

# THE EFFECT OF HYPNOTHERAPY AND INFORMATION-EDUCATION-COMMUNICATON (IEC) TO INCREASE WEIGHT OF FIRST TRIMESTER PREGNANT WOMEN WITH EMESIS GRAVIDARUM

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## ABSTRACT

**Background:** Pregnant women need adequate nutrition during their pregnancy, especially in the 1st trimester. Undernutrition status will result in chronic energy deficiency and the risk of stunting babies. Emesis gravidarum is a nausea symptom, commonly experienced by pregnant women in the first trimester. Give IEC and hypnotherapy as complementary therapies to reduce complaints of emesis in pregnant women.

**Objective:** The main goal of this study was to examine interventions between IEC interventions and hypnotherapy interventions in first-trimester pregnant women with emesis gravidarum on maternal weight gain.

**Method:** The research design used was a quasi-experiment design with a time-series. The study population was all first-trimester pregnant women at Muhammadiyah Gresik Hospital with emesis gravidarum, 200 respondents taken with a quota sampling technique. There are two research variables, mother weight as the dependent variable along the independent variable is IEC and hypnotherapy. Data analysis using Kolmogorov Smirnov as the normality test, Anova test with the alternative solution, Post Hoc analysis with the Mann Whitney test.

**Results:** The results of data processing, there was a tight effect between the IEC intervention and hypnotherapy with maternal weight gain in the first week (p-value <0.001), the second week

(p-value = 0.029), but there was no significant interaction between the IEC intervention and hypnotherapy with the increase in maternal weight in the third week (p-value = 0.105).

**Conclusion:** There is an effect between educational information communication intervention and hypnotherapy intervention in first-trimester pregnant women with emesis gravidarum on weight gain. IEC intervention increases the weight gain of pregnant women in the first trimester compared to hypnotherapy.

**Keywords:** hypnotherapy, IEC, first-trimester pregnant women, emesis gravidarum

## BACKGROUND

Pregnancy is a continuous chain process, consisting of ovulation, the release of eggs, migration of spermatozoa and ovum, conception and growth of the zygote, uterine oxidation, formation of the placenta, and growth and development from fertilization to term (Manuaba, 2015). Pregnancy will have an impact on both physiologically and psychologically, these changes are mostly caused by the influence of factors increasing the hormones progesterone and estrogen. (Hughes & Pierson, 2014).

Women in early pregnancy sometimes experience complaints of nausea without or accompanied by vomiting, called morning sickness (Dean, 2016). This complaint occurs because of an increase in the levels of HCG (Chorionic Gonadotropin Hormone) and carbohydrate metabolism in the mother's body who is experiencing disturbances. Emesis gravidarum or nausea and vomiting in pregnant women can last throughout the day and may not occur at all when you wake up in the morning (Tiran, 2018; Al-Blooshi et al., 2020; Al-Husseini, 2020; Al-Tufaili, 2020; Alblooshi & Abdullah, 2020).

Case studies conducted in America estimate 50-90% of the incidence of nausea and vomiting experienced by pregnant women. The incidence of nausea and vomiting is commonly in primigravida, with an incidence of 60-80%, while 40-60% experienced by pregnant women who generally experience emesis gravidarum. Psychologically, 80% of pregnant women who experience nausea and vomiting will also affect their quality of life (Christiani & Andayani, 2019).

World Health Organization (2014) the incidence of emesis gravidarum reaches 12.5% of all pregnancies in the world. During pregnancy examinations in Indonesia, data on mothers with hyperemesis gravidarum reached 14.8% of all pregnancies (Ministry of Health of the Republic of Indonesia, 2018). According to the American Pregnancy Association (APA), the majority of pregnant women experience some symptom of morning sickness, at least 60,000 cases of hyperemesis gravidarum reported hospitalized, and the number is estimated to be much higher because many pregnant women treated at home or outpatient (Lu, Kauff, Powell, & Cass, 2009).

