

## ANALYSIS OF THE EVENT OF HYPEREMESIS GRAVIDARUM IN PREGNANT WOMEN

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### ABSTRAK : ANALISIS KEJADIAN HIPEREMESIS GRAVIDARUM PADA IBU HAMIL

Latar Belakang: *Hyperemesis Gravidarum* adalah keluhan mual dan muntah hebat lebih dari 10 kali sehari dalam masa kehamilan. Menurut *World Health Organization* jumlah kejadiannya mencapai 12,5% dari jumlah kehamilan di dunia, berdasarkan data di RSUD dr. Chasbullah Abdul Majid Kota Bekasi terus mengalami peningkatan sebanyak 10% dari tahun 2019 sampai tahun 2020.

Tujuan: Mengetahui faktor-faktor yang berhubungan dengan kejadian Hiperemesis gravidarum pada ibu hamil di RSUD dr. Chasbullah Abdul Majid Kota Bekasi Tahun 2021.

Metodologi: Penelitian ini merupakan penelitian survey analitik dengan rancangan *case control*. Sampel dalam penelitian ini adalah ibu hamil trimester I yang memeriksakan diri ke RSUD dr. Chasbullah Abdul Majid Kota Bekasi periode bulan Januari-Maret tahun 2021 sebanyak 166 responden. Pengambilan sampel dalam penelitian ini menggunakan *purposive sampling*. Instrumen penelitian menggunakan rekam medik. Data yang diambil adalah data umur, gravida, kehamilan ganda, riwayat penyakit gastritis, jarak kehamilan dan mola hidatidosa.

Data dianalisis menggunakan uji *Chi Square*.

Hasil Penelitian: diketahui bahwa ada hubungan yang signifikan antara umur ( $p=0,000$ ), gravida ( $p=0,027$ ), kehamilan ganda ( $p=0,000$ ), riwayat penyakit gastritis ( $p=0,000$ ), jarak kehamilan ( $p=0,000$ ) dan mola hidatidosa ( $p=0,000$ ) dengan dengan kejadian *hiperemesis gravidarum*.

Simpulan: Kejadian *hiperemesis gravidarum* disebabkan oleh umur, gravida, kehamilan ganda, riwayat penyakit gastritis, jarak kehamilan dan mola hidatidosa.

Saran: Diharapkan ibu hamil lebih memperhatikan pola makan dengan porsi kecil tapi sering, hindari makanan berminyak dan berlemak serta perhatikan keadaan fisik dan tenaga kesehatan lebih meningkatkan koseling dan kerjasama dengan pihak keluarga dalam pencegahan *hiperemesis gravidarum* agar ibu dan janin sehat.

Kata kunci : *Hyperemesis Gravidarum*, ibu hamil, Mual Muntah

### ABSTRACT

Background: *Hyperemesis gravidarum* is a complaint of severe nausea and vomiting more than 10 times a day during pregnancy. According to the *World Health Organization*, the incidence reaches 12.5% of the number of pregnancies in the world, based on data from RSUD dr. Chasbullah Abdul Majid Bekasi City continues to increase by 10% from 2019 to 2020.

Objectives: Knowing the factors associated with the incidence of *Hyperemesis gravidarum* in pregnant women in RSUD dr. Chasbullah Abdul Majid Bekasi City in 2021.

Methodology: This research is an analytical survey research with a case control design. The sample in this study were pregnant women in the first trimester who checked themselves at the dr. Chasbullah Abdul Majid Bekasi City for the period January-March 2021 as many as 166 respondents. The research instrument used medical records. Data were analyzed using *Chi Square* test.

Results: It is known that there is a significant relationship between age ( $p=0.000$ ), gravida ( $p=0.027$ ), multiple pregnancy ( $p=0.000$ ), history of gastritis ( $p=0.000$ ), gestational interval ( $p=0.000$ ) and hydatidiform mole ( $p=0.000$ ). = 0.000) with the incidence of *hyperemesis gravidarum*.

Conclusion: The incidence of *hyperemesis gravidarum* was caused by age, gravida, multiple pregnancy, history of gastritis, gestational interval and hydatidiform mole.

Suggestion: It is expected that pregnant women pay more attention to eating patterns with small but frequent portions, avoid oily and fatty foods and pay attention to the physical condition and health workers to improve counseling and cooperation with the family in preventing *hyperemesis gravidarum* so that the mother and fetus are healthy.

Key words : Incidence of hyperemesis gravidarum, nauseous vomit, pregnant women

## INTRODUCTION

Pregnancy is a unique and mysterious event for every married couple. Every pregnancy is expected to end safely and in prosperity both for the mother and for the fetus, therefore quality maternal health services are very important and all women are expected to have access to these health services. Nausea and vomiting are normal symptoms and are often found in the first trimester of pregnancy. Nausea usually occurs in the morning, but some occur at any time and at night. These symptoms usually occur 6 weeks after the first day of the last menstruation and last approximately 10 weeks (Wiknjosastro, 2017).

