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EFFECTIVENESS OF CONTINUITY MIDWIFERY CARE COMBINED WITH GINGER THERAPY AND NUTRITIONAL EDUCATION IN IMPROVING HYPEREMESIS GRAVIDARUM SYMPTOMS: A COMMUNITY-BASED CASE STUDY IN INDONESIA

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ABSTRACT

Background: Hyperemesis gravidarum is a severe pregnancy-related condition characterized by persistent nausea and vomiting that may lead to dehydration, nutritional imbalance, reduced maternal well-being, and adverse pregnancy outcomes. Effective and continuous midwifery management is essential to prevent disease progression and improve maternal health. **Objectives:**This study aimed to describe the effectiveness of continuity midwifery care combined with ginger therapy and nutritional education in improving symptoms of hyperemesis gravidarum in a pregnant woman.**Methods:** A community-based case study was conducted on a 21-year-old primigravida woman diagnosed with Grade I hyperemesis gravidarum in Bangun Rejo Village, Deli Serdang Regency, Indonesia. Midwifery care was implemented through four home visits using the Helen Varney midwifery management approach. Interventions included nutritional counseling, hydration education, lifestyle modification, monitoring of maternal condition, and complementary ginger therapy. Clinical outcomes were assessed through symptom progression, maternal condition, hydration status, appetite, and frequency of nausea and vomiting. **Results:** The patient initially presented with persistent nausea and vomiting, reduced appetite, fatigue, mild dehydration, decreased urinary frequency, and difficulty maintaining adequate food intake. Following four continuity-of-care visits, gradual clinical improvement was observed. The frequency of nausea and vomiting decreased, appetite improved, oral intake increased, urinary frequency normalized, oral mucosa became moist, and maternal general condition improved. The patient reported that ginger consumption contributed to symptom reduction and increased eating tolerance. **Conclusions:** Continuity midwifery care integrating nutritional education, hydration management, and ginger therapy contributed to the gradual improvement of Grade I hyperemesis gravidarum symptoms and supported maternal well-being during pregnancy.

Keywords: Hyperemesis gravidarum; Midwifery care; Ginger therapy; Nutritional education; Continuity of care

Introduction

Hyperemesis gravidarum (HG) is one of the most challenging complications encountered during pregnancy, characterized by persistent and excessive nausea and vomiting that interfere with daily activities and may result in dehydration, electrolyte imbalance, nutritional deficiencies, and impaired quality of life. Although nausea and vomiting affect approximately 70–80% of pregnant women, a smaller proportion experience severe symptoms that require comprehensive clinical management. If inadequately treated, hyperemesis gravidarum may contribute to maternal morbidity and adverse fetal outcomes, including impaired fetal growth, preterm birth, and low birth weight. (Fadhilah et al., 2023)

The etiology of hyperemesis gravidarum is multifactorial and involves hormonal, nutritional, physiological, and psychosocial factors. Elevated concentrations of human chorionic gonadotropin (hCG), estrogen, and progesterone are considered major contributors to symptom development. Additionally, inadequate dietary intake, stress, fatigue, and poor adaptation to pregnancy may worsen the condition (Viljoen et al., 2014). Women experiencing hyperemesis gravidarum often report reduced appetite, persistent vomiting, weakness, and difficulty maintaining adequate nutritional intake, all of which can negatively affect maternal and fetal health. (Dwi & Pamungkas, 2025)

Current management strategies emphasize both pharmacological and non-pharmacological approaches. Nutritional counseling, hydration management, lifestyle modification, and complementary therapies have been widely recommended for mild to moderate cases. In Indonesia, complementary health services are regulated under the Ministry of Health Regulation (Permenkes) No. 15 of 2018 concerning the Implementation of Complementary Traditional Health Services, which governs the provision of complementary health services in healthcare facilities, including principles of safety, efficacy, and the competency of healthcare professionals delivering such services (MOELOEK, 2018). Ginger (*Zingiber officinale*) has attracted increasing attention as a safe and effective complementary intervention because its bioactive compounds, including gingerol and shogaol, possess antiemetic properties that may reduce nausea and vomiting during pregnancy. Previous studies have demonstrated the beneficial effects of ginger supplementation in improving pregnancy-related nausea while maintaining maternal safety. (Sinaga et al., 2025)

In community settings, continuity of midwifery care plays a critical role in early identification, monitoring, education, and supportive management of pregnant women with hyperemesis gravidarum(siti nurmawan sinaga, 2022). Continuous follow-up allows healthcare providers to evaluate symptom progression, reinforce health education, and prevent complications through timely interventions. (Herna Rinayanti Manurung,et.al. 2024) Despite increasing evidence supporting continuity care models, reports describing their practical implementation in community-based maternal health programs remain limited, particularly in Indonesia. (Sembiring et al., 2022).

