



The Relationship Between Knowledge and Attitudes of Pregnant Women and the Incidence of Hyperemesis Gravidarum at the Tangeban Community Health Center, Masama District, Banggai Regency

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ABSTRACT

Introduction: Hyperemesis gravidarum is a condition of excessive nausea and vomiting that occurs in the first trimester of pregnancy. It can cause dehydration, electrolyte imbalances, weight loss, and even affect fetal growth if not properly managed (Ministry of Health of the Republic of Indonesia, 2023). In Indonesia, based on the Indonesian Health Profile (2023), the prevalence of HEG is reported to be around 1–3% of all pregnancies, with higher cases occurring in young pregnant women and primigravidas. **Objective:** To determine the relationship between knowledge and attitudes of pregnant women with the incidence of hyperemesis gravidarum at the Tangeban Community Health Center, Masama District, Banggai Regency. **Method:** This study used an observational analytical design with a cross-sectional approach. The sample in this study was 34 pregnant women respondents. The sampling technique used total sampling. The instrument used was a questionnaire. Data analysis used univariate and bivariate data. **Result:** Univariate analysis showed that the majority of pregnant women who experienced hyperemesis gravidarum were 21 people (61.8%), had a good level of knowledge about hyperemesis gravidarum, namely 22 respondents (64.7%), and had a positive attitude towards hyperemesis gravidarum as many as 24 respondents (70.6%). Bivariate analysis showed a relationship between knowledge and the incidence of hyperemesis gravidarum in pregnant women at the Tangeban Community Health Center, Masama District (p-value 0.040), and there was a relationship between attitude and the incidence of hyperemesis gravidarum in pregnant women at the Tangeban Community Health Center, Masama District (p-value 0.020). **Conclusion:** There is a relationship between knowledge and attitude and the incidence of hyperemesis gravidarum in pregnant women at the Tangeban Community Health Center, Masama District.

Keywords: attitude, hyperemesis gravidarum, knowledge

Introduction

Every pregnant woman will experience physical adjustments to pregnancy according to the stage of the trimester she is in. The first trimester is the beginning of the trimester that causes various responses in pregnant women. The most influential response in pregnant women is nausea and vomiting. Excessive nausea and vomiting during pregnancy is called hyperemesis gravidarum (Simanjuntak, Purba, Lumbantobing, & Sinaga, 2023).

Hyperemesis gravidarum is a condition in which the patient experiences nausea and vomiting more than 10 times in 24 hours, disrupting daily activities and causing general malaise. This condition usually occurs between the 8th and 12th weeks of pregnancy. Hyperemesis gravidarum is a persistent condition of nausea and vomiting in pregnant women during the first trimester up to 22 weeks of pregnancy, which if continued can result in carbohydrate deficiency in fat, dehydration, and electrolyte deficiency (Butu, Rottie, & Bataha, 2019).

Hyperemesis gravidarum (HG) is caused by hormonal changes, more specifically an increase in estrogen, which leads to excessive stomach acid production, resulting in hyperemesis gravidarum. In addition to estrogen, there are other hormones that can cause hyperemesis gravidarum, namely human chorionic gonadotropin (hCG), which is produced by the placenta and plays a role in causing hyperemesis gravidarum (Bakay, Nurbaya, & Sumi, 2023).

Hyperemesis gravidarum can cause carbohydrate reserves to be depleted for energy needs, causing the body to switch to burning fat and protein reserves. Hyperemesis gravidarum occurs in early pregnancy up to 20 weeks of gestation. Vomiting can sometimes be so severe that everything eaten and drunk is vomited, which can affect general health and interfere with daily activities, leading to weight loss, dehydration, and acetone in the urine, as well as symptoms similar to appendicitis, pyelitis, and so on (Syahnaz & Sihombing, 2023).

Persistent vomiting without treatment can cause fetal growth retardation with clinical manifestations. In addition, hyperemesis gravidarum not only threatens the lives of pregnant women, but can also cause side effects in the fetus such as miscarriage, low birth weight, premature birth, and malformations in newborns. In addition to physiological effects on the life of pregnant women and their fetuses, hyperemesis gravidarum also has psychological, social, and economic impacts.

