avoiding foods that could trigger nausea and vomiting. Iron supplementation was also provided, and routine antenatal examinations were performed throughout pregnancy.

During follow-up visits, the client's clinical condition improved gradually. The frequency of nausea and vomiting decreased, appetite increased, and the client was able to resume daily activities. Maternal vital signs remained within normal limits, and fetal growth was consistent with gestational age. No maternal or fetal complications were identified during the pregnancy. Continuous education regarding nutrition, pregnancy danger signs, personal hygiene, and birth preparedness was reinforced at each visit to improve maternal knowledge and encourage adherence to recommended care.

The clinical interpretation is that the intervention package addressed several mechanisms and consequences of HG simultaneously: hydration advice targeted the risk of dehydration, dietary and nutritional counseling addressed reduced intake, psychological support addressed the psychosocial burden, and repeated antenatal assessment allowed maternal and fetal status to be followed over time. The observed improvement therefore occurred within a broader continuity-of-care process rather than after a single isolated intervention. This interpretation is consistent with evidence showing that HG can substantially affect physical functioning and psychological well-being, supporting the need for care that extends beyond symptom control (Annelies, 2025; Melinda et al., 2022).

The findings of this case indicate that continuity of midwifery care contributed to the successful management of moderate hyperemesis gravidarum through continuous assessment, individualized counseling, and regular follow-up. Previous studies have demonstrated that continuity of midwife-led care improves maternal experiences, increases spontaneous vaginal birth, and enhances overall maternal and neonatal outcomes (Sandall J, Soltani H, Gates S, Shennan A, 2024). Furthermore, WHO recommends comprehensive antenatal care, including nutritional counseling and early identification of pregnancy complications, to improve maternal and fetal health outcomes (World Health Organization, 2016). Regarding symptom management, recent evidence suggests that ginger is an effective complementary therapy for reducing nausea and vomiting associated with hyperemesis gravidarum (Pragastiwi et al., 2026).

The present case is broadly consistent with the literature emphasizing supportive and continuous management, but the interpretation should remain cautious because the case cannot determine which component of the care package was responsible for the improvement. In particular, ginger education was provided together with nutritional counseling, hydration advice, psychological support, and routine antenatal monitoring; therefore, the specific contribution of ginger or any other individual component cannot be isolated. This is important because clinical trials of HG interventions have reported mixed findings for some outcomes, illustrating that improvement in one clinical domain does not necessarily mean that all outcomes improve equally. For example, a pilot trial of midwife-led outpatient care found no significant difference between groups in PUQE score or quality of life at day 7,

although total combined admission time was substantially lower in the intervention group (27 vs. 94 hours) (McParlin et al., 2016). Thus, the favorable clinical trajectory in this case should be viewed as supportive clinical evidence rather than definitive evidence of intervention effectiveness.

Table 3.
Changes in Maternal Condition During Antenatal Care

Parameter	Initial Assessment	Final Assessment
Nausea and vomiting	6–8 times/day	Mild and occasional
Appetite	Decreased	Improved
General condition	Weak	Good
Hydration status	Dry lips and coated tongue	Adequate hydration
Fetal condition	Appropriate for gestational age	Appropriate for gestational age

Table 3 demonstrates a gradual improvement in the client's clinical condition throughout pregnancy following the implementation of continuity of midwifery care. The reduction in nausea and vomiting, improved appetite, and stable maternal and fetal conditions indicate that comprehensive antenatal management effectively supported recovery and promoted a healthy pregnancy.

From a clinical perspective, the lesson for midwives is that the assessment of HG should be repeated rather than limited to the initial diagnosis. In this case, repeated assessment allowed the care team to identify improvement in vomiting, appetite, general condition, hydration, and fetal growth and to continue or adjust supportive care accordingly. The case therefore illustrates the practical importance of monitoring both the symptoms of HG and the consequences of those symptoms, particularly nutritional and hydration status.

Intrapartum Care

The client experienced spontaneous onset of labor at term with regular uterine contractions accompanied by bloody show, indicating the onset of the first stage of labor. Throughout labor, maternal and fetal conditions remained stable. Labor progress was monitored using a partograph, while maternal vital signs, fetal heart rate, uterine contractions, cervical dilatation, and descent of the fetal head were assessed regularly. Emotional support was continuously provided to reduce maternal anxiety, and the client was encouraged to perform appropriate breathing and relaxation techniques to improve coping with labor pain. Adequate hydration and nutritional intake were also maintained during labor to support maternal endurance.

