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The Relationship Of Characteristics Of Pregnant Women In Trimester 1 With The Event Of Hyperemesis Gravidarum In Shafaa Marwa Clinic, Batam City In 2020

[1]Syerly Ompu Prama,[2]Sendy Pratiwi Ramadhani,[3]Turiyani

[1]Mahasiswi Program Studi Sarjana Kebidanan Fakultas Kebidanan dan Keperawatan, Universitas Kader Bangsa Palembang, Indonesia
[2,3]Fakultas Kebidanan dan Keperawatan,Universitas Kader Bangsa Palembang, Indonesia

A R T I C L E I N F O

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ABSTRACT

Hyperemesis gravidarum is severe nausea and vomiting during pregnancy which can cause various disturbances in the balance of the mother's body so that it can interfere with fetal growth. The exact cause of HEG is not known, but chronic increases in the hormones estrogen, progesterone and gonadotropins are thought to cause nausea and vomiting. The incidence of HEG at the Shafaa Marwa Clinic in Batam City is still quite high where in 2018 there were 21 people who experienced hypermesis gravidarum, in 2019 it fell to 16 people and in 2020 it increased again to 26 people. This study aims to determine the relationship between HEG and maternal age, parity, education and occupation. The method used is an analytical survey with a cross sectional approach. With a population of 187 pregnant women in the first trimester at the Shafaa Marwa clinic, 128 samples were taken using a simple random sampling technique. The results showed that there was a relationship between age and the incidence of HEG (p = 0.001), there was a relationship between gravida and the incidence of HEG (P = 0.001), there was no relationship between education and the incidence of HEG (P = 0.151) and there was no relationship between work and the incidence of HEG. (P = 0.935). There is a relationship between age, and parity with the incidence of HEG and there is no relationship between education and occupation with the incidence of hypermesis gravidarum. Suggestion It is necessary to hold an activity by health workers such as counseling about early detection of danger signs in young pregnancy, and others. Ongoing activities (posyandu) should be further improved so that they are able to control maternal health, especially for pregnant women.

E-mail:
syerlyprama@gmail.com
sandy.pratiwi.01@gmail.com
yanisugiman1904@gmail.com

1. Introduction

Pregnancy is a physiological condition that can cause changes in the mother both physically and mentally. Pregnancy through the process of fertilization or union of spermatozoa and ovum followed by nidasi or implantation. Pregnancy normally lasts 280 days or 40 weeks or 9 calendar months. The length of pregnancy is calculated from the first day of the last menstrual period (LMP), but fertilization actually occurs about 2 weeks after HPHT. Pregnancy is divided into 3 trimesters, where the first trimester lasts for 12 weeks, the second trimester lasts 15 weeks (weeks 13 to 27), and the third trimester lasts 13 weeks (weeks 28 to 40) [1].

During pregnancy there are physiological changes in which the mother experiences discomfort, such as nausea accompanied by vomiting as a result of increased levels of the hormone estrogen and human chorionic gonadotropin (HCG) hormone. Nausea and vomiting are classified

into two, namely emesis gravidarum and hyperemesis gravidarum, which occurs at the beginning of the fourth to the 10th week of pregnancy and will improve at 20 weeks of gestation [2]. Emesis gravidarum is nausea and vomiting that occurs less than 5 times a day with the characteristics of the mother looking weak, no appetite, weight loss. Emesis gravidarum percentage in primi mothers is 40% to 60% in multigravida mothers by 60% to 80%. If nausea and vomiting occur since early pregnancy, the percentage of hyperemesis gravidarum is 0.8 to 3.2% of pregnant women.

Age, parity, education and occupation are also risk factors associated with the incidence of hyperemesis gravidarum (HEG) [4]. Mothers aged less than 20 often experience HEG, where at that age the mother is not mentally and psychologically ready to undergo pregnancy, while the age of the mother over 35 years is a risky age for pregnant women. In addition, education can also affect the behavior of the mother's mindset, the lower the education, the less desire to take advantage of health services, and conversely, the higher the education, the easier it is to receive information and utilize existing health services. Occupation is also one of the supporting factors for HEG [5].

Hyperemesis gravidarum can have an impact on the physiological state of pregnant women and their fetuses. So that it has an impact on physiological conditions that can cause feelings of anxiety, guilt, stress and anger [7]. According to WHO (World Health Organization) in 2015 the number of incidences of pregnant women experiencing hyperemesis gravidarum reached 12.5% of the total number of pregnancies in the world, where the number of incidence rates varied, ranging from 10.8% in China, 0.3% in Sweden, 0.5% in California, 0.9% in Norway, 2.2% in Pakistan, 1.9% in Turkey and, 0.8% in Canada. While the incidence of hyperemesis gravidarum in Indonesia is ranging from 1-3% of all pregnancies [8].