Mansjor (2019) explained that nausea and vomiting are the most common disorders encountered in the 1st trimester of pregnancy, about 60-80% of primigravida and 40-60% of multigravida experience nausea and vomiting. These symptoms become more severe in only 1 in 1,000 pregnancies called Hyperemesis gravidarum where there are complaints of severe nausea and vomiting more than 10 times a day during pregnancy which can cause fluid deficiency, weight loss, or electrolyte disturbances, thus interfering with daily activities. days and harm the fetus in the womb. This feeling of nausea is caused by increased levels of the hormones estrogen and hCG in serum. The physiological effect of this hormone increase is not clear, perhaps due to the central nervous system or reduced gastric emptying. In general, women can adjust to this condition, although symptoms of severe nausea and vomiting can last up to 4 months. Daily work is disturbed and general condition is bad. This condition is called Hyperemesis Gravidarum. Complaints of symptoms and physiological changes determine the severity of the disease. Hyperemesis Gravidarum that does not get good treatment can also cause death in pregnant women (Runiari, 2016, Prawirohardjo, 2017).

According to the World Health Organization (WHO), the incidence of hyperemesis gravidarum reaches 12.5% of all pregnancies in the world. The frequency of hyperemia gravidarum is 2 per 1000 births. Hyperemesis gravidarum occurs in several developed countries such as in Sweden by 0.3%, in China 10.8%, 0.5% in California, 0.8% in Canada, 10.8%, in Norway and 0.5% in America. -2%, whereas in Indonesia the incidence of hyperemesis gravidarum occurs in 1-3% of all pregnancies (Abidah & Nisa, 2019).

Pregnancy check-up visits for pregnant women in Indonesia in 2020 obtained data on

mothers with Hyperemesis Gravidarum reaching 14.8% of all pregnancies. Hyperemesis Gravidarum occurs in about 10-15% of excessive nausea and vomiting and has interfered with daily activities. There has been an electrolyte disturbance of ketosis, there is dehydration, and a weight loss of 5%. Meanwhile, in West Java Province, the incidence of Hyperemesis Gravidarum reached 10.93% (Fazar & Uci, 2020). As for the City of Bekasi, the incidence of Hyperemesis Gravidarum reached 9.7% (Bekasi City Health Office, 2020)

The cause of Hyperemesis Gravidarum, according to Runiari (2020), is still uncertain. Mitayani (2018), mentions the causative and predisposing factors for Hyperemesis Gravidarum including age, gravida, multiple pregnancy, history of gastritis, pregnancy spacing and hydatidiform mole, while external factors include psychosocial, socio-cultural and environmental factors. (Varney, et al., 2017).

The results of previous research conducted by Butu, et al. (2019). Age ( $p=0.032$ ) and occupation ( $p=0.013$ ) were associated with hyperemesis gravidarum in first trimester pregnant women. Abida & Nisa (2019) found that there was a relationship between gravida and the incidence of hyperemesis gravidarum ( $p=0.000$ ) and there was a relationship between multiple pregnancy with the incidence of Hyperemesis Gravidarum ( $p = 0.024$ ). Muriasari, et al. (2017) showed that there was a relationship between maternal age ( $p = 0.002 < 0.05$ ) and parity ( $p = 0.008 < 0.05$ ) with the incidence of hyperemesis gravidarum. Subriani (2018) found a relationship between hyperemesis gravidarum between hydatidiform mole with P value (0.000) and gemelli variable with P value (0.000) < (0.05).

Research conducted by Syamsuddin et al. (2018) showed that there was a relationship between a history of gastritis and Hyperemesis Gravidarum syndrome ( $p$  value 0.001). This is reinforced by the results of Indrayani's research (2017), pregnant women with gastritis may be more prone to nausea and vomiting. Oktavia (2016), in his research showed that there was a significant relationship between gestational distance and Hyperemesis Gravidarum. The close distance between the current and past pregnancies can have an effect because conditions are not as normal as they should be.

Management of Hyperemesis Gravidarum pregnancy in first trimester pregnant women according to Proverawati (2016), namely by providing information and education about

pregnancy as a physiological process with the aim of eliminating the psychological factor of fear. In addition, it is recommended to change your daily diet with small but frequent meals. When you wake up in the morning do not immediately get out of bed, but it is recommended to eat dry bread or biscuits with tea. Foods that are greasy and smell of fat should be avoided. Food and drinks should be served hot or cold. Diets for mothers who experience hyperemesis sometimes look at the mother and her level of hyperemesis, the current concept that is recommended to mothers is to eat what you like, not eat a little but often don't force the mother to eat what is currently making you nauseous because the diet will not succeeding will only make the situation worse.

