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Prevalence of Hyperemesis Gravidarum Based on Age, Parity, and Severity

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KEYWORDS
Age; Degree of Severity; Hyperemesis Gravidarum; Parity

ABSTRACT
Hyperemesis gravidarum is a persistent nausea and vomiting which is the main cause of hospitalization after preterm delivery in all the pregnancies. Globally, the prevalence of hyperemesis gravidarum is 12.5% and the prevalence of hyperemesis gravidarum in North Maluku is around 3.66%. To describe the incidence of hyperemesis gravidarum at RSUD Dr. H. Chasan Boesoirie. The type of research is a retrospective descriptive observational approach with a total sampling technique of 94 patients. Data were collected from medical record data according to the inclusion and the exclusion criteria and it is used univariate analysis. Patients at risk for hyperemesis gravidarum based on the age, namely 20-35 years, were 78 patients (84.8%), then based on parity at risk, namely multigravida, 45 patients (48.9%) and based on the degree of severity who were at risk of being affected, namely 59 patients (64.1%). The majority of the pregnant women are affected by hyperemesis gravidarum, namely at the age of 20-35 years, the multigravida parity and the moderate degree.

Introduction

Hyperemesis gravidarum is characterized by persistent nausea and vomiting and can lead to dehydration, weight loss of less than 5% of pre-pregnancy body weight, as well as electrolyte and acid-based disorders (Leveno, 2016). Symptoms of hyperemesis gravidarum usually occur between 4–6 weeks, peak at around 10–13 weeks, and typically resolve by 22 weeks of gestation; however, 22% of pregnant women with this condition may continue to experience symptoms until childbirth (MacGibbon, 2020). Based on data from the Ministry of Health of the Republic of Indonesia in 2013, approximately 0.8% to 3.2% of cases of hyperemesis gravidarum occur per 1,000 pregnancies (Salsabila et al., 2022). The regions with the highest prevalence are found in Central Sulawesi (96.53%), Yogyakarta (76.60%), South Sumatra (3.81%), and North Maluku (3.66%) (Leny, 2020). Although the exact causes of hyperemesis gravidarum remain unknown, several factors are suspected to contribute, including age, parity, family history (with *mola hydatidosa*),

multiple pregnancies, and psychological factors that may aggravate symptoms and prolong the condition (Paskana & Gusnidarsih, 2020).

Age is a commonly linked risk factor, as mothers under the age of 20 are often not physically or mentally prepared, while those over 35 are generally considered at higher pregnancy risk (Oktavia, 2016). This aligns with research by Purwanti (2020), indicating that mothers aged ≤20 and ≥35 years' experience hyperemesis gravidarum at a rate 3.4 times higher than those aged 20–35 years[7]. Parity is also associated with risk, as *primigravida* individuals may not adapt well to the drastically increased levels of HCG hormones, whereas *multigravida* women, having previous pregnancy and childbirth experience, usually adapt better (Atiqoh, 2020). Supporting this, research by Aiman (2019) showed a higher incidence of hyperemesis gravidarum in *primigravida* than in *multigravida* women.

The severity of hyperemesis gravidarum is generally classified into 3 levels: level 1 (mild), level 2 (moderate), and level 3 (severe). Research by Noviana (2022) and Arisdiani (2020) found that level 2 cases are more common than both level 1 and 3 cases.

This research contributes to the existing literature by focusing on the prevalence of hyperemesis gravidarum at Dr. H. Chasan Boesoirie Hospital, a referral center in Ternate City, which has not been extensively studied previously. Unlike previous studies that emphasize *primigravida* as the highest-risk group, this study identifies *multigravida* as the most affected parity, highlighting regional variations in risk factors (Aminu et al., 2020; Fiaschi et al., 2016; Nurmi et al., 2020; Vikanes et al., 2010). Additionally, the use of a retrospective descriptive approach with univariate analysis provides a detailed snapshot of the demographic and clinical characteristics of hyperemesis gravidarum patients at this specific setting.

The primary objective of this study is to describe the incidence of hyperemesis gravidarum based on age, parity, and severity among patients at Dr. H. Chasan Boesoirie Hospital. The findings are intended to enhance understanding of risk factors and severity distribution, aiding healthcare providers in early diagnosis and appropriately tailored interventions. This research also serves as a foundation for future studies with larger samples and broader settings, with the potential to improve maternal care protocols and reduce hospitalization rates related to hyperemesis gravidarum.

RESEARCH METHODS

Research Design:

This research utilizes an observational descriptive design with a retrospective approach. Data collection was conducted in the medical records section of Dr. H. Chasan Boesoirie Hospital from January 27 to February 10, 2023.

Inclusion and Exclusion Criteria:

The inclusion criteria were pregnant women diagnosed with hyperemesis gravidarum who were treated at Dr. H. Chasan Boesoirie Hospital in 2020–2021, as well as *hyperemesis gravidarum* patients who had complete medical records based on the required variables. The exclusion criteria included *hyperemesis gravidarum* patients whose medical records were incomplete regarding the necessary variables and pregnant women who were undergoing certain treatments.

Data Collection:

The type of data used in this study is secondary data obtained from medical records. The collected medical record data were then entered into Microsoft Excel 2016 according to predetermined groups.

Data Processing and Analysis:

The data obtained were processed electronically using IBM SPSS Statistics. The data analysis performed was univariate analysis, with results presented in the form of tables or diagrams.

