

## **The effect of nei-guan point acupressure massage on emesis gravidarum**

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### **Abstract**

Excessive nausea and vomiting can threaten the health of pregnant women and fetuses, about 80% of pregnant women are treated for hyperemesis gravidarum. Nie-Guan point acupressure massage is a non-pharmacological treatment that can treat nausea and vomiting for pregnant women. The aim of this research to determine the effect of Nei-Guan point acupressure massage on emesis gravidarum. Design of this study was a quasi-experimental study with a nonequivalent control group design approach. Age, intervention and control were mostly at high risk 11 people (73%) and 10 people (67%). The most education is secondary in the intervention group 12 people (80%) and the control group 13 people (87%). Most of the respondents as IRT in the intervention group were 8 people (53%) and in the control group 10 people (67%). Pregnancy in the intervention and control groups was the same in primigravida 8 people (54%). The management of nausea and vomiting that is most often done is by giving warm and refreshing drinks, but not a few mothers also refuse, one non-pharmacological approach that can be given is acupressure (Grove et al, 2015). This study explains that giving acupressure point P6 (Nei-Guan) has an effect on emesis gravidarum.

**Keywords:** nei-guan; emesis gravidarum; pregnant; first trimester

### **INTRODUCTION**

Nausea and vomiting are normal things that often occur at a young gestational age and are most common at 6-12 weeks of gestation and will end in the first 20 weeks of pregnancy. This complaint occurs in 70% - 80% of all pregnant women. Complaints of nausea and vomiting are sometimes so severe that everything that is eaten and drunk is vomited by pregnant women which can affect general conditions and interfere with daily life, or better known as hyperemesis gravidarum (Miftahul, 2019).

In a study conducted 1 it was found that about 80% of pregnant women who were treated with hyperemesis gravidarum reported that their symptoms lasted throughout the day, and only 1.8% reported that their symptoms occurred in the morning. Symptoms of nausea and forcing out that are felt occur at intervals six weeks once the primary day of the last emission amount and might last for about ten weeks and can finish in twenty weeks of pregnancy (Badan Pusat Statistik, 2012).

Hyperemesis gravidarum is excessive nausea and unconditioned reflex that happens throughout pregnancy. This dangerous vomiting is distinguished from the traditional nausea and vomiting ordinarily practised by pregnant ladies as a result of it's



additional intense than normal vomiting and lasts during the primary trimester of pregnancy (Elnashar, 2011). Excessive and uncontrolled vomiting during pregnancy can cause weight loss of 5% of the initial pre-pregnancy weight, dehydration, electrolyte imbalance, nutritional deficiency, and ketonuria (Sumardi, 2016).

Hyperemesis gravidarum seldom causes death, however the incidence remains quite high. The incidence of hyperemesis is four per one thousand pregnancies (Rahayu et al, 2018). Consistent with WHO, hyperemesis gravidarum occurs worldwide with an incidence of 12.5% of all pregnancies. Incidence of nausea in pregnant that happens within the world is incredibly diverse, specifically 10.8% in China, 2.2% in Pakistan, 1-3% in Indonesia, 1.9% in Turkey, 0.9% in Norway, 0.8% in Canada, 0.5% in California, 0, 5%-2% in America, and 0.3% in Sweden (Kadir et al, 2019).

Based on APA America, the bulk of pregnant ladies expertise some kind of sickness and a minimum of 60,000 cases of hyperemesis are according to be hospitalized, and also the variety is calculable to be a lot of higher as a result of several pregnant women are solely treated reception or on an patient basis (American Pregnancy Association, 2021).

The occurrence of nausea in land is 1-3% of all pregnancies. The Ministry of Health of the Republic of Indonesia explained that quite 80% of pregnant girls in Indonesia expertise excessive nausea and vomiting, which may cause pregnant women to avoid bound kinds of food and can create risks to themselves and also the craniate they're carrying (Atika et al, 2018).