Need Lean Hospital Management Implementation in Health Care Service (Usman, I. 2020).

Emesis gravidarum is a common symptom or often occurs in the first trimester of pregnancy. Nausea usually occurs in the morning, but some can occur at any time of the night (Manuaba, 2015). These symptoms mostly occur six weeks after the first day of the last menstrual period and last approximately ten weeks (Hawkins, Kim, Gabriel, Rockette-Wagner, & Chasan-Taber, 2017).

Emesis gravidarum complaints are affected by several factors as if hormonal, psychosocial factors, work, and parity (Sarwono Prawihardjo, 2010). Research from (Fuchs, 2016) states that pregnant women who experience nausea and vomiting in the first trimester caused by the smell of the food they inhale. Nausea and vomiting can be treated with drugs or without drugs. Pharmacological management is the provision of antiemetic and education, while non-pharmacologically can use various ways, such as relaxation training, especially with hypnotherapy (Irianto & Suharjo, 2016).

The use of hypnotherapy as a complementary therapy in treating nausea and vomiting in the first trimester of pregnancy has not been widely used (Beevi, Low, & Hassan, 2016). Hypnotherapy is an effective and efficient way to reach the subconscious mind, re-educate, and heal sick thoughts. Overcoming nausea and vomiting can be solved with hypnotherapy. Hypnotherapy boosts the immune system and reprograms individual attitudes to the disease they suffer. The subconscious mind is not only related to behavior but also the subconscious mind can change metabolism and accelerate healing (Hammond, 2019).

Pregnant women with nausea and vomiting usually a given IEC about the physiology of pregnancy, a diet with small but frequent meals, and administration of drugs or vitamin B<sub>6</sub>, hypnotherapy can be added in these treatments. Because of nausea and vomiting in pregnancy

are commonly caused by the psychological problems of the mother (Jarvis & Nelson-Piercy, 2011).

Information that is widely received will result in good knowledge, and higher education will provide a lot of experience and insight to increase our knowledge, besides sharing activities carried out by housewives in several village communities and their neighborhoods, will add to experience through sharing by each mother. Boarder knowledge can be obtained in several ways, such as electronic media, reading, sharing between housewives (Notoatmodjo, 2015).

Health-promoting throughout the period of pregnancy, childbirth, and postnatal care is a top priority, one of which is early detection to prevent complaints during pregnancy. From the description above, the authors are interested in researching the effect of educational information communication interventions with hypnotherapy interventions in young pregnant women (trimester I) with emesis gravidarum on maternal weight gain.

## **OBJECTIVE**

The research objective was to determine the effect of educational information communication interventions with hypnotherapy interventions in young pregnant women (trimester I) with emesis gravidarum on maternal weight gain. The novelty of researchers is conducting experiments using a quasi-experimental design that is rare in previous studies. This study also compares the two differences from the interventions given, so that it can find the most optimal intervention for weight gain in the first trimester of mothers. The benefit of this study is that pregnant women can reduce emesis gravidarum experienced through complementary therapies so that pregnant women can experience weight gain. The expected output is that the mother and baby are healthy during pregnancy.

## **METHODS**

### ***Research participants***

This research is a quasi-experimental type, with a time series design (Cresswell, 2010) (Murti, 2013). The study population was all first-trimester pregnant women with emesis gravidarum at Muhammadiyah Gresik Hospital. The number of samples selected 200 respondents with quota sampling. The inclusion criteria for the research sampling were pregnant women who were examined at Muhammadiyah Gresik Hospital with complaints of emesis gravidarum, the number of children  $\leq 4$ , and did not have comorbidities. The study was conducted in September 2019 - April 2020. The research variables consisted of independent variables, namely hypnotherapy intervention and IEC, then the dependent variable, namely the weight of pregnant women in the first trimester.