The second stage of labor progressed normally without complications. The client demonstrated effective pushing efforts under the guidance of the attending midwife, resulting in the spontaneous vaginal birth of a healthy infant. The newborn cried immediately after birth, exhibited active movements, and had normal skin color, indicating successful neonatal adaptation. Active management of the third stage of labor was subsequently performed through the administration of oxytocin, controlled cord traction, and uterine massage to facilitate placental delivery and reduce the risk of postpartum hemorrhage. The placenta was delivered completely, uterine contractions remained adequate, and no abnormal bleeding was observed. During the fourth stage of labor, the mother remained hemodynamically stable, uterine contraction was firm, postpartum bleeding was within physiological limits, and no immediate maternal complications were identified. Early breastfeeding initiation and postpartum observation were successfully completed.

The clinical outcome at this stage was a spontaneous vaginal birth at term without documented maternal or neonatal complications. Importantly, the stable maternal condition during labor and the absence of excessive bleeding indicate that the pregnancy complicated by moderate HG did not result in a documented intrapartum complication in this case. However, this outcome should be interpreted descriptively and not as evidence that continuity of care eliminates intrapartum risk.

The favorable labor outcome observed in this case reflects the effectiveness of continuous midwifery care throughout pregnancy and childbirth. Women receiving continuity of midwife-led care are more likely to experience spontaneous vaginal birth and report positive childbirth experiences

compared with fragmented models of care (Sandall J, Soltani H, Gates S, Shennan A, 2024; Sumiyati, 2026). Continuity of care also facilitates coordinated intrapartum management and timely recognition of labor complications, thereby contributing to improved maternal and neonatal outcomes (Annelies, 2025; Melinda et al., 2022).

The present finding is consistent with the direction of evidence supporting continuity models, but the literature should not be presented as uniformly positive for every outcome. Differences between studies may arise from differences in intervention components, care settings, population characteristics, outcome definitions, and follow-up duration. Therefore, the spontaneous vaginal birth observed in this case supports the feasibility of continuous midwifery care but does not establish that continuity of care itself caused the mode of birth.

Table 4.
Summary of Intrapartum Care

Stage of Labor	Clinical Findings	Midwifery Care	Outcomes
First stage	Regular uterine contractions, bloody show, progressive cervical dilatation	Partograph monitoring, maternal and fetal assessment, hydration, emotional support	Labor progressed normally
Second stage	Full cervical dilatation, effective maternal pushing	Guidance on pushing techniques and continuous monitoring	Spontaneous vaginal birth of a healthy infant
Third stage	Placenta not yet delivered	Active management of the third stage of labor	Placenta delivered completely without excessive bleeding
Fourth stage	Stable maternal condition, firm uterine contraction	Observation of vital signs, uterine contraction, and postpartum bleeding	No postpartum complications

Table 4 demonstrates that all stages of labor progressed physiologically without maternal or neonatal complications. Continuous monitoring using a partograph, combined with evidence-based intrapartum care and emotional support, contributed to a safe vaginal birth and successful maternal recovery during the immediate postpartum period.

Postpartum Care

The implementation of continuity of midwifery care continued throughout the postpartum period to monitor maternal recovery and prevent postpartum complications. Postpartum assessments were conducted according to the recommended schedule, including the early postpartum period and subsequent follow-up visits. During the initial postpartum assessment, the client reported mild lower abdominal pain associated with physiological uterine contractions. Physical examination revealed that the mother's general condition was good, uterine involution progressed normally, lochia rubra was within physiological limits, and no signs of excessive bleeding or infection were observed. The client also initiated breastfeeding successfully during the early postpartum period.

Continuous postpartum care included regular assessment of uterine involution, lochia, maternal vital signs, breastfeeding status, nutritional intake, and personal hygiene. The client received education regarding breast care, adequate nutrition during lactation, early mobilization, and the importance of exclusive breastfeeding for the first six months of life. Psychological support was also provided to promote maternal confidence in caring for the newborn and to reduce anxiety during the postpartum period. During subsequent postpartum visits, breastfeeding became well established, uterine involution progressed appropriately, and no clinical signs of postpartum infection or secondary postpartum hemorrhage were identified. At the final postpartum evaluation, the client had resumed normal daily activities, maintained exclusive breastfeeding, and demonstrated good physical recovery.

The positive maternal outcomes observed in this case demonstrate the importance of continuity of midwifery care in promoting physiological postpartum recovery. Regular postpartum follow-up enabled early identification of maternal needs while providing opportunities for breastfeeding support, nutritional counseling, and health education. These findings are consistent with Titaley et al.

(2022), who reported that adequate postnatal care utilization was associated with improved maternal and newborn health outcomes in Indonesia. Similarly, Celand et al. (2021) emphasized that comprehensive postpartum care should extend beyond physical recovery to include breastfeeding support, mental health assessment, and family planning counseling. Furthermore, World Health Organization (2022) recommends routine postnatal care contacts during the first six weeks after childbirth to facilitate early detection of complications and improve maternal and newborn well-being.

