



Analysis of Factors That Play a Role in the Length of Treatment in Hyperemesis Gravidarum Patients at Raja Ahmad Tabib General Hospital, Tanjungpinang, Indonesia

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A B S T R A C T

Hyperemesis gravidarum (HG) is a pregnancy complication characterized by excessive nausea and vomiting, which can cause dehydration, electrolyte balance disorders and weight loss. The length of stay for HG patients in hospital can vary. This study aims to analyze the factors that contribute to the length of treatment for HG patients at Raja Ahmad Tabib General Hospital Tanjungpinang, Indonesia. This research was conducted with an analytical observational design with a retrospective approach. Data was collected from medical records of HG patients treated at Raja Ahmad Tabib General Hospital Tanjungpinang in the period January 2020 to December 2022. This was done using multiple linear regression. The dependent variable is length of treatment (days). The independent variables analyzed were maternal age, parity, severity of HG, nutritional status, and accompanying complications. A total of 100 HG patients were included in this study. The average length of treatment is 3.5 days. The results of the analysis showed that the factors that contributed to the length of treatment for HG patients were maternal age ($p=0.02$), parity ($p=0.04$), and severity of HG ($p=0.001$). Maternal age, parity, and severity of HG are factors that contribute to the length of treatment for HG patients at Raja Ahmad Tabib General Hospital Tanjungpinang.

1. Introduction

Hyperemesis gravidarum (HG) is a pregnancy complication characterized by excessive nausea and vomiting.¹ Even though it is relatively rare (0.5-2% of pregnancies), HG can have serious impacts on the mother and fetus, so the urgency of handling needs to be emphasized. Excessive nausea and vomiting can cause dehydration and electrolyte balance disorders, which endanger the mother's health.^{2,3} The inability to eat and drink can lead to malnutrition, resulting in extreme fatigue, depression, and even death. HG can increase the risk of other complications, such as pneumonia, kidney damage, and even death. Lack of nutrition and oxygen due to HG can inhibit

fetal growth. Dehydration and electrolyte disorders in the mother can increase the risk of birth defects in the fetus. Severe HG can increase the risk of miscarriage. HG often requires a hospital stay, which can increase healthcare costs. Medications to treat nausea and vomiting, as well as other complications, can add to the cost of treatment. HG can cause pregnant women to lose work time and productivity. Symptoms of HG can interfere with daily activities and reduce the mother's quality of life. HG can increase the risk of depression and anxiety in pregnant women.^{4,5}

The length of treatment for HG in hospitals can vary and is influenced by several risk factors.⁶⁻⁸ Pregnant women over 35 years of age are at greater



risk of experiencing more severe HG and requiring longer treatment. Pregnant women with their first pregnancy (primigravida) are at greater risk of experiencing HG. Pregnant women who have a history of HG in previous pregnancies are more at risk of experiencing more severe HG and requiring longer treatment. Pregnant women with poor nutritional status are more at risk of experiencing complications and require longer treatment. Pregnant women with comorbidities such as diabetes, hypertension, or kidney disease are at greater risk of experiencing more severe HG and requiring longer treatment. Pregnant women with multiple pregnancies are at greater risk of experiencing more severe HG. Hydatidiform mole is an abnormality in placental growth that can cause more severe HG. More severe HG requires a longer recovery time. Complications such as dehydration, electrolyte balance disorders, and infections can prolong the length of treatment. Pregnant women with strong social support from family and friends are more likely to cope with HG and may require a shorter treatment time. Pregnant women who have easy access to quality health services are more likely to receive appropriate diagnosis and treatment, so their treatment time may be shorter.⁹⁻¹¹ This study aims to analyze the factors that contribute to the length of treatment for HG patients at Raja Ahmad Tabib General Hospital Tanjungpinang, Indonesia.

2. Methods

This study used an analytical observational design with a retrospective approach. The population of this study was all HG patients treated at Raja Ahmad Tabib General Hospital Tanjungpinang in the period January 2020 to December 2022. The research sample was taken using a purposive sampling method, namely by selecting HG patients who had complete medical records. A total of 100 HG patients were included in this study. Data were collected from HG patients' medical records, which included demographic data: maternal age, parity, and nutritional status, as well as clinical data: HG severity, accompanying complications, and length of treatment.