### ***Research procedure***

Researchers determine the study population and sample that fits the inclusion criteria in the study. After getting 200 respondents, the respondents were divided into two groups with 100 respondents in each group. The first group was given hypnotherapy intervention, and the second group was given IEC intervention. After getting the intervention, the respondents were then seen their weight at the first visit, second visit, and third visit in the 1st trimester (6 weeks to 14 weeks of pregnancy).

### ***Instrument***

Data collection using the MCH handbook at the first, second, and third-trimester visits.

**Data analysis**

Research analysis started with univariate analysis and bivariate analysis. The univariate analysis is used to describe the characteristics of the continuous data sample and categorical data. Bivariate analysis is an experimental test to determine the effect of the intervention carried out with the first stage, namely normality and homogeneity. The Kolmogorov Smirnov test will be used to determine the normality of the data. If the data distribution is normal and homogeneous, an Anova test will be performed. But if the data distribution is not normal and homogeneous, then an alternative test is used, namely Post Hoc analysis with the Mann Whitney test. Data analysis using Stata 13 software.

**RESULTS**

**Univariate Analysis**

This analysis will describe the distribution of each variable of general research data. The results of the study in the hypnotherapy and IEC intervention group were 100 pregnant women respondents in each group. Table 1 below describes the characteristics of research subjects.

**Table 1** Distribution of Frequency of General Research Data Variables

Characteristics	Category	Group			
		Hypnotherapy		IEC	
		Frequency	Percent	Frequency	Percent
Mother's age	< 20 y.o	2	2.0 %	2	2.0 %
	20 – 35y.o	90	90.0 %	93	93.0 %
	> 35 y.o	8	8.0 %	5	5.0 %
Mother's Education	Primary school	8	8.0 %	11	11.0 %
	Junior high school	12	12.0 %	16	16.0 %
	Senior high school	65	65.0 %	55	55.0 %
Mother's Job	D III / S1	15	15.0 %	18	18.0 %
	Housewife	48	48.0 %	45	45.0 %
	Private	37	37.0 %	34	34.0 %
	Entrepreneur	11	11.0 %	18	18.0 %
Parity	Teacher	4	4.0 %	3	3.0 %
	Primigravida	54	54.0 %	49	49.0 %
	Multigravida	46	46.0 %	51	51.90 %

Characteristics of research subjects include maternal age, education, occupation, and parity. The research subjects who participated in the study were 200 pregnant women in the first trimester. Table 1 shows that most of the study subjects were 20-35 years old in all groups. Most of the research subjects had SMA / SMK education levels in all groups. Most of the research subjects had jobs as housewives in all groups. In the parity category, in the hypnotherapy group, most of them were primiparous mothers, while in the IEC group, most of them were multiparous mothers. This shows that the characteristics of the respondents are not a confounding variable on the weight gain of pregnant women in the first trimester because all the variables that confounding factors are spread evenly in all groups.

**Bivariate Analysis**

This bivariate analysis will explain the effect of hypnotherapy and IEC on the weight gain of first-trimester pregnant women with emesis gravidarum.

**Table 2** Variable Normality Test for Maternal Weight Gain on First Visit, Second Visit and Third Visit

Statistic	df	Sig.
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Standardized Residual for Weight on first visit	0.091	200	0.001
Standardized Residual for Weight on second visit	0.088	200	0.001
Standardized Residual for Weight on third visit	0.086	200	0.001

Table 2 shows the results of the standardized residual variable normality test for 200 study respondents. The results of the p-value on the standardized residual for body weight at the first visit in the 1st trimester was 0.001 ( $p < 0.05$ ), the standardized residual for bodyweight at the second visit in the 1st trimester was 0.001 ( $p < 0.05$ ), and the standardized residual for bodyweight at the third visit in trimester 1 was 0.001 ( $p < 0.05$ ). This shows that the three standardized residuals show abnormal data distribution results, so the experimental test used is an alternative test of ANOVA, namely Post Hoc analysis with the Mann Whitney test.