The results of data collection at the central level, Sub-Directorate of Obstetrics and Gynecology, Sub-directorate of Family Health in 2011 from 325 regencies/cities showed that 20.44% of pregnant women with severe hyperemesis gravidarum were referred and should receive further health services (Badan Pusat Statistik, 2012).

The reason for hyperemesis isn't notable with certainty, but it is often associated with hormonal changes during pregnancy and various other risk factors. Several risk factors that can cause hyperemesis gravidarum are mothers with a young age, mothers with their first pregnancy (primipara), and mothers who often consume alcoholic beverages (Kusumayanti, 2017). In addition, other factors that are also associated with the incidence of hyperemesis gravidarum include low maternal education, pregnancy spacing that is too close, mothers with active smoking status, and obesity (Jannah, 2019).

The management of nausea and vomiting that is most often done is by giving warm and refreshing drinks, but not a few mothers also refuse, one non-pharmacological approach that can be given is acupressure (Grove et al, 2015).

The purpose of this study was to determine the effect of Nei-Guan point acupressure massage on emesis gravidarum. Based on a preliminary study conducted by researchers, some pregnant women at the Karangreja Health Center, Purbalingga Regency experienced emesis gravidarum, pregnant ladies who experienced emesis gravidarum had received pharmacological treatment to reduce the discomfort caused by

nausea and vomiting, namely vitamin B6. The results of patient interviews are many pregnant women who want non-pharmacological treatment. From these data, researchers have an interest in conducting analysis on the impact of Nei-Guan purpose G-Jo massage on disgorgement gravidarum in trimester pregnant ladies at Karangreja Health Center, Purbalingga Regency in 2020.

### RESEARCH METHODS

The style of this study was a quasi-experimental study with a unequal management cluster design approach (Sugiyono, 2016).



Description:

R: Research respondents

R1: Respondents Treatment group

R2: Respondents Control group

O1: Pre test in both groups before treatment

O2: Post test in both groups after treatment

X1: Trial / intervention in the appropriate treatment group

Protocol

X0: Control group without (Notoatmodjo, 2018).

The population during this study were all pregnant girls at the Karangreja Health Center, Purbalingga Regency. During this study employing all of sample technique (Notoatmodjo, 2018). The number of first trimester pregnant women at the Karangreja Health Center, Purbalingga Regency is thirty people. To get analysis information on the result of Nei-Guan purpose massage on inborn reflex gravidarum in first trimester pregnant at Karangreja Health Center, Purbalingga Regency in 2020, researchers used data assortment tools within the type of observation sheets and watches.

Data analysis used Univariate analysis and bivariate analysis. Univariate analysis is an analysis carried out to see the description of each variable from the results of the study, in this analysis only produces the frequency distribution and percentage of each variable. This analysis was used to describe the characteristics of respondents, namely age, education, occupation, number of pregnancies, Rhodes Index Nausea Vomiting and Retch-ing (RINVR) scoring pre, Rhodes Index Nausea Vomiting and Retching (RINVR) scoring in the intervention group and the control group. Bivariate analysis is an analysis conducted to determine whether there is a relationship between the independent variable and the dependent variable (Notoatmodjo, 2018).

The test used in this study is the T-Test. The action taken is massage of the P6 (Nei-Guan) point, namely on the 3 fingers above the inner wrist, done for 7 minutes every

morning. This technique is taught to the respondents and then carried out by the respondents themselves for 7 days individually at home. The evaluation was carried out on the 8th day in the morning using the RINVR Instrument.

## RESULTS AND DISCUSSION

The management of nausea and vomiting that is most often done is by giving warm and refreshing drinks, but not a few mothers also refuse, one non-pharmacological approach that can be given is acupressure (Grove et al, 2015). This study explains that giving acupressure point P6 (Nei-Guan) has an effect on emesis gravidarum.

The results of data collection from observation sheets were measured to respondents before and after the intervention, in first trimester pregnant women who experienced emesis gravidarum. Two types of analysis were carried out which included univariate analysis and bivariate analysis.

