

ELEVATING STUDENT LEADERSHIP THROUGH EXCELLENT SERVICE IN THE OBSTETRIC CARE OF HYPEREMESIS GRAVIDARUM IN MRS. N FOR INDONESIA SDGs 2030

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ABSTRACT

Background: Hyperemesis gravidarum (HG) affects 12.5% of pregnancies globally and 14.8% in Indonesia, posing risks of severe dehydration and maternal-fetal complications. Integrating student leadership and service excellence in midwifery care is pivotal to address this clinical challenge. **Objectives:** This study aimed to implement comprehensive midwifery care management using Varney's seven-step method for Mrs. N, a 27-year-old G2P1A0 with Grade 2 Hyperemesis Gravidarum, while elevating student leadership to support 2030 SDGs. **Methods:** A descriptive case study approach was conducted at Prtek Mandiri Bidan (PMB) Pera in March 2024. Primary data were gathered through anamnesis and physical examinations, while secondary data were obtained from medical records. **Results:** The patient presented progressive nausea and vomiting (>5 times/day), extreme weakness, acetone in urine, and decreased skin turgor. Care management involved interprofessional collaboration for parenteral fluid rehydration (RL + Dextrose 5%), antiemetic therapy (Ondansetron, Ranitidine), communication therapy, and non-pharmacological ginger aromatherapy. Within short-term monitoring, the patient's turgor improved, and nausea decreased. **Conclusions:** Comprehensive management and early detection through clinical leadership effectively mitigated severe dehydration and complications. Responsive service excellence directly aligns with reducing maternal mortality rates under SDG targets.

Keywords: Pregnant Women, Midwifery Care, Hyperemesis Gravidarum, Pathological Pregnancy, Varney Management, Pregnant Women.

INTRODUCTION

According to the WHO hyperemesis gravidarum accounts for 12.5% of all pregnancies worldwide, with incidence ranging from 0.3% in Sweden to 0.5% in California to 0% in Canada to 10.8%.(WHO, no date). In Indonesia, the incidence of HEG is quite significant, with the study report placing it at around 14.8%.

Pregnancy complications characterized by excessive nausea and vomiting that can threaten the health of the mother and fetus.(Julianti and Sugiharti, 2025)Entering the era towards Golden Indonesia 2045 and the achievement of the Sustainable Development Goals (SDGs) 2030 target, the quality of maternal and child health services is a fundamental indicator for the welfare of a nation. One of the clinical challenges often faced in obstetric practice is Hyperemesis Gravidarum (HG), a complication of pregnancy that if not treated appropriately can develop into a pathological condition that threatens the lives of both mother and fetus. In the midst of this dynamic, the concept of Elevating Student Leadership is crucial in midwifery education. Students not only play the role of practitioners who carry out instructions, but also as clinical leaders who are able to make strategic decisions, show empathy, and provide excellent service oriented towards patient safety. The treatment of Mrs. N with Hyperemesis Gravidarum Grade 2 at the Independent Practice of Midwife Pera is an implementation space for students to show their leadership capacity in providing comprehensive and responsive care. The relationship between midwifery care and the global agenda of the SDGs is very close and multidimensional. First, through the provision of Service Excellence, students contribute directly to the 3rd SDGs (Healthy and Prosperous Life) by reducing the maternal morbidity rate due to severe dehydration and malnutrition in pregnant women. Second, this nurturing process is a tangible manifestation of the 4th SDGs (Quality Education), where students apply academic theory to complex clinical practice to hone diagnostic acuity and interpersonal skills. Third, fast and effective treatment at the primary service level such as in the Independent Practice of Midwives Pera plays a role in preventing unexpected financial burdens for the patient's family, which indirectly supports the 1st SDGs (No Poverty) through the prevention of expensive follow-up care costs in hospitals. Finally, this entire series of care would have been impossible to achieve without the strong collaboration between the educational institution STIKes Mitra Husada Medan and the practice land partners, which reflects the essence of the 17th SDGs (Partnership to Achieve Goals). Through the integration of Student Leadership and excellent service, the care for the Hyperemesis Gravidarum case is not only a clinical task, but also a real step in realizing the vision of sustainable development in Indonesia.(Sustainable and Goals, 2024)