The results of the preliminary study based on data from the medical records of RSUD dr. Chasbullah Abdul Majid Bekasi City in 2019 mothers experiencing Hyperemesis Gravidarum got 25% and in 2020 it got 35%, thus there is an increase in mothers experiencing Hyperemesis Gravidarum. Based on the results of previous studies, hyperemesis gravidarum occurs in women aged < 20 and > 35 years, with a first time pregnancy, multiple pregnancy, gastritis, hydatidiform mole and close pregnancy intervals.

Based on this background, researchers are interested in conducting research on "Factors Associated with the Incidence of Hyperemesis Gravidarum in Pregnant Women at RSUD dr. Chasbullah Abdul Majid Bekasi City in 2021"..

## RESEARCH METHODS

The research design in this study is a quantitative analytical survey research, with a case control design, namely research conducted by

comparing two groups, namely the case group and the control group (Notoatmodjo, 2017).

The group that became the research subject (respondents) were all first trimester pregnant women who checked themselves in dr. Chasbullah Abdul Majid Bekasi City for the January-March 2021 period as many as 680 pregnant women with the number of pregnant women with HEG cases for the January-March 2021 period as many as 166 pregnant women.

Sampling amounted to 166 respondents (83 samples as the case group and 83 samples as the control group) in this study using purposive sampling is the sampling determined by the researcher with inclusion and exclusion criteria. The instrument used in this study was medical records regarding pregnant women who were examined at the dr. Chasbullah Abdul Majid Bekasi City in January-March 2021. Data taken in medical records include age, gravida, multiple pregnancy, history of gastritis, hydatidiform mole, gestational interval and incidence of hyperemesis gravidarum. The next step is to put a checklist in the column according to the results obtained.

The research analysis consisted of univariate and bivariate analysis, before testing the hypothesis, a normality test was carried out which became one of the tests of data analysis requirements. The test used is the Chi Square test.

## RESEARCH RESULTS

### Univariate Analysis

Univariate analysis was conducted to determine the frequency distribution of age, gravida, multiple pregnancy, history of gastritis, gestational interval and hydatidiform mole in RSUD dr. Chasbullah Abdul Majid Bekasi City in 2021.

**Table 1**  
**Frequency Distribution of Hyperemesis Gravidarum Incidence in RSUD dr. Chasbullah Abdul Majid Bekasi City in 2021**

<i>Kejadian Hiperemis Gravidarum</i>	<b>Frekuensi (f)</b>	<b>Persentase (%)</b>
<i>Hiperemis Gravidarum (Kasus)</i>	83	50,0
<i>Tidak Hiperemis Gravidarum (Kontrol)</i>	83	50,0

Based on table 1, it can be seen that from 166 pregnant women who experienced hyperemesis gravidarum, 83 pregnant women (50.0%).

Based on table 2, it can be seen that from 166 pregnant women, most of them with a non-risk age were 115 pregnant women (69.3%)

**Table 2**  
**Frequency Distribution of Age of Pregnant Women in RSUD dr. Chasbullah Abdul Majid Bekasi City in 2021**

<b>Umur</b>	<b>Frekuensi (f)</b>	<b>Persentase (%)</b>
Berisiko	51	30,7
Tidak Berisiko	115	69,3

**Table 3**  
**Frequency Distribution of Gravida of Pregnant Women in RSUD dr. Chasbullah Abdul Majid Bekasi City in 2021**

Gravida	Frekuensi (f)	Persentase (%)
Primigravida	69	41,6
Multigravida	97	58,4

Based on table 3, it can be seen that from 166 pregnant women, most of them with multigravida were 97 pregnant women (58.4%).

**Table 4**  
**Distribution of the Frequency of Multiple Pregnancy in Pregnant Women in RSUD dr. Chasbullah Abdul Majid Bekasi City in 2021**

Kehamilan Ganda	Frekuensi (f)	Persentase (%)
Ya	55	33,1
Tidak	111	66,9

Based on table 4, it can be seen that from 166 pregnant women, most of them did not experience multiple pregnancies, 111 pregnant women (66.9%).

Based on table 5, it can be seen from 166 pregnant women that most of them do not have a history of gastritis, 112 pregnant women (67.5%).