The postpartum findings provide clinical evidence of physiological recovery: uterine involution was documented as normal, lochia decreased appropriately, breastfeeding became established, and no infection or abnormal bleeding was identified during follow-up. These findings suggest that continuity of follow-up was useful for monitoring recovery and reinforcing breastfeeding and self-care education. Nevertheless, the available data are predominantly categorical; no serial quantitative measurements of uterine fundal height, blood loss, breastfeeding frequency, or maternal psychological status were reported. Therefore, the results demonstrate favorable clinical progression but do not permit calculation of the magnitude of postpartum improvement.

Table 5.
Summary of Postpartum Care

Postpartum Visit	Maternal Assessment	Midwifery Care	Outcomes
First visit (6 hours–3 days)	Mild uterine pain, normal lochia rubra, good general condition	Postpartum assessment, breastfeeding support, hygiene education, nutritional counseling	Physiological postpartum recovery
Second visit	Breastfeeding established, lochia decreased, uterine contraction adequate	Continued breastfeeding counseling, nutritional education, psychological support	Maternal condition improved
Third visit	Normal uterine involution, no infection, no abnormal bleeding	Infant care education, postpartum monitoring, family planning counseling	Stable maternal recovery
Final visit	Healthy mother, exclusive breastfeeding maintained	Final postpartum evaluation and contraceptive counseling	Successful completion of postpartum care

Table 5 shows that the mother's postpartum recovery progressed physiologically throughout the continuity of care period. Regular monitoring, breastfeeding support, nutritional counseling, and health education contributed to normal uterine involution, successful exclusive breastfeeding, and the absence of postpartum complications.

Newborn Care

Continuity of midwifery care was continued through comprehensive newborn care to monitor neonatal adaptation and support the mother's ability to provide appropriate infant care. The first neonatal assessment was performed 14 hours after birth. The newborn was delivered at term with a birth weight of 2,800 g and a body length of 49 cm. Clinical examination revealed a body temperature of 36.6°C, heart rate of 92 beats/minute, respiratory rate of 30 breaths/minute, active neonatal reflexes, and an APGAR score of 10, indicating successful adaptation to extrauterine life. However, the mother experienced difficulty with breastfeeding techniques during the initial postpartum period, requiring additional education and guidance.

During the continuity of neonatal care, the newborn was assessed regularly for general condition, feeding patterns, body temperature, umbilical cord healing, and danger signs. The mother received education on correct breastfeeding techniques, exclusive breastfeeding, umbilical cord care, personal hygiene, and recognition of neonatal danger signs requiring immediate medical attention. Follow-up assessments showed that the umbilical cord detached normally without signs of infection, the newborn remained active, no jaundice was observed, and physiological parameters remained within normal limits. The mother gradually became more confident in breastfeeding and newborn care,

although formula feeding was still provided during the early neonatal period. By the final neonatal visit, the infant remained healthy, active, and free from neonatal complications.

The neonatal findings provide several measurable clinical indicators that strengthen the results section. At 14 hours after birth, the newborn had an Apgar score of 10, a birth weight of 2,800 g, length of 49 cm, temperature of 36.6°C, heart rate of 92 beats/minute, and respiratory rate of 30 breaths/minute. During follow-up at 10, 17, and 31 days, the infant remained active, the umbilical cord detached without infection, no jaundice or danger signs were documented, and general adaptation remained good. These findings indicate stable neonatal adaptation during the documented follow-up period.

The findings of this case indicate that continuity of newborn care supported successful neonatal adaptation and increased maternal confidence in newborn care practices. Early assessment, breastfeeding assistance, and parental education contributed to the absence of neonatal complications during the observation period. Similar findings were reported by Edmond et al. (2006), who demonstrated that early postnatal home visits significantly reduced neonatal mortality through timely identification of neonatal danger signs and promotion of appropriate newborn care. In addition, Bhutta et al. (2023) highlighted that essential newborn care, including thermal protection, breastfeeding support, hygienic cord care, and caregiver education, remains one of the most effective strategies for improving neonatal survival. These recommendations are also supported by the World Health Organization (2022) which emphasizes comprehensive newborn care as an integral component of postnatal services.

Table 6.
Summary of Newborn Care

Neonatal Visit	Clinical Findings	Midwifery Care	Outcomes
First visit (14 hours)	Healthy term newborn, APGAR score 10, breastfeeding difficulties	Essential newborn care, breastfeeding assistance, umbilical cord care education	Mother understood correct breastfeeding techniques
Second visit (10 days)	Active infant, umbilical cord detached, physiological vital signs	Exclusive breastfeeding counseling, immunization education	Normal neonatal growth and development
Third visit (17 days)	No jaundice, active movements, normal temperature	Reinforcement of breastfeeding and newborn danger signs education	Infant remained healthy without complications
Fourth visit (31 days)	Good general condition, active infant, no danger signs	Growth monitoring and routine follow-up education	Healthy neonatal adaptation maintained

Table 6 demonstrates that the newborn maintained normal physiological adaptation throughout the neonatal period without evidence of infection, jaundice, or other complications. Repeated health education, breastfeeding support, and routine neonatal assessments enabled the mother to improve her caregiving skills while ensuring appropriate growth, development, and neonatal well-being.