An initial survey conducted at the Sahafaa Marwa clinic, Batam City, which was carried out by observing medical records at the clinic, found that in 2018 the number of pregnant women recorded in medical records was 1354 people and who experienced hyperemesis gravidarum were 21 people, in 2019 the number of pregnant women was as many as 964 people and 16 people experienced hyperemesis gravidarum, while in 2020 there were 1232 mothers and 26 people experienced hyperemesis gravidarum [9].

Based on the above phenomenon, the researcher is interested in conducting research on "The Correlation of the Characteristics of First Trimester Pregnant Women with the Incidence of Hyperemesis Gravidarum at the Sahaa Marwa Clinic, Batam City in 2021".

2. Method

This study uses quantitative research using an analytic survey method with a cross sectional research design, the study was conducted in August 2021, the sample of this study was partly 1st trimester pregnant women recorded in the Shafaa Marwa clinic medical record in 2020, the number of samples in this study was 128 people.

3. Results and Discussion

3.1 Research result

a. Univariate Analysis

TABLE 1
FREQUENCY DISTRIBUTION OF HEG CASES AT THE SHAFAA MARWA CLINIC, BATAM CITY IN 2020

Incident	Frequency	Percentage
Yes	25	19.5
No	103	80.5
Total	128	100

Based on Table 1, it can be seen that from 128 respondents there were 103 respondents (80.5%) who did not experience HEG and 25 respondents (19.5%) who had HEG. Read the table from the top first, then the bottom one, and so on.

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TABLE 2
FREQUENCY DISTRIBUTION OF MOTHER'S AGE WITH HEG CASE INCIDENCE AT SHAFAA MARWA CLINIC, BATAM CITY IN 2020

Mother's Age Category	Frequency	Percentage
at risk	12	9.4
No risk	116	90.6
Total	128	100.0

Based on Table 2, it can be seen that the age distribution of pregnant women in the category of not at risk was 116 respondents (90.6%) and at risk were 12 respondents (9.4%).

TABLE 3
FREQUENCY DISTRIBUTION OF MATERNAL PARITY WITH HEG CASE INCIDENCE AT SHAFAA MARWA CLINIC BATAM CITY IN 2020

Category Mother's parity	Frequency	Percentage
No risk	63	49.2
at risk	65	50.8
Total	128	100.0

Based on table 3it can be seen that the parity distribution of pregnant women with risk categories is 65 respondents (50.8%). no risk as many as 63 respondents (49.2%).

TABLE 4
FREQUENCY DISTRIBUTION OF MOTHER'S EDUCATION LEVEL WITH HEG CASE INCIDENCE AT SHAFAA MARWA CLINIC BATAM CITY IN 2020

Mother's Education Category	Frequency	Percentage
Low education	15	11.7
higher education	113	88.3
Total	128	100.0

Based on Table 4, it can be seen that the frequency distribution of the education level of pregnant women in the higher education category was 113 respondents (88.3%) and 15 respondents (11.7%) had low education.

TABLE 5
DISTRIBUTION OF THE FREQUENCY OF MOTHER'S WORK WITH THE INCIDENCE OF HEG CASES AT THE SHAFAA MARWA CLINIC, BATAM CITY IN 2020

Mother's Job Category	Frequency	Percentage
Doesn't work	93	72.7
Working	35	27.3
Total	128	100.0

Based on Table 5, it can be seen that the distribution of the frequency of work of pregnant women in the category of not working as many as 93 respondents (72.7%) and working as many as 35 respondents (27.3%).

b. Bivariate Analysis

TABLE 6
MATERNAL AGE RELATIONSHIP WITH HEG INCIDENCE AT SHAFAA MARWA CLINIC BATAM CITY IN 2020

Age	Hyperemesis gravidarum						*p*- Value	OR
	Yes		No		Amount			
	n	%	n	%	n	%		
Yes	11	91.7	1	8.3	12	100	0.001	80,143 (9,601-668,994)
No	14	12.1	102	87.9	116	100		
Total	25		103		128	100		

Based on table 6 above, it shows that from 116 respondents with age not at risk and not experiencing HEG as many as 102 respondents (87.9%) while there are 12 respondents with age at risk and experiencing HEG as many as 11 respondents (91.7%). The results of the analysis of the relationship between maternal age and hyperemesis gravidarum using the chi square test obtained a p value of 0.001 49 < 0.05. Statistically, it can be said that the hypothesis in this study is accepted, meaning that there is a significant relationship between maternal age and the incidence of hyperemesis gravidarum at the Shafaa Marwa Clinic, Batam City. In addition, based on the results of the analysis, the Odds Ratio (OR) value was 80,143 and a confidence interval with a 95% confidence interval (CI) in hyperemesis gravidarum mothers with a value range of 9,601-668.