**Tabel 5**  
**Distribution of History of Gastritis in Pregnant Women at RSUD dr. Chasbullah Abdul Majid Bekasi City in 2021**

Riwayat Penyakit Gastritis	Frekuensi (f)	Persentase (%)
Ya	54	32,5
Tidak	112	67,5

**Table 6**  
**Frequency Distribution of Pregnancy Distance to Pregnant Women in RSUD dr. Chasbullah Abdul Majid Bekasi City in 2021**

Jarak Kehamilan	Frekuensi (f)	Persentase (%)
Berisiko	59	35,5
Tidak Berisiko	107	64,5

Based on table 6, it can be seen that from 166 pregnant women, most of them with a non-risk pregnancy distance of 107 pregnant women (64.5%).

**Table 7**  
**Frequency Distribution of Hydatidiform Mole in Pregnant Women at RSUD dr. Chasbullah Abdul Majid Bekasi City in 2021**

Mola Hidatidosa	Frekuensi (f)	Persentase (%)
Mengalami	31	18,7
Tidak Mengalami	135	81,3

Based on table 7, it can be seen that from 166 pregnant women, most of them did not experience hydatidiform mole as many as 135 pregnant women (81.3%).

## Analisis Bivariat

**Table 8**  
**The relationship between age and the incidence of hyperemesis gravidarum in dr. Chasbullah Abdul Majid Bekasi City in 2021.**

Umur	Hiperemis Gravidarum				Total		Nilai p	OR
	Kasus		Kontrol					
	f	%	f	%	f	%		
Berisiko	43	51,8	8	9,6	51	30,7	0,000	10,078
Tidak Berisiko	40	48.2	75	90.4	115	69,3		

Table 9

The relationship between Gravida and the incidence of Hyperemesis Gravidarum in RSUD dr. Chasbullah Abdul Majid Bekasi City in 2021.

Gravida	Hiperemis Gravidarum				Total		Nilai p	OR
	Kasus		Kontrol					
	f	%	f	%	f	%		
Primigravida	42	50,6	27	32,5	69	41,6	0,027	2,125
Multigravida	41	49,4	56	67,5	97	58,4		

Table 10

The relationship between multiple pregnancies and the incidence of hyperemesis gravidarum at dr. Chasbullah Abdul Majid Bekasi City year 2021.

Kehamilan Ganda	Hiperemis Gravidarum				Total		Nilai p	OR
	Kasus		Kontrol					
	f	%	f	%	f	%		
Ya	46	55,4	9	10,8	55	33,1	0,000	10,222
Tidak	37	44,6	74	89,2	111	63,9		

Tabel 11

Relationship between History of Gastritis with Hyperemesis Gravidarum Incidence in RSUD dr. Chasbullah Abdul Majid, Bekasi City, 2021

Riwayat Penyakit Gastritis	Hiperemis Gravidarum				Total		Nilai p	OR
	Kasus		Kontrol					
	f	%	f	%	f	%		
Ya	47	55,6	7	8,4	54	32,5	0,000	14,175
Tidak	36	43,4	76	91,6	112	67,5		

Tabel 12

Relationship between Pregnancy Distance with Hyperemesis Gravidarum Incidence in RSUD dr. Chasbullah Abdul Majid Bekasi City in 2021

Jarak Kehamilan	Hiperemis Gravidarum				Total		Nilai p	OR
	Kasus		Kontrol					
	f	%	f	%	f	%		
Berisiko	43	51,8	16	19,3	59	35,5	0,000	4,502
Tidak Berisiko	40	48,2	67	80,7	107	64,5		

Tabel 13

The relationship between Hydatidiform mole and the incidence of hyperemesis gravidarum in RSUD dr. Chasbullah Abdul Majid, Bekasi City, 2021.

Mola Hidatidosa	Hiperemis Gravidarum				Total		Nilai p	OR
	Kasus		Kontrol					
	f	%	f	%	f	%		
Mengalami	28	33,7	3	3,6	31	18,7	0,000	13,576
Tidak Mengalami	55	66,3	80	96,4	135	81,3		

## DISCUSSION

### Age

Table 8 shows that pregnant women who experience hyperemesis gravidarum mostly occur in the risk age group as many as 43 pregnant women (51.8%), while pregnant women who do not experience hyperemesis gravidarum mostly occur in the non-risk age group as many as 75 pregnant women (90.4%). Testing the relationship between age and the incidence of hyperemesis gravidarum was analyzed using Continuity Correction because Chi-Square met the requirements and obtained p value =  $0.000 < 0.05$ . Thus, there was a relationship between age and the incidence of hyperemesis gravidarum in RSUD dr. Chasbullah Abdul Majid Bekasi City in 2021. The Odds Ratio (OR) value is 10.078, so it can be stated that the age of pregnant women at risk tends to experience hyperemesis gravidarum 10.078 times greater than the age of pregnant women who are not at risk.

Hardiana (2019) analysis results obtained p-value = 0.011 and OR = 2.524 this indicates that there is a relationship between age and the incidence of hyperemesis gravidarum. Pregnancy at the age of less than 20 is not biologically optimal emotionally, tends to be unstable, while at the age of 35 it is associated with decline and decreased body resistance.