Pregnancy is a natural process. The changes that occur in women during normal pregnancy are physiological, not pathological. Therefore, the care provided is also care that minimizes intervention. Childbirth is a process of natural discharge of the results of conception (baby and placenta), which begins with adequate contractions in the uterus, opening and thinning of the cervix. Childbirth is a physiological process, where there is the production of the results of

conception (fetus and placenta) that can live outside the womb starting with uterine contractions, thinning and cervical opening, birth of the baby and placenta through the birth canal or through another route (abdomen), with or without assistance.(Adethia et al., 2021)

The cause of hyperemesis gravidarum is not yet known for sure. There is no evidence that the disease is caused by toxic factors, nor have biochemical abnormalities been found. Anatomical changes in the brain, heart, liver and nervous system are caused by a lack of vitamins and other substances. Some predisposing factors are Primigravida, psychological factors such as a fractured household, unwanted pregnancy, fear of pregnancy and childbirth. Hyperemesis gravidarum tends to occur in primipara pregnant women. (Scott, 2022) This is due to the lack of physical and mental readiness to face pregnancy and experience in childbirth, causing fear among 3 pregnancies. Nausea and vomiting occur in 60-80% of primigravida. One in a thousand pregnancies other symptoms occur more severely, this is due to increased levels of the hormones estrogen and HCG in the serum. Getting pregnant at a young age is one of the factors that cause hyperemesis. This is related to the psychological condition of pregnant women. The literature shows that mothers with an age of less than 20 years or more than 35 years are more likely to experience hyperemesis gravidarum, so the mother's age has a close influence on the development of the reproductive organs. Pregnancy at the age of less than 20 years is biologically not optimal emotionally, tends to be labile, while over 35 years is related to deterioration and decline in body power as well as various diseases that often afflict and diseases that are easy to enter at this age. Increased levels of estrogen or human chorionic gonadotropin (HCG) and the occurrence of hyperthyroidism during pregnancy as well as maternal psychological factors are other causes of hyperemesis gravidarum.(Prince, 2025)

METHODS

a descriptive case study method with Varney's seven-step obstetric care management approach and documented in the form of SOAP. This paper aims to explore the application of *student leadership* and *excellent service* in handling Grade 2 Hyperemesis Gravidarum cases. The location of the case was taken at the Pera Midwife Independent Practice (PMB) which was held in March 2024. The subject in this care is a pregnant woman, Mrs. N, age 27, G2P1A0 with a first trimester gestational age who was diagnosed with Hyperemesis Gravidarum Grade 2.

Data collection techniques are carried out comprehensively through three main methods. First, primary data was obtained through a direct anamnesis (interview) with patients to explore subjective complaints, pregnancy history, and psychosocial conditions. Second, a systematic physical examination (head to toe) was carried out including observation of vital signs and signs of dehydration to support objective data. Third, secondary data collection is carried out through the review of medical record documents at PMB Pera as well as relevant literature from scientific journals and obstetric textbooks.

Data analysis was carried out by comparing clinical findings in the field with cutting-edge obstetric theory, then associated with *Service Excellence* and achievement indicators

targets for the 2030 SDGs (especially points 1, 3, 4, and 17). The research instruments used include the format of obstetric care for pregnant women, physical examination tools (tension meters, scales, thermometers), and nutrition education guidelines. The entire care process prioritizes research ethics, namely maintaining the confidentiality of the patient's identity (*confidentiality*) and ensuring that every action is carried out after obtaining informed *consent*.

RESULTS

Based on the study of obstetric care for Mrs. N (27 years old, G2P1A0) at PMB Pera, subjective data was found in the form of progressive complaints of nausea and vomiting with a frequency of more than 5 times a day. Patients report extreme weakness, dizziness, and inability to consume food or liquids orally. On objective examination, signs of dehydration were found that characterized Hyperemesis Gravidarum (HG) Grade 2, namely increased pulse (96x/minute), dry and dirty tongue, and decreased skin turgor (less elastic).

The results of laboratory tests showed the presence of acetone in the urine which confirmed the occurrence of fat breakdown due to tissue starvation (ketosis). In dealing with Mrs. N, the implementation of *student leadership* was tested through the speed and accuracy of clinical decision-making. Students not only perform routine procedures, but lead the coordination of care by ensuring the availability of intravenous fluids and closely monitoring fluid balance. *Service Excellent* is realized through a therapeutic communication approach that calms the patient, considering that psychological factors are the main triggers for HG exacerbations. The management provided includes fluid rehydration through RL Infusion, anti-emetic administration (Ondansetron), and education on diet modification (small but frequent portions).in pregnant women with overweight status related to the occurrence of hyperemesis gravidarum through the mechanism of the hormone progesterone. The hormone progesterone can reduce the motility of the gastrointestinal organs during pregnancy so that gastric dysrhythmia will occur which can stimulate the occurrence of hyperemesis gravidarum. In pregnant women with a higher nutritional status, they will experience fat accumulation in adipose tissue which is related to increased levels of the hormone progesterone receptors.10,24.