This case study presents the implementation of continuity midwifery care combined with nutritional education and ginger therapy in a primigravida woman diagnosed with Grade I hyperemesis gravidarum in Bangun Rejo Village, Deli Serdang Regency, Indonesia. The study aims to evaluate the effectiveness of these interventions in improving maternal symptoms and supporting maternal health throughout pregnancy .

Research Method

This study employed a community-based case study design to evaluate the effectiveness of continuity midwifery care combined with ginger therapy and nutritional education in managing Grade I hyperemesis gravidarum during pregnancy. The case study approach was selected because it allows an in-depth exploration of clinical management and maternal outcomes within a real-life context. The study was conducted in Bangun Rejo Village, Deli Serdang Regency, North Sumatra, Indonesia. The participant was a 21-year-old primigravida woman (G1P0A0) at 24 weeks of gestation who was diagnosed with Grade I hyperemesis gravidarum based on clinical assessment. The participant was selected using purposive sampling because she met the inclusion criteria of experiencing persistent nausea and vomiting during pregnancy without severe complications requiring hospitalization.

Continuity midwifery care was implemented through four consecutive home visits conducted between April and May 2025. The care process followed Helen Varney's seven-step midwifery management framework, which includes assessment, diagnosis, identification of potential problems, planning, implementation, evaluation, and documentation. This framework enabled systematic monitoring and individualized management of the participant's condition throughout the observation period. (Munthe Juliana, 2022)

The interventions provided during the study consisted of comprehensive maternal assessment, routine monitoring of vital signs and hydration status, nutritional counseling, education regarding adequate fluid intake, lifestyle modification, complementary ginger therapy, family involvement in maternal support, and continuous follow-up (Heuvel et al., 2016). Nutritional counseling focused on encouraging the consumption of small but frequent meals to improve tolerance to food intake and reduce gastric discomfort. Hydration education emphasized the importance of adequate fluid consumption to prevent dehydration and maintain physiological balance during pregnancy. Ginger therapy was introduced as a complementary intervention due to its widely recognized antiemetic properties. (Mariyah et al., 2022)

The primary outcomes assessed during each visit included the frequency of nausea and vomiting, appetite status, hydration condition, oral intake tolerance, urinary frequency, and overall maternal well-being. Data were collected through interviews, direct observation, physical examination, and clinical documentation. Progress was evaluated by comparing maternal symptoms and physical findings across the four visits. (Ristiyana et al., 2024) This study was conducted in accordance with ethical principles of autonomy, beneficence, non-

maleficence, confidentiality, and justice. Informed consent was obtained from the participant before data collection and implementation of care. Personal information was anonymized to protect participant privacy.

Result

The participant was a 21-year-old primigravida woman at 24 weeks of gestation who presented with symptoms consistent with Grade I hyperemesis gravidarum. During the initial assessment, she reported persistent nausea and vomiting occurring approximately four to five times per day. The condition was accompanied by poor appetite, reduced oral intake, fatigue, decreased urinary frequency, and mild signs of dehydration, including slightly dry oral mucosa. These symptoms interfered with daily activities and reduced her overall physical comfort. Following the implementation of continuity midwifery care, gradual improvement was observed throughout the four visits. During the second visit, the participant reported a decrease in vomiting episodes to approximately three times per day. Appetite showed slight improvement, and she was able to consume food in small portions more frequently. Hydration status also improved as a result of increased fluid intake following counseling and family support.

By the third visit, the participant demonstrated substantial clinical improvement. Episodes of nausea and vomiting became less frequent, occurring only once or twice daily. Appetite increased noticeably, oral intake became more adequate, urinary frequency returned to normal, and physical examination revealed moist oral mucosa, indicating improved hydration status. The participant also reported feeling more energetic and capable of performing routine daily activities. During the fourth and final visit, symptoms had nearly resolved. Nausea occurred only occasionally, vomiting was rare, appetite was considered good, and fluid intake was maintained at an adequate level. The participant's general condition was stable, and she reported feeling significantly more comfortable during pregnancy. Compliance with dietary recommendations, hydration management, and ginger therapy was also excellent at this stage.