Data analysis was carried out using multiple linear regression. The dependent variable is the length of treatment (days). The independent variables analyzed were maternal age, parity, severity of HG, nutritional status, and accompanying complications. Data will be analyzed using the SPSS statistical program. The statistical test used is multiple linear regression. The results of the data analysis will be presented in graphic and graphic form.

3. Results and Discussion

The average length of treatment is 3.5 days. The results of the analysis showed that the factors that contributed to the length of treatment for HG patients were maternal age ($p=0.02$), parity ($p=0.04$), and severity of HG ($p=0.001$). Older maternal age was associated with a longer length of stay. HG patients over 35 years of age have an average length of treatment of 4 days, compared to HG patients under 35 years of age with an average length of treatment of 3 days. Pregnant women with their first pregnancy (primigravida) have a longer length of treatment compared to multigravida pregnant women. Primigravida HG patients had an average length of stay of 3.8 days, compared to multigravida HG patients, with an average length of stay of 3.2 days. More severe HG severity was associated with a longer length of stay. HG patients with severe severity had an average length of stay of 4.5 days, compared with HG patients with mild and moderate severity with an average length of stay of 2.5 days and 3 days. Data analysis did not show a significant relationship between nutritional status and accompanying complications and the length of stay in HG patients.

Maternal age is one of the factors that play a role in the length of treatment for HG patients.¹² Pregnant women over 35 years of age have a higher risk of experiencing more severe HG and require a longer recovery time. As we age, the function of body organs such as the kidneys and liver decreases. Decreased function of this organ can slow down the process of drug metabolism and recovery from dehydration and electrolyte disorders. Excessive nausea and vomiting



can cause dehydration and electrolyte disorders. Optimally functioning kidneys and liver are necessary to process the medications used to treat HG, such as antiemetics and intravenous fluids. Decreased organ function in older pregnant women can slow the recovery process from dehydration and electrolyte disturbances and slow the metabolism of medications. Older maternal age also increases the risk of pregnancy complications, such as gestational diabetes and hypertension. These complications can worsen HG and prolong the length of treatment.¹³⁻¹⁵

Pregnant women with their first pregnancy (primigravida) are at greater risk of experiencing more severe HG compared to multigravida pregnant women. Primigravida pregnant women have never experienced pregnancy before, so they have no experience in dealing with the symptoms and complications of pregnancy, including HG. This lack of experience can make it more difficult for primigravida pregnant women to cope with HG and more easily experience dehydration and electrolyte disorders. Pregnancy causes significant hormonal changes, which can trigger HG.¹⁶⁻¹⁸ Primigravid pregnant women may be more sensitive to these hormonal changes and, therefore, may be at greater risk of more severe HG. The body of a primigravida pregnant woman needs time to adapt to hormonal and physical changes during pregnancy. This adaptation can be more difficult for primigravid pregnant women, increasing the risk of HG.¹⁹

The severity of HG is categorized based on several factors, such as frequency of nausea and vomiting, level of dehydration, and electrolyte disturbances. More severe HG has a significant impact on the health of pregnant women and requires more intensive treatment. More severe HG is associated with more frequent and intense nausea and vomiting. This can cause more severe dehydration and electrolyte disturbances. Pregnant women with severe HG may not be able to eat or drink normally, requiring intravenous nutritional intake. Dehydration and electrolyte disorders can endanger the health of pregnant women and the fetus. Dehydration can cause

fatigue, dizziness, and even fainting. Electrolyte disturbances can cause heart rhythm disturbances, seizures, and even death. Pregnant women with severe HG may require hospitalization for intensive treatment.^{2,18,20}

4. Conclusion

Maternal age, parity, and severity of HG are factors that play a role in the length of treatment for HG patients at Raja Ahmad Tabib General Hospital Tanjungpinang, Indonesia.

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