Univariate analysis, this univariate analysis describes the respondent's characteristics, namely age, education, occupation, number of pregnancies, Rhodes Index Nausea Vomiting and Retching (RINVR) scoring pre, Rhodes Index Nausea Vomiting and Retching (RINVR) scoring post in the intervention group and the control group.

**Table 1.** Characteristics of Age, Education, Occupation, Number of Pregnancy Respondents in the Control and Intervention groups (30 respondents)

Characteristics	Intervention Group		Control Group	
	n	%	n	%
<b>Age</b>				
Healthy Reproduction (20-35 years)	4	27	5	33
High Risk (<20/>35 years)	11	73	10	67
<b>Education</b>				
Elementary (SD)	3	20	2	13
Intermediate (junior high school/high school)	12	80	13	87
College (PT)	0	0	0	0
<b>Profession</b>				
Housewife	8	53	10	67
Worker	7	47	5	33
<b>Number of Pregnancy</b>				
Primigravida	8	54	8	54
Multigravida	6	40	5	33
Grandemultigravida	1	6	2	13

Based on table 1 above, it shows that there are 30 respondents, 15 people in the intervention group and 15 people in the control group. The table shows the most intervention and control ages at high risk of 11 people (73%) and 10 people (67%). Most respondents' education was secondary in the intervention group 12 people (80%) and the control group 13 people (87%). Most of the respondents as IRT in the intervention group

were 8 people (53%) and in the control group 10 people (67%). The number of pregnancies in the intervention and control groups was the same in primigravida as many as 8 people (54%).

Bivariate Analysis

**Table 2.** Normality Test of Nei-Guan Point Acupressure Massage Against Emesis Gravidarum in 1st Trimester Pregnant Women (n=30)

1st trimester pregnant women		Kolmogorov-Smirnov <sup>a</sup>		Shapiro-Wilk			
		Statistic	df	Statistic	df	Statistic	df
Nausea and Vomiting	Intervention Group	.135	15	.135	15	.135	15
	Control Group	.189	15	.189	15	.189	15

**Table 3.** Homogeneous test and the effect of Nei-Guan Point Acupressure Massage on Emesis Gravidarum in 1st Trimester Pregnant Women (n=30)

	Levene's Test for Equality of Variance		Levene's Test for Equality of Variances			t-test for Equality of Means						
	F	Sig.	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
										Lower	Upper	
Nausea and Vomiting	Equal variances assumed	.166	.687	.166	.687	-2.312	28	.028	-2.600	1.125	-4.904	-.296
	Equal variances not assumed					-2.312	26.201	.029	-2.600	1.125	-4.911	-.289

From table 2 statistical tests, the normality test can be seen by Shapiro-Wilk because the data sample is less than 50 and the results are sig. 0.292 (> 0.05) means that the data is normally distributed. Table 3 shows the results of the variance between groups the same (homogeneous) both from the control group and the intervention group, which can be seen from Sig. 0.687 (> 0.05). Statistical test obtained sig value. (2-tailed) 0.028, which means that there is an effect of giving acupressure point P6 (Nei-Guan) on emesis gravidarum in first trimester pregnant women.

The results of the research conducted by the researcher will be discussed in this section, associated with several sources of research that have existed before. In line with the idea hints that nausea (nausea) and disgorgement (emesis) are traditional symptoms and are typically found within the trimester of maternity. Nausea typically happens in the morning, however may also occur at any time and at night. Weeks once the primary day of the last discharge amount and lasts for roughly ten weeks (Lowdermilk et al, 2012). Disgorgement Gravidarum may be a common criticism in early pregnancy. The incidence of pregnancy causes secretion changes in women as a result of there's a rise within the endocrines estrogen, progesterone, and therefore the unharness of human sac

gonadotrophine placenta. This hormone is what causes disgorgement gravidarum (Elsa and Pertiwi, 2019).