TABLE 7
RELATIONSHIP BETWEEN MATERNAL PARITY AND HYPEREMESIS GRAVIDARUM

parity	Hyperemesis Gravidarum						*p*-Value	OR
	Yes		No		Amount			
	n	%	n	%	n	%		
High risk	**5**	**7.7**	**60**	**92.3**	**65**	**100**	**0.001**	**5,581 (1,943-16,036)**
Low risk	**20**	**31.7**	**43**	**68.3**	**63**	**100**		
Total	**25**		**103**		**128**	**100**		

Based on table 7 above shows that of the 65 respondents with high risk parity and at risk of experiencing HEG as many as 20 respondents (7.7%) while there are 63 respondents with low risk parity and not experiencing HEG 20 respondents (31.7%). The results of the analysis of the relationship between maternal parity and hyperemesis gravidarum using the chi square test obtained a p value of 0.001 50 < 0.05. Statistically, it can be said that the hypothesis in this study is accepted, meaning that there is a significant relationship between maternal parity and the incidence of hyperemesis gravidarum at the Shafaa Marwa Clinic, Batam City. In addition, based on the results of the analysis, the Odds Ratio (OR) value was 5.581 and a confidence interval with a 95% confidence interval (CI) in hyperemesis gravidarum mothers with a value range of 1.943-16.

TABLE 8
THE RELATIONSHIP OF MOTHER'S EDUCATION WITH HEG INCIDENCE AT THE SHAFAA MARWA CLINIC, BATAM CITY IN 2020

No	Education	Hyperemesis gravidarum				Tbrain		*p*- Value	OR
		Yes		No					
		n	%	n	%	n	%		
1.	Renbye	5	33.3	10	66.7	15	100	0.170	2.325-0.229
2.	Tinggi	20	17.7	93	82.3	113	100		
	Tbrain	25		103		*128*	100		

Based on table 8 above, it shows that of 113 respondents with higher education and at risk of experiencing HEG as many as 20 respondents (17.7%) while there are 15 respondents with low education and not experiencing HEG 5 respondents (33.3%). 51 The results of the analysis of the relationship between maternal education level and hyperemesis gravidarum using the chi square test obtained p value of 0.170 > 0.05. Statistically, it can be said that the hypothesis in this study was rejected, meaning that there was no significant relationship between the mother's education level and the incidence of hyperemesis gravidarum at the Shafaa Marwa Clinic, Batam City..

TABLE 9
MOTHER'S OCCUPATIONAL RELATIONSHIP WITH HEG INCIDENCE AT SHAFAA MARWA CLINIC BATAM CITY IN 2020

Profession	Hyperemesis Gravidarum						*p*-Value	OR
	Yes		No		Amount			
	n	%	n	%	n	%		
Doesn't work	**18**	**19.4**	**75**	**93**	**93**	**100**	**1,000**	**0.960 (0.362-2.545)**
Working	**7**	**20.0**	**28**	**80.0**	**35**	**100**		
Total	**25**	**19.5**	**103**	**80.5**	**128**	**100**		

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Based on table 9 above, it shows that of the 93 respondents whose mothers do not work and are at risk of experiencing HEG as many as 18 respondents (19.4%) while there are 35 respondents whose mothers work and do not experience HEG 7 respondents (20.0%). The results of the analysis of the relationship between maternal education level and hyperemesis gravidarum using the chi square test obtained a p value of 1,000 > 0.05. Statistically, it can be said that the hypothesis in this study was rejected, meaning that there was no significant relationship between the mother's education level and the incidence of hyperemesis gravidarum at the Shafaa Marwa Clinic, Batam City. In addition, based on the results of the analysis, the Odds Ratio (OR) value was 0.960 and the confidence interval with a 95% confidence interval (CI) in hyperemesis gravidarum mothers with a value range of 0.362-2.