Muchtar (2018) in his research there is a significant relationship between age and the incidence of hyperemesis gravidarum ( $p = 0.000$ ). Hyperemesis gravidarum is due to the fact that in pregnancy at the age of less than 20 years, the emotion is not optimal, tends to be unstable, mentally immature so that it is easy to experience shocks which result in a lack of attention to the fulfillment of nutritional needs during pregnancy, while at the age of 35 years it is associated with setbacks and declines. immune system and various diseases that often afflict this age.

Researchers assume that there is a relationship between age and the incidence of maternal hyperemesis gravidarum with age at risk ( $< 20$  years and  $> 35$  years) mostly experiencing it due to maternal age  $< 20$  years it is found that the mother's physical and psychological condition is not stable so that the mother is not ready to become a pregnant mother. resulting in hyperemia gravidarum. Likewise for mothers aged  $> 35$  years, where the mother's physical condition has decreased. This causes the mother to experience concerns if the baby in her womb has abnormalities so that the mother experiences hyperemesis gravidarum, in addition to psychological factors

caused because the mother is not ready to get pregnant or even does not want her pregnancy again so that she will feel so depressed and cause stress to the mother. Stress affects the hypothalamus and stimulates the vomiting center of the brain resulting in contraction of the abdominal muscles and chest muscles accompanied by a decrease in the diaphragm causing high pressure in the stomach, high pressure in the stomach forcing the mother to take deep breaths thus making the upper esophageal sphincter open and The lower

### Gravida

Based on table 9 shows that pregnant women who experience hyperemesis gravidarum mostly occur in the gravida primigravida group as many as 42 pregnant women (50.6%), while pregnant women who do not experience hyperemesis gravidarum mostly occur in the gravida multigravida group as many as 56 pregnant women (67.5%). Testing the relationship between gravida and the incidence of hyperemesis gravidarum was analyzed using Continuity Correction because the Chi-Square met the requirements and obtained p value =  $0.027 < 0.05$ . Thus, there was a relationship between gravida and the incidence of hyperemesis gravidarum in RSUD dr. Chasbullah Abdul Majid Bekasi City in 2021. The Odds Ratio (OR) value is 2.125, so it can be stated that primigravida mothers tend to experience hyperemesis gravidarum 2.125 times greater than multigravida mothers.

In accordance with the results of research by Rabbani (2016), it shows that the percentage of hyperemesis gravidarum in primigravida is greater than in multigravida. The results of the analysis with the che-square test obtained a value for p value of  $0.000 < 0.05$ , meaning that there is a significant relationship between gravida and the incidence of hyperemesis gravidarum. Mother with hyperemesis gravidarum in primigravida is a risk factor for the incidence of hyperemesis gravidarum. Likewise with the results of research Butu, et al. (2019), the Asymp.Sig value in the parity variable is 0.002 where this value is  $< 0.05$ , from the test results it is concluded that  $H_0$  is not accepted, meaning that there is a significant relationship between parity of pregnant women in the 1st trimester and the incidence of hyperemesis gravidarum.

Muriyasari et al. (2017) showed that there was a parity relationship with the incidence of hyperemesis gravidarum with a p-value of  $0.008 < 0.05$ . Primipara psychological factors Pregnant women who are still not ready for their pregnancy, are still adjusting to being parents with greater

responsibilities. This situation can cause emotional changes, causing an increase in the release of histamine by the stomach. Excess histamine levels can increase gastric acid production, causing hyperemesis gravidarum. As for multiparas, it is caused by birth trauma, fear of not being able to care for other children and inadequate attention to pregnancy. This situation also triggers emotional changes that can increase the production of histamine in the stomach. Excess histamine levels can increase the production of stomach acid, causing nausea and vomiting.

Researchers assume that there is a relationship between gravida and the incidence of hyperemesis gravidarum, this is because mothers with new pregnancies have no experience, so that when mothers experience excessive nausea and vomiting, mothers do not have the motivation to reduce nausea and vomiting. Besides that, in mothers with their first new pregnancy, hormone production during pregnancy is higher than multigravida hormone levels, so mothers with primigravida tend to experience excessive nausea and vomiting than mothers with multigravida. As for mothers with multigravida experiencing hyperemesis gravidarum, researchers assume this is caused by problems in the mother's family such as the distance between the mother and her husband so that there is no place to complain when experiencing difficulties, besides that there is a rift in the household so that the mother's wishes are not in line with her wishes. husband who can cause psychological disorders that the mother is experiencing.