**Table 3** Mann Whitney Test for Maternal Weight Gain on First Visit, Second Visit and Third Visit Hypnotherapy group and IEC group

Variable Group	n	Mean Rank	Rank Sum	Expected	p
<b>Weight on First Visit</b>					
Hypnotherapy	100	89.81	8980.5	10050	0.009
IEC	100	111.20	11119.5	10050	
<b>Weight on Second Visit</b>					
Hypnotherapy	100	91.60	9160	10050	0.029
IEC	100	109.40	10940	10050	
<b>Weight on Third Visit</b>					
Hypnotherapy	100	93.88	9388	10050	0.105
IEC	100	107.12	10712	10050	

Table 3 shows that there is a significant difference in weight gain at the first visit of pregnant women in trimester I between the groups given hypnotherapy and IEC, with a value of  $p = 0.009$  ( $p < 0.05$ ). After the intervention, the mean weight gain in the hypnotherapy group was lower than the IEC group, which is 89.81.

The second result of intervention on weight gain of pregnant women in the first trimester of the second visit. There was a significant difference in weight gain at the second visit of pregnant women in trimester I between the groups that were given hypnotherapy and IEC, with a value of  $p = 0.029$  ( $p < 0.05$ ). After the intervention, the mean weight gain in the hypnotherapy group was lower than the IEC group, which is 91.60.

The last result, intervention on weight gain of pregnant women in the first trimester of the third visit, showing the results, there was no significant difference for weight gain at the third visit of pregnant women in trimester I between the groups that were given hypnotherapy with IEC, with a value of  $p = 0.105$  ( $p > 0.05$ ). After the intervention, the mean weight gain in the hypnotherapy group was lower than the IEC group, namely 93.88.

## DISCUSSION

Research from (Tiran, 2018), emesis gravidarum experienced with morning sickness complaints around 1.8%, and 80% of these pregnant women experience nausea throughout the day.

### The effect of hypnotherapy on first-trimester pregnant women with emesis gravidarum on maternal weight gain

The results showed that there was a significant difference in weight gain at the first visit of pregnant women in trimester I between the hypnotherapy and IEC group, with a value of  $p = 0.009$  ( $p < 0.05$ ). The second result of intervention on weight gain of pregnant women in the second visit, there was a significant difference in weight gain at the second visit between hypnotherapy and IEC group, with a value of  $p = 0.029$  ( $p < 0.05$ ). The last result, intervention on weight gain of pregnant women in the third visit, showing the results, there was no significant difference for weight gain at the third visit between hypnotherapy and IEC group, with a value of  $p = 0.105$  ( $p > 0.05$ ).

Handling of nausea and vomiting can be done through complementary therapies, such as hypnotherapy. Nausea and vomiting in pregnancy are often caused by psychological or emotional problems that arise from the mind (Legrand et al., 2017). The results of this study are in line with research (Burmanajaya & Agustina, 2020), shows that hypnotherapy given to respondents can reduce emesis levels in first-trimester pregnant women with a decrease in score of 5.93 points.

Research (McCormack, 2010) reports that hypnosis can reduce the anxiety and fear of primiparous pregnant women about the delivery process. Apart from being known as strong as an anti-anxiety agent, hypnosis has a highly relaxing effect. Studies have concluded that hypnosis is effective in treating hyperemesis gravidarum (Rashid, Rashid, Malik, & Herath, 2012).

Giving hypnotherapy results in a decrease in nausea and vomiting is in line with research conducted (Madrid, Giovanoli, & Wolf, 2016) with the results of research showing that giving hypnotherapy can reduce nausea and vomiting experienced by patients. Other studies also state that hypnotic interventions provide relaxation of stimuli that are effective in relieving nausea and vomiting without any side effects (Witari & Dewianti, 2020).

According to (Gunawan, 2017) when a person experiences hypnotic there is a physiological phenomenon that occurs to the person that will trigger drowsiness and feel comfortable, then all pain, disappointment, and anger disappear. No matter how strong the desire is, if it is only in the conscious mind will hard to realize. The solution is to condition the brain at alpha frequencies because the brain is sensitive to accept suggestions. When doing affirmations, straightway the desire will enter the subconscious, give repeated affirmations that will make the suggestion even stronger.