RESULTS AND DISCUSSION

Based on the results of research that has been carried out in the medical records section of Dr. H. Chasan Boesoirie Hospital, a sample of 92 patients who meet the inclusion and exclusion criteria from the total population is 94 hyperemesis gravidarum patients in 2020-2021.

Table 1. Distribution of Age Variables

Age	Frequency (f)	Percentage (%)
<20 Years	3	3,3%
20 – 35 Years	78	84,8%
>35 Years	11	12,0%
Total:	92	100%

Source: Processed data from medical records of hyperemesis gravidarum patients at Dr. H. Chasan Boesoirie Hospital, 2020–2021

Table 1 above shows the distribution of hyperemesis gravidarum by age, showing that of the 92 patients at risk of developing hyperemesis gravidarum at the age of <20, 3 patients (3.3%), then the age of 20-35 years was 78 patients (84.8%), and at the age of >35 there were 11 patients (12.0%). The majority of hyperemesis gravidarum patients who are at risk of being affected are at the age of 20-35 years, which is 78 patients or 84.8%.

Table 2. Parity Variable Distribution

Paritas	Frequency (f)	Percentage (%)
Primigravida	28	30,4
Multigravity	45	48,9
Grandemultigravida	19	20,7
Total:	92	100%

Source: Secondary data analysis of patient medical records at Dr. H. Chasan Boesoirie Hospital, 2020–2021

The distribution of hyperemesis gravidarum in Table 2 based on parity, shows that of the 92 patients who experienced hyperemesis gravidarum in primigravida, 28 patients (30.4%), then 45

patients (48.9%) multigravida and 19 patients (20.7%) had a large multigravida. The majority of hyperemesis gravidarum patients who are at risk of being affected are multigravida parity of 45 mothers or 48.9%.

Table 3. Variable Distribution of Degrees of Severity

Degree of Severity	Frequency (f)	Percentage (%)
Light	33	35,9
Keep	59	64,1
Total:	92	100%

Source: Retrospective data collected from hyperemesis gravidarum cases at Dr. H. Chasan Boesoirie Hospital, 2020–2021

Table 3 shows that of the 92 mothers who had a mild degree of severity, 33 respondents, then as many as 59 mothers, and mothers with a degree of severe severity were none. The majority of hyperemesis gravidarum patients experienced a moderate degree of severity, namely 59 mothers or 64.1%.

Based on the results of the above study, it is known that the majority of patients at risk of hyperemesis gravidarum are at the age of 20-35 years, namely 78 respondents or 84.4%. This is in line with research conducted by Aprilasari (2022) showing that the age group at risk of hyperemesis gravidarum is 20-35 years old, which is around 68 respondents or 74.73%.

Usually the ideal age or age that is not at risk for pregnancy is 20-35 years old while high-risk pregnancies are < 20 years old and > 30 years old, but the results of this study are contrary to the existing theory, where this study gets a non-risk age of 20-35 years. This difference may make the number of samples taken from less than 100 make the results obtained not good and the samples taken at Dr. H. Chasan Boesoirie Hospital is a referral hospital from various health centers in Ternate City so that the respondents obtained are aged 20-35 years (Atika et al., 2016).

According to the WHO in 2013, complaints of nausea and vomiting usually occur around 60-80% in primigravida and 40-60% in multigravida (Mariyah et al., 2022). This contradicts the theory that hyperemesis gravidarum occurs more in primigravida mothers than multigravida. Based on the results of the above study, it is known that the majority of hyperemesis gravidarum patients who have risk parity are multigravida of 45 mothers or 48.9%. This is in line with research conducted by Novita Rudiyanti that multigravida parity occurs more often, which is around 56 respondents or 62.2%.

Parity risk factors are usually associated with hyperemesis gravidarum. In primigravida parity, it is usually not able to adapt to the drastically increased levels of the HCG hormone, and in multigravida, it is usually able to adapt to the HCG hormone because it has had previous experience with pregnancy and childbirth (Atiqoh, 2020). In mothers with multipara parity or grandemultipara, this is inseparable from psychological factors where mothers have to take care of their children and can cause stress so that there can be an increase in HCG hormone which increases stomach acid levels and causes nausea and vomiting (Utama et al., 2021).

Based on the results of the above study, it shows that the majority of hyperemesis gravidarum patients experience a moderate degree of severity, namely 59 mothers or 64.1%. This is in line with research conducted by Noviana, showing that most of the respondents, namely around 21 respondents or 58.3% experienced hyperemesis gravidarum level 2 or moderate10. Morbidity of hyperemesis gravidarum with psychological factors can prolong the duration or aggravate symptoms of nausea and vomiting3. Generally, hyperemesis gravidarum according to the severity of the symptoms can be divided into 3 levels, namely level 1 or mild, level 2 or moderate and level 3 or severe. Patients with stage 2 and stage 3 hyperemesis gravidarum usually have to be hospitalized or hospitalized because they require further treatment (Noviana et al., 2022).

Conclusion

Based on the results and discussion presented, it can be concluded that the majority of pregnant women affected by *hyperemesis gravidarum* are in the age group of 20–35 years (84.4%), have *multigravida* parity (48.9%), and present with a moderate degree or level 2 severity (64.1%). It is recommended that the hospital utilize the HELP Score as a reference to accurately establish the diagnosis for *hyperemesis gravidarum* patients, enabling appropriate treatment based on the severity of symptoms. The results of this research can be extended by future studies conducted at the *Puskesmas* (Health Center) and by increasing the sample size, so that the data obtained will be more accurate.

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