### Multiple Pregnancy

Based on table 10, it shows that pregnant women who experience hyperemesis gravidarum mostly occur in the group with multiple pregnancies as many as 46 pregnant women (55.4%), while pregnant women who do not experience hyperemesis gravidarum mostly occur in the group without multiple pregnancies as many as 74 women. pregnant (89.2%). Testing the relationship between multiple pregnancy and the incidence of hyperemesis gravidarum was analyzed using Continuity Correction because the Chi-Square met the requirements and obtained p value = 0.000 < 0.05. Thus, there was a relationship between multiple pregnancy and the incidence of hyperemesis gravidarum in RSUD dr. Chasbullah Abdul Majid Bekasi City in 2021. The Odds Ratio (OR) value is 10.222, so it can be stated that pregnant women with multiple pregnancies tend to experience hyperemesis gravidarum 10.222 times

greater than pregnant women without multiple pregnancies.

In accordance with the results of research by Yusuf & Wahyuni (2018) multiple pregnancy is associated with the incidence of hyperemesis gravidarum with a P Value (0.001). The same study was conducted by Muriyasari, et al. (2017) in his research, it was found that the incidence of hyperemesis gravidarum with a P Value (0.002). Twin pregnancies can provide a higher risk to the mother and fetus, pregnant women with multiple pregnancies, levels of the hormones estrogen and HCG (human chorionic gonadotropin) increase so that nausea and vomiting in this pregnancy increase compared to singleton pregnancies, therefore, in the face of pregnancy double need intensive antenatal care.

Indrayani (2017) in his research the results of the chi square statistical test showed that the p-value = 0.000. It can be concluded that P value < (0.05) means that  $H_0$  is rejected, so there is a significant relationship between multiple pregnancy and hyperemesis gravidarum. The results of the analysis also obtained the value of OR (Odds Ratio) = 14,698. Pregnant women with multiple pregnancies have a higher risk of hyperemesis gravidarum compared to the risk of hyperemesis gravidarum in pregnant women who do not have multiple pregnancies. Pregnant women with multiple pregnancies, levels of the hormones estrogen and HCG (Human Chorionic Gonadotropin) increase so that nausea and vomiting in this pregnancy increase compared to singleton pregnancies.

The researcher assumes that there is a relationship between multiple pregnancies and the incidence of hyperemesis gravidarum because mothers with multiple pregnancies have high HCG levels. Such conditions can increase the occurrence of hyperemesis gravidarum. As for mothers who did not experience multiple pregnancies experiencing hyperemesis gravidarum, the researchers assumed that it was caused by the absence of support from the closest people, one of which was the husband, just as if in household life the mother experienced disharmony, then it was possible for the mother to experience prolonged stress so that The pregnancy experienced by the mother is not considered a great gift from God, it is considered a burden in her life.

### History of Gastritis

Based on table 11 shows that pregnant women who experience hyperemesis gravidarum mostly occur in the group with a history of gastritis as many as 47 pregnant women (55.6%), while pregnant women who do not experience hyperemesis

gravidarum mostly occur in the group without a history of gastritis as much as 76 pregnant women (91.6%). Testing the relationship between a history of gastritis and the incidence of hyperemesis gravidarum was analyzed using Continuity Correction because Chi-Square met the requirements and obtained a p value of  $0.000 < 0.05$ . Thus, there was a relationship between a history of gastritis and the incidence of hyperemesis gravidarum at dr. Chasbullah Abdul Majid Bekasi City in 2021. The Odds Ratio (OR) value is 14.175, so it can be stated that pregnant women with a history of gastritis tend to experience hyperemesis gravidarum 14.175 times greater than pregnant women without a history of gastritis.

In accordance with the results of research by Syamsuddin, et al. (2018) obtained value = 0.000 with a 95% confidence level ( $\alpha = 0.05$ ) indicating there is a significant relationship between gastritis and hyperemesis gravidarum syndrome. Likewise, the results of Yusuf & Wahyuni's research (2018) show that there is a significant relationship between gastritis and hyperemesis gravidarum syndrome with value = 0.003. Women during early pregnancy who previously had a history of ulcer disease are at high risk of relapse, especially when they have cravings. When cravings, sometimes young pregnant women have no appetite, nausea and vomiting due to the influence of the hormone chorionic gonadotropin. Because the stomach is often empty, pain is unavoidable. Vice versa, previously suffered from ulcer disease can worsen the cravings of pregnant women, namely excessive nausea and vomiting, hyperemesis gravidarum.

In contrast to the results of the research by Abidah & Nisa (2019), the p value = 0.358, this indicates that  $p > 0.05$ , which means that there is no relationship between gastritis and the incidence of hyperemesis gravidarum. Pregnant women with gastritis may be more prone to nausea and vomiting. Vomiting and will prevent mother and baby from getting adequate nutritional intake. If the mother does not get enough nutritional intake, it will affect the fetus. For example, the possibility of the fetus having LBW.