Several factors that can be done to prevent hyperemesis gravidarum are increasing the knowledge and attitude of pregnant women towards efforts to prevent hyperemesis gravidarum. Mothers' lack of knowledge about pregnancy warning signs and the importance of attending at least six antenatal care visits during pregnancy to detect abnormalities early on. Mothers' lack of knowledge about their pregnancy can result in them having little information about their pregnancy, detecting pregnancy complications, and preventing hyperemesis gravidarum, among other things. Good knowledge will be followed by a positive attitude, which will ultimately lead to good behavior and caution. A positive attitude will encourage mothers to respond seriously to abnormal conditions such as hyperemesis gravidarum that they experience and enable them to take preventive measures to avoid hyperemesis gravidarum.

Objective

The purpose of this study was to determine the relationship between the knowledge and attitudes of pregnant women and the incidence of hyperemesis gravidarum at the Tangeban Community Health Center in Masama District, Banggai Regency.

Method

Design and setting

The design of this study is analytical observational with a cross-sectional study design. Cross-sectional means that researchers conduct surveys or measurements of independent and dependent variables, with data collection carried out in a specific period and observations made only once during the study to determine the relationship between the knowledge and attitudes of pregnant women and the incidence of hyperemesis gravidarum at the Tangeban Community Health Center, Banggai Regency.

Population and sampling

The study population consisted of all pregnant women who visited the Tangeban Community Health Center in Banggai Regency in May-June 2025, totaling 34 people. The research sample consisted of all pregnant women who visited and were hospitalized at the Tangeban Community Health Center in Banggai Regency in May-June 2025, totaling 34 people. The sampling technique used was total sampling. Total sampling is when the entire research population is used as the sample in the study because the sample size is less than 100 respondents.

Instrument and measurement

The instruments used in this study were questionnaires in the form of a list of questions about hyperemesis gravidarum and a checklist based on the symptoms of hyperemesis gravidarum. The knowledge questionnaire consists of 20 questions with true or false answer choices. The behavior questionnaire consists of 20 statements with answer choices of strongly agree (SA), agree (A), don't know (DK), disagree (DA), strongly disagree (SD). The questionnaire was modified by the researcher, where the questionnaire was adopted from previous research.

Data collection and analysis

Grouping was done by calculating the total score of each assessment component for each variable, then determining the mean value. If the score for each variable was less than the mean, it was categorized as good, and if it was greater than or equal to the mean, it was categorized as less than good. The data was then analyzed using frequency distribution and Chi-Square.

Result

Results from data collection using questionnaires completed by respondents on the relationship between the knowledge and attitudes of pregnant women and the incidence of hyperemesis gravidarum at the Tangeban Community Health Center in Banggai Regency. This

study will be presented in tabular form. Data collection was conducted over a period of two months, from May to June 2025, with 34 respondents, while the data presentation was divided into two parts, namely univariate analysis and bivariate analysis. After the data is presented, it is followed by specific data based on the measured variables, namely the relationship between the knowledge and attitudes of pregnant women and the incidence of hyperemesis gravidarum at the Tangeban Community Health Center in Banggai Regency.

Table 1 Distribution of Hyperemesis Gravidarum Cases in Pregnant Women at the Tangeban Community Health Center, Masama District

Variable	N	%
Hyperemesis Gravidarum		
Hyperemesis Gravidarum	21	61.8
Not Hyperemesis Gravidarum	13	38.2
Knowledge		
Good	22	64.7
Enough	12	35.3
Attitude		
Positive	24	70.6
Negative	10	29.4
Total	34	100.0

Source: Analysis Test

Based on table 1, the results show that the highest number of pregnant women experienced hyperemesis gravidarum, totaling 21 people (61.8%). Most pregnant women at the Tangeban Community Health Center had a good level of knowledge about hyperemesis gravidarum, namely 22 respondents (64.7%). Furthermore, most pregnant women had a positive attitude toward hyperemesis gravidarum, totaling 24 pregnant women (70.6%).