This is in line with the research conducted by Murari, et al. in 2018 with a cross sectional study design obtained results, namely from 144 hyperemesis gravidarum patients, 66.6% had an over-nutritional status which shows that the incidence of hyperemesis gravidarum is quite high in pregnant women with over-nutritional status.(Simanullang and Sari, 2024)

Table 1. Results of Bivariate Analysis of the Relationship between Teenage Pregnancy, External Variables and the Incidence of LBW in Gunungkidul Regency in 2023

Date & Time	Subjective Data (S)	Objective Data (O)	Analysis (A)	Management & Evaluation (P)
March 26, 2024 At 20:20 WIB	- The mother complains of severe nausea and vomiting (frequency $\pm$ 8 times a day). - The body feels very weak, dizzy, and the portion of food that comes in is always regurgitated. - The mother is anxious about the safety of her fetus.	- General Condition: Weak. - Awareness: <i>Mentis Compost</i> - TTV: TD: 110/70 mmHg, S: 36.8 °C, RR: 20 x/min, HR: 80 x/min. - Sunken eyes, anemic conjunctiva (+/+), dry tongue. - Decreased skin turgor (less elastic). - TFU: 2.5 cm above the symphysis.	Mrs. N, 27 Years Old, G2P1A0, Pregnancy Age 17 Weeks 3 Days with Hyperemesis Gravidarum Grade 2.	1. Inform the results of the examination and provide emotional support to the mother. 2. Conducting interprofessional collaboration on the installation of 5% IV RL + Dextrose parenteral fluid (20 drops/min). 3. Provides delegative therapy: Ondansetron IV, Ranitidine IV, and oral Vit B6 (Mediamer) injections. 4. Providing non-pharmacological innovations in the form of ginger aromatherapy to relieve nausea. 5. Educate diet: small but frequent portions, avoid fatty and strong-smelling foods. 6. Encourage the mother to take a complete rest (<i>bedrest</i>).
March 26, 2024 At 21:15 WIB	- Mom says the nausea is starting to decrease. - Mom feels her body is a little more energized after the fluid comes in. - The mother states that she is willing to follow the dietary recommendations given.	- General Condition: Pretty good. - Awareness: <i>Mentis Compost</i>. - TTV: TD: 110/70 mmHg, S: 36.5 °C, RR: 19 x/min, HR: 82 x/min. - The face looks fresher, the eyes are less concave, the tongue starts to get wet. - Skin turgor improves (returns quickly). - The infusion fluid drips smoothly.	Mrs. N, 27 years old, G2P1A0, Pregnancy Age 17 Weeks 3 Days with Hyperemesis Gravidarum Grade 2 (Partially Resolved Status).	1. Monitor the infusion drip and monitor vital signs regularly. 2. Ensure the aromatherapy of ginger remains near the patient for inhalation comfort. 3. Guiding the mother to try to drink warm water slowly and little by little. 4. Motivate families to continue to accompany and maintain the environment of the treatment room so that it remains calm and clean.

DISCUSSION

Gravidarum Grade 2 hyperemesis is a crucial phase of clinical transition. The characteristics of this level are characterized by patients who appear weak, apathy, decreased skin turgor, dry tongue-dirty, and the smell of acetone that begins to be smelled from the respiratory air due to the occurrence of fat reserve metabolism (ketosis) as compensation for the absence of carbohydrates. In Mrs. N's case study, the clinical manifestations of concave eyes, frequent vomiting 8 times a day, and decreased turgor were strong evidence of cellular dehydration. Hormonal factors—in particular a drastic spike in *levels of the Human Chorionic Gonadotropin* (hCG) hormone and the hormone estrogen produced by the placenta—it is believed to trigger gastric dysrhythmia and slow down the transit time of the upper gastrointestinal tract. This is exacerbated by Mrs. N's psychosocial status expressing deep anxiety; Emotional stress activates hypothalamic-pituitary-adrenal (HPA) sumbu, triggers increased gastric acid secretion and exacerbates the intensity of nausea Clinical management in Mrs. N's case showed high effectiveness through the synergy of pharmacological and non-pharmacological therapies. Parenteral rehydration using a combination of Ringer's Lactate crystalloid fluid and Dextrose 5% rumatan fluid rapidly restores lost intravascular volume, supplies exogenous glucose to stop the gastric ketosis cycle, and restores macrolyte balance.