The researcher assumes that there is a relationship between a history of gastritis and the incidence of hyperemesis gravidarum, this is because the mother who has a history of gastritis automatically has an ulcer or wound due to her illness. History of gastritis is the highest risk factor for the incidence of hyperemesis gravidarum. Before pregnant women experience nausea and vomiting, when pregnant the mother's HCG levels increase, causing the mother to experience nausea

and vomiting again. The inability of the mother to adapt to her pregnancy makes the mother experience hyperemesis gravidarum. There needs to be support from the family to motivate pregnant women to be able to have a regular eating pattern at least by eating small portions but often with the intention of not letting the stomach empty which can lead to gastric ulcers which trigger excessive nausea and vomiting, then avoid foods that contain spicy, sour and lots of fat and also avoid drinks that are too cold and too hot. Do not forget to give sedative drugs regularly according to the doctor's advice.

In accordance with the results of research by Syamsuddin, et al. (2018) obtained value = 0.000 with a 95% confidence level ( $\alpha = 0.05$ ) indicating there is a significant relationship between gastritis and hyperemesis gravidarum syndrome. Likewise, the results of Yusuf & Wahyuni's research (2018) show that there is a significant relationship between gastritis and hyperemesis gravidarum syndrome with value = 0.003. Women during early pregnancy who previously had a history of ulcer disease are at high risk of relapse, especially when they have cravings. When cravings, sometimes young pregnant women have no appetite, nausea and vomiting due to the influence of the hormone chorionic gonadotropin. Because the stomach is often empty, pain is unavoidable. Vice versa, previously suffered from ulcer disease can worsen the cravings of pregnant women, namely excessive nausea and vomiting, hyperemesis gravidarum.

In contrast to the results of the research by Abidah & Nisa (2019), the p value = 0.358, this indicates that  $p > 0.05$ , which means that there is no relationship between gastritis and the incidence of hyperemesis gravidarum. Pregnant women with gastritis may be more prone to nausea and vomiting. Vomiting and will prevent mother and baby from getting adequate nutritional intake. If the mother does not get enough nutritional intake, it will affect the fetus. For example, the possibility of the fetus having LBW.

The researcher assumes that there is a relationship between a history of gastritis and the incidence of hyperemesis gravidarum, this is because the mother who has a history of gastritis automatically has an ulcer or wound due to her illness. History of gastritis is the highest risk factor for the incidence of hyperemesis gravidarum. Before pregnant women experience nausea and vomiting, when pregnant the mother's HCG levels increase, causing the mother to experience nausea and vomiting again. The inability of the mother to adapt to her pregnancy makes the mother



experience hyperemesis gravidarum. There needs to be support from the family to motivate pregnant women to be able to have a regular eating pattern at least by eating small portions but often with the intention of not letting the stomach empty which can lead to gastric ulcers which trigger excessive nausea and vomiting, then avoid foods that contain spicy, sour and lots of fat and also avoid drinks that are too cold and too hot. Do not forget to give sedative drugs regularly according to the doctor's advice.

### **Pregnancy Distance**

Based on table 12, it shows that pregnant women who experience Hyperemesis Gravidarum mostly occur in the risky pregnancy distance group as many as 43 pregnant women (51.8%), while pregnant women who do not experience hyperemesis gravidarum mostly occur in the non-risk pregnancy distance group as many as 67 women. pregnant (80.7%). Testing the relationship between pregnancy distance and the incidence of hyperemesis gravidarum was analyzed using Continuity Correction because the Chi-Square met the requirements and obtained a p value =  $0.000 < 0.05$ . Thus, there was a relationship between the distance between pregnancy and the incidence of hyperemesis gravidarum in RSUD dr. Chasbullah Abdul Majid Bekasi City in 2021. The Odds Ratio (OR) value is 4.502, so it can be stated that the distance between pregnancies at risk of mothers tends to experience hyperemesis gravidarum 4.502 times greater than the distance between pregnancies of mothers who are not at risk.

In accordance with the results of Oktavia's research (2016), respondents who experience hyperemesis gravidarum at intervals of pregnancy are at greater risk than those who are not at risk. The results of the chi-square statistical test obtained a p value of 0.001, this indicates that there is a significant relationship between gestational distance and hyperemia gravidarum. Rabbani (2016) in his research, it was found that there was a significant relationship between the distance of pregnancy and hyperemesis gravidarum with a p value of 0.001. The ideal interval for pregnancy is at least 2 years. The distance between pregnancies is too close, causing the mother to have a short time to restore the condition of her uterus so that it can return to its previous condition. The close distance between the current and past pregnancies can have an effect because conditions that are not normal as they should have reproduced again for the next pregnancy and therefore can cause hyperemia gravidarum and other pregnancy complications.