Table 2 The Relationship between Knowledge and Attitudes and the Incidence of Hyperemesis Gravidarum in Pregnant Women at the Tangeban Community Health Center, Masama District

Variable	Hyperemesis Gravidarum				Total		p-value
	Hyperemesis Gravidarum		Not Hyperemesis Gravidarum				
	n	%	n	%	n	%	
Knowledge							
Good	16	47.1	6	17.6	22	64.7	0,040
Enough	5	14.7	7	20.6	12	35.3	
Total	21	50.0	13	38.2	34	100.0	
Sikap							
Positive	18	52.9	6	17.6	24	70.6	0.020
Negative	3	8.8	7	20.6	10	29.4	
Total	21	50.0	17	38.2	34	100.0	

Source: SPSS Chi-Square Test Processing, 2025

Based on table 2, the results show that most pregnant women who experienced hyperemesis gravidarum had good knowledge, with 16 respondents (47.1%), while the fewest pregnant women who experienced hyperemesis gravidarum had sufficient knowledge, with 5 respondents (14.7%). The chi-square test results indicate that there is a relationship between knowledge and the incidence of hyperemesis gravidarum in pregnant women at the Tangeban Community Health Center, Masama District (p -value 0.040). Most pregnant women who had a positive attitude experienced hyperemesis gravidarum, namely 18 respondents (52.9%), and the fewest pregnant women who experienced hyperemesis gravidarum had a negative attitude, namely 3 people (8.8%). The chi-square test results indicate that there is a relationship between attitude and the incidence of hyperemesis gravidarum in pregnant women at the Tangeban Community Health Center, Masama District (p -value 0.020).

Discussion

1. The Relationship Between Knowledge and the Occurrence of Hyperemesis Gravidarum

The results showed that most pregnant women with hyperemesis gravidarum had good knowledge, with 16 respondents (47.1%), while the fewest pregnant women with hyperemesis gravidarum had adequate knowledge, with 5 respondents (14.7%). These results illustrate that hyperemesis gravidarum does not only occur in pregnant women with limited knowledge, but can also be experienced by women who are well-informed.

This condition can be explained because knowledge is not the only factor that influences the occurrence of hyperemesis gravidarum. Hormonal and psychological factors, gestational age, parity, nutritional status, and pregnancy history also play a major role in triggering excessive nausea and vomiting in pregnant women. Even with good knowledge, pregnant women can still experience hyperemesis if biological factors and physical conditions support the occurrence of this disorder. The chi-square test results indicate that there is a relationship between knowledge and the incidence of hyperemesis gravidarum in pregnant women at the Tangeban Community Health Center, Masama District (p -value 0.040).

These results are in line with research conducted by (Yuliana, Mariana, Monica, & Sulastri, 2023), which shows that there is a significant relationship between the knowledge (p -value 0.000) and attitudes (p -value 0.000) of pregnant women and the prevention of hyperemesis gravidarum at the Putri Ayu Community Health Center in Jambi City. There is a significant relationship between the knowledge and attitudes of pregnant women in the prevention of hyperemesis gravidarum at the Putri Ayu Community Health Center in Jambi City. Health education about hyperemesis gravidarum is important to prevent the adverse effects of hyperemesis gravidarum on both the mother and the fetus.

Another study (Pasaribu et al., 2023) that adequate knowledge can influence the behavior of pregnant women in overcoming excessive nausea and vomiting in the first trimester. In addition, these results highlight the importance of health education, particularly counseling on the symptoms, prevention, and management of hyperemesis gravidarum at the primary care level.

Knowledge is one factor that can influence the behavior of pregnant women in preventing and managing symptoms of hyperemesis. These results show that knowledge alone does not fully protect mothers from this condition. Other factors such as hormonal conditions, nutritional status, psychological stress, first pregnancy, and medical history may also play a role in the

occurrence of hyperemesis gravidarum. However, good knowledge still plays an important role in management efforts. Mothers with adequate knowledge tend to recognize danger signs more quickly, maintain their diet, and seek medical help, thereby minimizing the risk of severe symptoms. Therefore, even though most respondents who experienced hyperemesis gravidarum had good knowledge, health education still needs to be strengthened so that pregnant women are able to manage symptoms and prevent more severe complications (Armalini & Prasetyaningsih, 2020).