The use of Ondansetron injection as a serotonin 5-HT₃ receptor antagonist works selectively on the central and peripheral nervous system to block the vomiting reflex, supported by Ranitidine as a histamine H₂-receptor antagonist that reduces gastric acid production to minimize gastric mucosal irritation. The success of handling this case cannot be separated from the implementation of *Service Excellent* presented by midwifery students. Excellent service is not just about performing clinical procedures according to the control sheet, but also presenting care that is full of empathy, responsiveness, and respects the patient's privacy and psychology. Realizing the existence of anxiety in Mrs. N, students applied therapeutic communication and counseled that emesis to some extent is an adaptive response to pregnancy. This explanation has been shown to be able to reduce the patient's psychic tension, which indirectly reduces the activity of the gastric sympathetic nerve. Furthermore, the addition of non-pharmacological innovations in the form of giving ginger aromatherapy (*Zingiber officinale*) is a tangible manifestation of the critical thinking of midwifery student leadership. Ginger contains the active compounds gingerol and shogaol that work to inhibit cholinergic and serotonergic receptors in the digestive tract, providing a carminous and relaxing effect on the smooth muscles of the stomach. This self-care and holistic treatment accelerates recovery without side effects for the fetus. From the perspective of *Student Leadership*, the success of this care proves that midwifery students of STIKes Mitra Husada Medan are able to demonstrate clinical leadership capacity in the field. This leadership is demonstrated through students' ability to carry out early detection of complications from Grade 1 to Grade 2, interpret basic data quickly, make tactical decisions to carry out interprofessional collaboration with doctors, and coordinate advanced care centered on patient safety (*patient-centered care*). This action is directly

correlated positively with the global sustainable development target, namely Indonesia's SDGs 2030 Goal 3. By cutting the chain of pathological complications of maternal pregnancy at the primary service level (PMB), midwifery students make a real contribution to reducing the number of pain in pregnant women, preventing the incidence of perinatal morbidity (BBLR and abortion), and improving the degree of women's reproductive health in Indonesia.

CONCLUSION AND SUGGESTION

1. The implementation of the baseline data study on Mrs. N (G2P1A0, gestational age 17 weeks 3 days) was successfully carried out systematically, finding clinical manifestations of Hyperemesis Gravidarum Grade 2 in the form of vomiting 8 times a day, physical weakness, sunken eyes, and decreased skin turgor.
2. The interpretation of the basic data is accurate so that the enforcement of the diagnosis of actual problems and the identification of potential diagnoses (risk of severe dehydration and ketosis) can be determined early in anticipation of the threat of abortion and BBLR.
3. The act of interprofessional collaboration with specialist doctors was successfully realized through the administration of intravenous fluid rehydration therapy RL and Dextrose 5% (20 drops/minute), as well as pharmacological regimens of Ondansetron, Ranitidine, and Mediamer.
4. A comprehensive care plan that includes dietary modifications (small but frequent portions), restriction of high-fat foods, total rest, therapeutic communication, and non-pharmacological applications in the form of ginger aromatherapy have been carried out efficiently.

Suggestions:

1. **For Clients and Families:** It is expected to maintain a diet pattern of small but frequent portions that has been taught, maintain a hydrating intake of water at least 2 liters/day, and involve the active role of the husband in providing psychosocial support and ensuring that the mother gets enough rest at home.
2. **For Health Workers and PMB Pera:** It is expected to continue to improve service *excellence* standards and maintain comprehensive antenatal monitoring, as well as make holistic management (a combination of medical and complementary such as ginger aromatherapy) as a standard alternative procedure in overcoming emesis gravidarum disorder.

3. **For Educational Institutions:** It is hoped that STIKes Mitra Husada Medan will continue to facilitate a curriculum based on the development of *student leadership characters* in the clinical realm, in order to produce midwives graduates who are leaders, innovative, and able to actively contribute to the achievement of the Health SDGs targets in Indonesia.

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AUTHOR CONTRIBUTIONS

FU: conceptualization, investigation, methodology, supervision, writing review and editing; FS: methodology, supervision, validation; TA: data curation, formal analysis; NSES: formal analysis, resources; TW: software, visualization; RA: project administration, roles/writing original draft.

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