Likewise with the research results of Umbah, et al. (2015) it was found that pregnancy intervals  $< 2$  years experienced more hyperemesis gravidarum compared to gestation intervals  $> 2$  years. Based on the analysis with the Chi Square test, it was found that value = 0.001 meaning, this result means that there is a significant relationship between the distance of pregnancy and the incidence of Hyperemesis Gravidarum. The distance between pregnancies that are too close causes the mother to have a short time to restore the condition of her uterus so that it can return to its previous condition.

The researcher assumes that close birth spacing affects the occurrence of hyperemesis gravidarum, this is due to conditions that are not yet normal as they should have reproduced again for the next pregnancy. The distance between pregnancies that are too close causes the mother to have a short time to restore the condition of her uterus so that it can return to its previous condition. The occurrence of pregnancies that are too close is usually related to the husband's decision not to use contraception. It is necessary to provide information not only to the mother but also to her family, especially husbands about the impact that occurs if the mother's pregnancy process is too close, it can endanger the condition of the mother and the fetus in her womb.

### **Hydatidiform mole**

Based on table 13 shows that pregnant women who experience hyperemesis gravidarum mostly occur in the group without hydatidiform mole as many as 28 pregnant women (33.7%), while pregnant women who do not experience hyperemesis gravidarum mostly occur in the group without hydatidiform mole as many as 80 pregnant women (96.4%). Testing the relationship between hydatidiform mole and the incidence of hyperemesis gravidarum was analyzed using Continuity Correction because Chi-Square met the requirements and obtained p value =  $0.000 < 0.05$ . Thus, there is a relationship between hydatidiform mole and the incidence of hyperemesis gravidarum in RSUD dr. Chasbullah Abdul Majid Bekasi City in 2021. The Odds Ratio (OR) value is 13,576, so it can be stated that pregnant women with hydatidiform mole tend to experience hyperemesis gravidarum 13,576 times greater than pregnant women who do not experience hydatidiform mole.

The results of Subriani's research (2018) show the results of the analysis of the relationship between hydatidiform mole and hyperemesis gravidarum. Mothers who had hydatidiform mole suffered from hyperemesis gravidarum as many as 8

(100%). Based on the statistical test chis-square test obtained  $p\text{-value} = 0.000$   $P < 0.05$ . The result is  $0.000 < 0.05$  so it can be concluded that there is a relationship between hydatidiform mole and the incidence of hyperemesis gravidarum. Not all pregnant women who experience hyperemesis are caused by hydatidiform mole pregnancy because many factors cause hyperemesis such as predisposing factors for primigravida and gemelli pregnancies, organic factors such as allergies, and psychological factors.

A different study was obtained from the results of the research by Abidah & Nisa (2019), most (75%) of respondents with hydatidiform mole experienced hyperemesis gravidarum, while most (51.4%) of respondents who did not have hydatidiform mole experienced hyperemesis gravidarum. Statistical test results obtained  $p\text{ value} = 0.222$  this indicates that  $p > 0.05$  which means there is no relationship between hydatidiform mole and the incidence of hyperemesis gravidarum. High hyperemesis gravidarum in hydatidiform mole raises the suspicion that hormonal factors play a role, because in both conditions the chorionic gonadotropin hormone is formed in excess, causing hyperemesis gravidarum.

Researchers assume that there is a relationship between hydatidiform mole and the incidence of hyperemesis gravidarum, this is caused by mothers with hydatidiform moles experiencing higher hCG levels than normal pregnancies, this is what triggers the occurrence of hyperemesis gravidarum resulting in excessive nausea and vomiting. High levels of hCG will stimulate the vomiting center in the medulla oblongata. Other hormones that can affect hyperemesis are estrogen and progesterone. Increased levels of estrogen and progesterone result in disruption of the work of the stomach so that gastric acid levels increase, resulting in excessive nausea and vomiting during pregnancy.

## CONCLUSION

Based on the results of data analysis, researchers can draw some conclusions as follows: There is a relationship between the incidence of hyperemesis gravidarum with age, gravida, multiple pregnancy, history of gastritis, gestational interval and hydatidiform mole

## SUGGESTION

Health workers are expected to provide more health promotions to the public about health information to further improve the quality of services, especially midwifery services in the form

of counseling related to the factors associated with the incidence of hyperemesis gravidarum so as to improve understanding of pregnant women in reducing nausea and vomiting caused by Pregnant women in the first trimester are expected to immediately consult a health worker if complications occur in their pregnancy and pay more attention to eating patterns with small but frequent portions, avoid oily and fatty foods and pay attention to the mother's physical condition.

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