In line with the research conducted, it was explained that acupressure at point P6 (Nei-Guan) could reduce nausea for pregnancy, while in studies at points ST 36 and SP 3 it could overcome nausea and vomiting in dyspeptic patients, and studies at points ST 36 and P6 (Nei Guan). Nei-Guan can reduce slow nausea and vomiting due to chemotherapy in school-age children with cancer (Fengge, 2012). ST points 36 and P6 (Nei-Guan) are part of acupressure points, which have not been explained by many researchers on nausea and vomiting or morning sickness for pregnant women. Thus, researchers are interested in examining the effect of acupressure on morning sickness in first trimester pregnant women in North Magelang District (Marisa and Ayuningtyas, 2019).

Nausea and vomiting, also called reflex gravidarum, may be a common criticism in early physiological condition. The prevalence of pregnancy causes secretion changes in ladies as a result of there's a rise within the internal secretion estrogen, progesterone, and therefore the unharness of placental HCG (Herrel, 2013). Nausea and vomiting can even be caused by changes in hormones and body conditions to arrange a brand new position or home for the fetus. during this study, emesis gravi-darum has a minimum of a minimum worth of six and a most value of 13, the frequency of nausea and vomiting are often caused by the body' response to objects, odors, or food consumed, additionally to the handling and management of nausea and reflex is incredibly necessary for pregnant women, as. give heat food, snacks or crackers, furthermore as non-pharmacological management (herbal medicine) within the hope that nausea and vomiting are often resolved, and don't interfere with maternal organic process intake (Kim, 2007). Pathophysiology reflex gravidarum can be caused by a rise in the internal secretion sac gonadotropic hormone (HCG) which might be an element in nausea and vomiting (Salindri, 2018).

Exaggerated levels of the hormone progestogen cause swish muscle in the digestive system to relax in order that motility decreases and therefore the stomach becomes empty. hyperemesis that may be a complication of young pregnant ladies if it happens endlessly may result in dehydration, solution imbalance, and might end in saccharide and fat reserves getting used up for energy purposes. The management of nausea and vomiting that is most often done is by giving warm and refreshing drinks, but not a few mothers also refuse, one non-pharmacological approach that can be given is acupressure (Arviana, 2017).

Acupressure is a method of treatment from ancient China by stimulating special points on the body by using needles for acupuncture and using fingertips in acupressure because it emphasizes certain body points. Acupressure and acupuncture sessions should be done 2-3 times a week, acupressure and acupuncture stimulate the regulatory system and activate endocrine and neurologic mechanisms, which are physiological mechanisms in maintaining balance, manual emphasis on P6 (Nei-Guan) or pericardium 6 in the wrist area i.e. 3 fingers from the distal wrist or two tendons for 2 minutes (Rahma and Restu, 2016).



Research that has been conducted in Lombok wherever the administration of citrus aromatherapy is additionally more practical in reducing nausea and instinctive reflex in trimester pregnant ladies is indicated by the p worth ( $0.000 < 0.05$ ). Proof that serous membrane shiatsu and administration of citrus aromatherapy have a sway on reducing nausea and vomiting in first trimester pregnant women. However, citrus aromatherapy is more effective in reducing nausea and vomiting in pregnant women. thus it's hoped that the 2 techniques during this study are often a part of a way which will be accustomed cut back nausea and vomiting in pregnant ladies within the initial ordinal trimester (Royal College of Obstetricians & Gynaecologists, 2016)

Stimulates the restrictive system and activates endocrine and medicine mechanisms, that are physiological mechanisms in instinctive reflex in the gentle and moderate classes (Somoyani, 2018).

Some literature explains that acupressure is more effective in dealing with nausea and vomiting in pregnant women. The process with acupressure techniques focuses on the nerve points of the body. Acupressure is believed to increase or revive diseased organs, so that it can facilitate impaired blood circulation. Statistical test results obtained p-value = 0.000 which means that there is an effect of giving P6 (Nei-Guan) point acupressure on emesis gravidarum, in line with the theory put forward that emesis gravidarum is a state of nausea and vomiting that is more than 10 times in 24 hours or at any time. pregnant women to interfere with daily work because in general it becomes worse and dehydration can occur. Emesis gravidarum is excessive nausea and vomiting so that daily work will be disrupted and the general condition becomes worse. Nausea and reflex is that the commonest disorder within the trimester of pregnancy. close to vi weeks once period ends for ten weeks. concerning 60=80% gravida I and 40-60% multigravida expertise nausea and vomiting. However, these symptoms become severe in exactly one in one thousand pregnancies (Mariza and Ayuningtyas, 2019).