2. The Relationship Between Attitudes and the Occurrence of Hyperemesis Gravidarum

The results showed that most pregnant women who had a positive attitude experienced hyperemesis gravidarum, namely 18 respondents (52.9%), and the fewest pregnant women who experienced hyperemesis gravidarum had a negative attitude, namely 3 people (8.8%). These findings indicate that although the majority of pregnant women have a positive attitude toward pregnancy and health, they can still experience hyperemesis gravidarum. This indicates that attitude is not the only factor that determines the occurrence of hyperemesis gravidarum. Biological factors such as hormonal changes (increased hCG and estrogen), nutritional status, pregnancy history, psychological factors (stress or anxiety), and certain medical conditions also influence the onset of excessive nausea and vomiting in pregnant women.

In other words, mothers who maintain a positive attitude are still at risk of developing hyperemesis gravidarum if biological and physical factors contribute to the disorder. However, a positive attitude still provides important benefits. Mothers with a positive attitude are usually better able to manage symptoms, are more compliant with medical advice, and tend to seek help more quickly if symptoms worsen. Conversely, a negative attitude can worsen the condition because mothers may ignore symptoms, be reluctant to seek help, or experience psychological stress that exacerbates nausea and vomiting.

The chi-square test results indicate that there is a relationship between attitude and the incidence of hyperemesis gravidarum in pregnant women at the Tangeban Community Health Center, Masama District (p-value 0.020). These results are in line with previous research (Lestari, Frisilia, & Faridah, 2020) which states that the attitudes of pregnant women influence health behaviors during pregnancy, including in overcoming excessive nausea and vomiting. A positive attitude not only influences preventive measures but also helps mothers adhere more closely to therapy and nutritional counseling, allowing hyperemesis symptoms to be controlled more quickly.

Pregnant women with a positive attitude are usually more proactive in maintaining their diet, following medical advice, and seeking help when excessive nausea and vomiting symptoms appear. A positive attitude also helps mothers manage psychological stress, which can worsen the symptoms of hyperemesis. Conversely, mothers with negative attitudes tend to pay less attention to healthy lifestyles, delay seeking medical help, or experience emotional stress that can worsen the condition (Maulida, 2023).

Therefore, health workers at community health centers need to increase their efforts in education and psychological counseling to foster a positive attitude in pregnant women, as a measure to prevent and manage hyperemesis gravidarum.

Conclusion

There is a relationship between the knowledge of pregnant women and the incidence of hyperemesis gravidarum at the Tangeban Community Health Center in Masama District, Banggai Regency, with a p-value of 0.040, and there is a relationship between the attitudes of pregnant women and the incidence of hyperemesis gravidarum at the Tangeban Community Health Center in Masama District, Banggai Regency, with a p-value of 0.020. This study is expected to contribute to the scientific literature and references on the relationship between pregnant women's knowledge and attitudes and the incidence of hyperemesis gravidarum, thereby serving as a reference for future research related to maternal health.

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Author Contribution

1. Nur Istiqomah: Playing a role in designing research plans, compiling proposals, collecting field data, analyzing data, and writing and revising final manuscripts.
2. Syahriani: Playing a role in guiding and providing input for this research. Suci Qadhawijayanti: Berperan dalam membimbing dan memberikan masukan terhadap penelitian ini.
3. Muhammad Sukri: Playing a role in guiding and providing input for this research.
4. Chandra Ariani Saputri: Playing a role in guiding and providing input for this research.

Conflict of Interest

The author declares that he/she has no financial, personal, or professional conflicts of interest in the implementation and reporting of the results of this study. This research was conducted independently without intervention from any party that could influence the objectivity of the data and analysis results.

Ethical Clearance

This research has obtained ethical clearance.

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