Family Planning Care

The final stage of continuity of midwifery care was the provision of postpartum family planning services. Following a comprehensive assessment, the client expressed her intention to delay the next pregnancy and preferred a short-term contraceptive method. Physical examination showed that the client's general condition was good, with stable vital signs and no contraindications to hormonal contraception. After receiving counseling regarding available contraceptive methods, including their benefits, limitations, possible side effects, and duration of effectiveness, the client voluntarily chose the three-month injectable contraceptive as her preferred postpartum family planning method. Informed consent was obtained before contraceptive administration, and the client received education regarding

the injection schedule, expected side effects, and the importance of returning for follow-up injections every three months.

The implementation of family planning counseling during the continuity of care enabled the client to make an informed decision regarding postpartum contraception based on her reproductive intentions and personal preferences. Integrating family planning services into postpartum care also provided an opportunity to reinforce education regarding birth spacing, maternal nutritional recovery, and the importance of maintaining maternal health before a subsequent pregnancy. At the end of the continuity of care, the client demonstrated a good understanding of the selected contraceptive method and expressed her commitment to continuing family planning services according to the recommended schedule.

The measurable outcome at this stage was successful initiation of the client's chosen three-month injectable contraceptive following counseling and informed consent. The clinical significance of this finding is not the contraceptive method itself but the completion of the continuum of care: the same case was followed from management of the pregnancy complication through postpartum recovery and reproductive planning. This demonstrates how continuity of midwifery care can incorporate immediate maternal health needs with longer-term reproductive health goals.

The findings of this case demonstrate that integrating family planning counseling into continuity of midwifery care enables women to make informed decisions regarding postpartum contraception. Individualized counseling strengthened the client's understanding of contraceptive options and encouraged informed choice according to her reproductive intentions. These findings are consistent with Cleland et al. (2021), who reported that postpartum family planning contributes substantially to reducing unintended pregnancies and improving maternal and child health outcomes through optimal birth spacing. Likewise, Rossier and Bradley (2021) emphasized that comprehensive contraceptive counseling significantly increases postpartum contraceptive uptake and continuation. The World Health Organization (2024) also recommends integrating postpartum family planning into routine maternal healthcare services to improve reproductive health outcomes.

Table 7.
Summary of Family Planning Care

Assessment	Findings	Midwifery Care	Outcomes
Maternal condition	General condition good, vital signs stable, no contraindications to hormonal contraception	Physical assessment and postpartum evaluation	Mother eligible for postpartum contraception
Counseling	Education on contraceptive methods, benefits, side effects, effectiveness, and follow-up schedule	Individualized family planning counseling	Mother understood available contraceptive options
Contraceptive choice	Selected a three-month injectable contraceptive	Informed consent and contraceptive administration	Mother accepted the chosen contraceptive method
Follow-up	Education regarding reinjection schedule and warning signs	Appointment scheduling and health education	Mother committed to continuing family planning services

Table 7 demonstrates that postpartum family planning services were successfully integrated into the continuity of midwifery care model. Individualized counseling, comprehensive education, and informed decision-making enabled the client to select a contraceptive method that was appropriate for her reproductive goals while supporting optimal birth spacing and maternal health.

4. Conclusion

Continuity of midwifery care provided comprehensive support for a pregnant woman with moderate hyperemesis gravidarum from pregnancy through childbirth, postpartum, newborn care, and family planning. During pregnancy, the client's nausea and vomiting decreased from 6–8 times per day to mild and occasional symptoms, accompanied by improved appetite, general condition, and hydration status.

The pregnancy progressed to term and resulted in spontaneous vaginal birth without documented maternal or neonatal complications. The newborn had an Apgar score of 10, a birth weight of 2,800 g, and remained clinically well during the neonatal follow-up period. The mother subsequently received postpartum family planning counseling and chose a three-month injectable contraceptive.

These findings indicate a favorable clinical course during the period of continuity of midwifery care, with improvement in the main manifestations of hyperemesis gravidarum and favorable maternal and neonatal outcomes. However, because this study involved a single case without a comparison group, the findings cannot establish that continuity of midwifery care or any individual intervention caused the observed improvements or can be generalized to all women with hyperemesis gravidarum.
This case highlights the practical value of continuous monitoring, individualized nutritional and hydration support, psychological support, and follow-up across the maternal and neonatal continuum. The findings may provide a practical reference for midwives managing women with moderate hyperemesis gravidarum, while further studies involving larger samples and standardized quantitative clinical outcomes are needed to evaluate the effectiveness of continuity of midwifery care more rigorously.

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