In line with the study conducted below the title The result of Nurses victimization P6 (Nei-Guan) treatment on nausea, vomiting and retching in girls with disgorgement gravidarum, it showed that no statistically vital distinction was found in the baseline characteristics of nausea, vomiting and dry vomiting scores. between the P6 (Nei-Guan) treatment and standard medical aid clusters, whereas there was a big reduction within the mean nausea, reflex and vomiting scores and total scores from baseline to four days. The distinction between baseline improvement in the conventional group was considerably higher than that of the acupressure group on completely different days.

The advance rate compared with P6 (Nei-Guan) to standard acupressure was 71.9% to 100 percent respectively. Acupressure and acupuncture stimulate the regulatory system and activate endocrine and neurologic mechanisms, which are physiological mechanisms in vomiting in mild and moderate categories. In this literature review, several literatures explain that acupressure is more effective in dealing with nausea and vomiting in pregnant women. The process with acupressure techniques focuses on the nerve points of the body. Acupressure therapy, where this therapy is done by pressing manually on P6 (Nei-Guan) in the wrist area, namely 3 fingers from the wrist. This therapy stimulates the regulatory system and activates endocrine and neurologic mechanisms, which are physiological mechanisms in maintaining balance (Mariza and Ayuningtyas, 2019).

Prevention of emesis gravidarum by encouraging eating small amounts but more often, recommend drinking warm tea and biscuits, dry bread, besides that mothers are also expected not to consume excessive milk or foods that contain fat, because it will increase the stimulation of vomiting. In addition, handling by giving acupressure massage at point P6 (Nei-Guan), it is very effective, the mother only needs to press the 3 fingers below the wrist, the mother is recommended to sit, or lie down in the most comfortable position possible, the mother can repeat if Mother feels comfortable and relaxed. According to the opinion expressed by Wiknjosastro (2009) nausea and forcing out (emesis) are traditional symptoms and are usually found within the trimester of physiological condition. Nausea typically happens in the morning, however can even occur at any time and at midnight these symptoms approximately half-dozen weeks when the primary day of the last expelling amount and lasts for about ten weeks (Dibble et al, 2007).

Emesis Gravidarum could be a common grievance in early pregnancy. The incidence of pregnancy causes secretion changes in girls as a result of there's a rise in the secretions estrogen, progesterone, and therefore the unleash of human sac gonadotropine placenta. This hormone is what causes emesis gravidarum. In addition, maternal weight is affected by the state of emesis gravidarum, mothers who lose excessive nutrition will experience adequate malnutrition, where the amount of nutritional intake is not proportional to the expenditure, reduced maternal weight will have an impact on the mother's body mass index as measured by height and weight.

## CONCLUSION

The results of statistical tests obtained that the normality test can be seen by Shapiro-Wilk because the data sample is less than 50 and the results are sig. 0.292 ( $> 0.05$ ) means that the data is normally distributed. The results of the variance between groups were the same (homogeneous) both from the control group and the intervention group, which can be seen from Sig. 0.687 ( $> 0.05$ ). Statistical test obtained sig value. (2-tailed) 0.028 ( $< 0.05$ ) which means that there is an effect of giving P6 (Nei-Guan) point massage specific points on the body emesis gravidarum in first trimester pregnant. The effect of giving the acupressure technique at point P6 (Nei-Guan) to reduce nausea in first trimester pregnant women has proven to be quite effective so that it can be included in one of the interventions given in antenatal nursing care. For further research, it is better to use more respondents and a longer time and pay attention to the variables that affect the research.

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