### **Effect of educational intervention communication (IEC) on first-trimester pregnant women with emesis gravidarum on maternal weight gain**

The results showed that there was a significant difference in weight gain at the first visit between the groups that were given hypnotherapy with IEC, with a value of  $p = 0.009$  ( $p < 0.05$ ). The second result of intervention on weight gain of pregnant women in the second visit, there was a significant difference in weight gain between the groups that were given hypnotherapy and IEC, with a value of  $p = 0.029$  ( $p < 0.05$ ). The last result, intervention on weight gain of pregnant women in the third visit, showing the results, there was no significant difference for weight gain at the third visit of pregnant women in trimester I between the groups that were given hypnotherapy with IEC, with a value of  $p = 0.105$  ( $p > 0.05$ ).

Pharmacological management is by providing antiemetic drugs and providing education, while non-pharmacologically can be various ways, one of which is relaxation training,

especially with hypnotherapy (Havnen et al., 2019). Lifestyle education can help prevent stress, while rest can reduce vomiting (Sahour et al., 2019). Emotional support is significant to avoid worsening hyperemesis gravidarum (Malia, 2018).

Based on research conducted by Rizka in 2017 with 32 respondents mentioned that most mothers had 62% negatives behavior (20 respondents) and 38% positives behavior (12 respondents). This matter is influenced by the low mother's knowledge about emesis gravidarum. A mother's knowledge is one of the factors that can influence attitudes and behavior in carrying out care for her pregnancy (RizkaFatmawati, 2017).

The MCH program on education about emesis gravidarum that has been implemented, needs to be improved by using the media by using media such as leaflets that will attract more attention of pregnant women (Septiani, 2015). Knowledge is the result of knowing, and this occurs after people have sensed a specific object. From experience and research, it has been proven that behavior based on knowledge will be more lasting than not based on knowledge ([Notoatmodjo, 2015](#)).

From this, giving information about emesis gravidarum by health workers to pregnant women, especially primigravida mothers, is needed to prevent effects such as hyperemesis gravidarum. The provision of IEC provides a good impact on reducing nausea and vomiting in pregnant women in the first trimester. This is in line with (Hawkins et al., 2017) (Meireles, Calara, Pedro, & Maria, 2014) that eating arrangements is to eat small portions but often, avoiding oily foods, consuming more protein than carbohydrates, and separating between food and drink can reduce the incidence of nausea and vomiting during pregnancy.

## CONCLUSION

The research conclusion shows three significant points, namely as follows:

1. There is a significant difference in weight gain at the first visit of pregnant women trimester I between hypnotherapy and IEC group.
2. There was a significant difference in weight gain at the second visit of pregnant women in trimester I between hypnotherapy and IEC group.
3. There was no significant difference in weight gain at the third visit of pregnant women in trimester I between hypnotherapy and IEC group.

From the results of these conclusions, the final results also show that there are differences in the mean value in each intervention, can be concluded that educational information communication (IEC) interventions are more effective in increasing weight gain for pregnant women in the first trimester compared to hypnotherapy.

Researchers suggest that there should be an increase in IEC interventions in pregnant women, not only on how to overcome emesis gravidarum to increase body weight in the first trimester but IEC regarding pregnancy such as increasing antenatal care behavior in pregnant women by paying attention to the community level and the individual level. The community-level involves health workers, health services, the community, and also health cadres in the vicinity of the residence. The individual-level involves increasing motivation in pregnant women so so that it is expected to get optimal results. Apart from IEC, hypnotherapy is also important to do as a complementary therapeutic solution to dealing with complaints that arise in mothers during pregnancy. Furthermore, health care workers, especially pregnant women, can provide explanations with effective communication and are always accompanied by a partner/family during check-ups so that IEC can be well received and implemented.

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## CONFLICTS OF INTEREST

None.

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