3.2 Discussion

a. Relationship between Age and Hyperemesis Gravidarum

In this study, the age of pregnant women is divided into two categories, namely the age at risk (if the mother's age is < 20 years or > 35 years) and the age is not at risk (if the age of the mother is 20-35 years). Data was collected by recording directly from the medical records of all pregnant women with TM I who had been treated at the Shafaa Marwa Clinic using a check list. Based on the results of the univariate analysis, the number of respondents included in the risk age group was 11 people (44%) and 14 people were not at risk (56%). Based on the results of the bivariate analysis of 12 respondents including age at risk, 11 respondents (91.7%) experienced hyperemesis gravidarum, while from 116 respondents, including age not at risk, 14 respondents (12.1%) experienced hyperemesis gravidarum. The results of the Chi-square statistical test where the p value is 0. 001 < 0.05. which means that there is a significant relationship between the age of pregnant women and the incidence of hyperemesis gravidarum at the Shafaa Marwa Clinic, Batam City.

According to the researcher's assumption, maternal age has a close influence on psychological changes and the development of reproductive organs. This relates to the mental and physical state of the body's organs in accepting the presence and supporting the development of the fetus. A woman enters the age of marriage or ends a certain phase in her life, namely the reproductive age. The ideal reproductive age for women to get pregnant and give birth is 20-35 years.

b. The lationship of Parity With Chronic Energy Deficiency

In this study, parity of pregnant women was divided into two categories, namely high risk and low risk. Mothers who are at high risk are mothers with parity 1-> 3 and low risk mothers with parity 2-3. Data were collected by recording directly from medical records for all pregnant women with TM I who had been treated at the Shafaa Marwa Clinic using a check list. Based on the results of univariate analysis, the number of respondents who included high risk parity was 20 people (80%) while mothers with low risk parity were 5 people (20%). Based on the results of the bivariate analysis of 63 respondents, including mothers with high risk, 20 respondents (31.7%) experienced hyperemesis gravidarum, while 5 respondents (7. 7%) who experienced hyperemesis gravidarum. The results of the Chi-square statistical test where the p value is 0.001 < 0.05. Statistically, it can be said that the hypothesis in this study is accepted, meaning that there is a significant relationship between maternal parity and the incidence of hyperemesis gravidarum at the Shafaa Marwa Clinic, Batam City.

According to the researcher's assumptions, parity has an influence on the readiness of the mother to undergo several phases in her pregnancy. Multiparous mothers or mothers who already have 2-4 children will be more experienced in undergoing the period of pregnancy compared to primiparous mothers or new mothers who are pregnant with their first child. Usually primiparous mothers will feel shock and affect the physic because the mother does not have the readiness both physically and psychologically to face the changes during pregnancy. And the mother has not been able to adapt or adjust to the increase in hormones that trigger hyperemesis gravidarum.

c. Relationship between Education and Hyperemesis Gravidarum

In this study, the education of pregnant women was divided into two categories, namely low education (if the mother did not go to school, finished elementary and junior high school) and higher education (if the mother graduated from high school / equivalent - further education). TM I pregnant women who have been treated at the Shafaa Marwa Clinic using a check list. Based on the results of univariate analysis, it was found that the number of respondents including low education was 5 people (20%) and higher education was 20 people (80%). Based on the results of bivariate analysis

of 15 respondents including low education, 5 respondents (33.3%) experienced hyperemesis gravidarum, while from 113 respondents, 20 respondents (17.7%) experienced hyperemesis gravidarum. The results of the Chi-square statistical test where the p value is 0.151 > 0.05. Statistically, it can be said that the hypothesis in this study was rejected, meaning that there was no significant relationship between the mother's education level and the incidence of hyperemesis gravidarum at the Shafaa Marwa Clinic, Batam City.

d. Employment Relationship with Hyperemesis Gravidarum Kejadian Incidence

In this study, the work of pregnant women is divided into two categories, namely not working, namely housewives and working mothers who earn income. Data were collected by recording directly from medical records for all pregnant women with TM I who had been treated at the Shafaa Marwa Clinic using a check list. Based on the results of the univariate analysis, it was found that the number of respondents who were not working were 18 people (72%) and working as many as 7 people (28%). Based on the results of the bivariate analysis of 93 respondents who were not employed, 18 respondents (19.4%) experienced hyperemesis gravidarum, while from 35 respondents who were employed, 7 respondents (20%) experienced hyperemesis 61 gravidarum. The results of the Chi-square statistical test where the p value is 0.935 > 0.05.

According to the researcher's assumptions, this study did not find a significant relationship between the mother's work and the incidence of hyperemesis gravidarum, it is possible because mothers who do not work will spend more time resting and the opportunity for mothers to experience work pressure from outside will decrease which can make mothers become depressed. more relaxed and focused on the hormonal changes experienced by the mother and the development of her baby.

4. Conclusion

There is a significant relationship between age and maternal parity with hyperemesis gravidarum and there is no significant relationship between maternal education and maternal occupation with hyperemesis gravidarum at the Shafaa Marwa Clinic, Batam City in 2020.

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