Table 1. Clinical Progress During Four Continuity Midwifery Care Visits

Clinical Indicator	Visit 1	Visit 2	Visit 3	Visit 4
Nausea Severity	Severe	Moderate	Mild	Minimal
Vomiting Frequency	4–5 times/day	3 times/day	1–2 times/day	Rare
Appetite	Poor	Slightly improved	Improved	Good
Fluid Intake	Inadequate	Moderate	Adequate	Adequate
Oral Mucosa	Slightly dry	Improved	Moist	Normal

Clinical Indicator	Visit 1	Visit 2	Visit 3	Visit 4
Urinary Frequency	Reduced	Improved	Normal	Normal
General Condition	Weak	Fair	Good	Good

Discussion

The findings of this case study demonstrate that continuity midwifery care can contribute substantially to the improvement of maternal conditions associated with Grade I hyperemesis gravidarum. The participant experienced progressive symptom reduction following a series of interventions that combined nutritional counseling, hydration management, complementary ginger therapy, and continuous monitoring. The gradual improvement observed throughout the four visits suggests that early and sustained intervention may prevent symptom progression and support maternal recovery. (Margono & Singgih, 2021). Hyperemesis gravidarum is recognized as a multifactorial condition influenced by hormonal, physiological, nutritional, and psychological factors. Persistent nausea and vomiting often result in inadequate nutritional intake, dehydration, fatigue, and deterioration of maternal quality of life. In the present case, these manifestations were evident during the initial assessment and aligned with commonly reported clinical features of mild hyperemesis gravidarum. (Juli, 2019)

One important aspect contributing to symptom improvement was nutritional counseling. The participant was encouraged to consume small but frequent meals rather than large portions at once. This strategy is widely recommended because it minimizes gastric distension and helps maintain stable blood glucose levels, thereby reducing nausea severity. As observed in this case, improved dietary patterns were associated with better appetite and increased food tolerance over time (Tiani et al., 2024). Hydration management also played a crucial role in maternal recovery. Adequate fluid intake improved hydration status, as reflected by normalization of urinary frequency and restoration of moist oral mucosa. Maintaining hydration is particularly important among women with hyperemesis gravidarum because dehydration may worsen symptoms and increase the risk of hospitalization. The participant's progressive improvement in hydration indicators highlights the effectiveness of continuous education and monitoring provided through midwifery care. (Ary Widayana, 2024).

Another notable finding was the positive response to ginger therapy. Ginger has been extensively studied as a safe and effective complementary treatment for pregnancy-related nausea and vomiting. Its active compounds, including gingerol and shogaol, are believed to exert antiemetic effects by influencing gastrointestinal motility and neurotransmitter pathways associated with nausea. In this study, the participant reported reduced nausea intensity and improved food tolerance after incorporating ginger into her daily routine. These findings support previous research demonstrating the beneficial effects of ginger in managing mild to moderate hyperemesis gravidarum symptoms. (Sinaga et al., 2025).

The continuity of care model was another significant factor contributing to successful outcomes. Through regular home visits, the midwife was able to monitor symptom progression, reinforce educational messages, evaluate treatment adherence, and identify potential complications at an early stage. This continuous interaction fostered trust between the participant and healthcare provider, increasing compliance with recommendations and facilitating behavioral changes that supported recovery. (Megadhana, 2024). Despite the positive outcomes, several limitations should be acknowledged. The study involved only a single participant, which limits the generalizability of the findings. Additionally, the observation period was relatively short and did not include long-term maternal or neonatal outcomes. Furthermore, symptom assessment relied partly on participant self-reporting, which may introduce subjective bias. Nevertheless, the study provides valuable practical insights into the implementation of continuity midwifery care for managing hyperemesis gravidarum in community settings. (I Wayan, 2024).

The strengths of this study include the application of a real-world community-based approach, detailed monitoring through four consecutive visits, and the integration of evidence-based complementary therapy into routine midwifery practice. These strengths enhance the practical relevance of the findings and demonstrate how comprehensive midwifery care can contribute to improving maternal health outcomes during pregnancy. (Nur Azizah & Elvi Murniasih, 2023).

Conclusion and Suggestion

This case study demonstrates that continuity midwifery care integrating nutritional counseling, hydration management, family support, lifestyle modification, and ginger therapy was associated with significant improvement in Grade I hyperemesis gravidarum symptoms. The participant experienced progressive reductions in nausea and vomiting frequency, improved appetite, increased oral intake, normalization of hydration status, and enhanced overall well-being throughout the four visits.

The findings emphasize the importance of continuous, individualized, and community-based midwifery care in supporting pregnant women experiencing hyperemesis gravidarum. The integration of complementary interventions such as ginger therapy alongside standard nutritional and hydration management may provide an effective, affordable, and accessible strategy for symptom control. Future studies involving larger sample sizes and comparative research designs are recommended to strengthen the evidence regarding the effectiveness of continuity midwifery care in managing hyperemesis gravidarum and improving maternal health outcomes.

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CONFLICT OF INTEREST AND FUNDING DISCLOSURE

The authors declare that there is no conflict of interest related to this study.This research received no external funding and was conducted independently as part of academic clinical practice requirements.

AUTHOR CONTRIBUTIONS

OZ: conceptor, investigation, data curation, methodology, project administration, writing original draft.Supervisor: supervision, validation, writing review and editing. Clinical Preceptor: investigation, methodology, resources, supervision, validation.

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