

Effectiveness of Ginger and Honey in Massage Acupressure Point P6 (Nei Guan) to Emesis Gravidarum in First Trimester Pregnant Women in Indonesia 2024

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Abstract: Emesis gravidarum, commonly known as morning sickness, often disrupts activities for pregnant women, primarily due to decreased progesterone levels and fluctuating hCG levels. A non-pharmacological approach to alleviate this condition involves acupressure massage at the P6 (Neiguan) point, combined with ginger juice and honey. This study aimed to assess the effectiveness of this method in reducing emesis gravidarum in Indonesian women during their first trimester. Utilizing a pre-experimental one-group pretest-posttest design, the research included 205 pregnant women experiencing first-trimester emesis gravidarum, selected through purposive sampling. Data collection was performed using the PUQE-24 questionnaire and observation sheets. The analysis, conducted with paired sample t-tests, revealed an average severity score reduction from 9.40 (moderate) to 4.49 (mild), showing a significant average difference of 4.91. The bivariate analysis confirmed the effectiveness of the intervention, with a p-value of 0.000. This method is recommended for health workers as it is cost-effective, has no side effects, and provides a safe treatment option for managing emesis gravidarum in pregnant women.

Keywords: Emission Gravidarum; First Trimester of Pregnancy; Ginger Juice; Honey; Massage Acupressure Point P6.

Introduction

Emesis gravidarum is a normal or frequent symptom in the first trimester of pregnancy. Nausea usually occurs in the morning but can occur at any time and at night. These symptoms usually occur 6 weeks after the first day of the last menstruation (HPHT) and last approximately 10 weeks (Wiknjosastro, 2021). Lowe & Steinweg (2022) states that the number of incidents emesis gravidarum occurs throughout the world with an incidence reaching 12.5% of all pregnancies. Incidence rate emesis gravidarum that occurs in the world is very diverse, namely 10.8% in China, 2.2% in Pakistan, 1.9% in Turkey, 0.9% in Norway, 0.8% in Canada, 0.5% in

California, 0.5%-2% in America. Indonesia incident emesis gravidarum in the first trimester of pregnancy, it is much greater than the incidence rate that occurs in the world, reaching more than 80% of all pregnancies, where 60 to 80% of the incidence rate occurs in primigravida mothers, and 40 to 60% of the incidence rate occurs in multigravida pregnant women (Khairiah & Anggraini, 2019). Emesis gravidarum can occur in the morning so it can disrupt the activities of pregnant women (Liu et al., 2022). The cause is due to high levels of hCG (human chronic gonadotrophin), especially during the first 12-16 weeks of pregnancy (Tiran, 2022). The impact that occurs if emesis gravidarum If it is not treated immediately, it can cause complications in the mother and fetus,

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including lack of nutrition and fluids so that the mother's physical condition becomes weak and tired, it can also cause acid base disorders, aspiration pneumonia, tearing of the esophageal mucosa, liver damage and kidney damage so it can cause changes in the body's metabolism (Wiknjastro, 2021).

Efforts to overcome emesis gravidarum can be done by pharmacological or non-pharmacological methods. Pharmacological therapy can be carried out by administering antiemetics, antihistamines, anticholinergics and corticosteroids. Non-pharmacological therapy is carried out by means of diet regulation and emotional support. One way that can reduce emesis gravidarum is by massage acupressure (Rofi'ah et al., 2019). Acupressure is a simple therapy, easy to do, has no side effects because it does not involve invasive procedures (Yildirim & Yildiz, 2021). Acupressure can stimulate the regulatory system and activate endocrine and neurological mechanisms, which are physiological mechanisms for vomiting in the mild and moderate categories. Acupressure therapy is carried out by manually pressing the pericardium point 6 in the wrist area, namely 3 fingers from the wrist (Gahayu & Ristica, 2021). Based on research conducted by Handayani & Khairiyatul (2019), the results of research in the intervention group by massaging the wrist using 3 fingers with a duration of 15 minutes every morning alternately for 14 consecutive days showed that the average result before acupressure was carried out was 8.00. . After performing acupressure, the average degree of nausea and vomiting was 5.00, resulting in a decrease in nausea and vomiting, namely 3.00. The analysis results were $p=0.010 < \alpha=0.05$, so H_0 was rejected, meaning that acupressure had an effect on reducing nausea and vomiting. The more regularly you do acupressure, the less complaints of nausea and vomiting will prevent complications in pregnant women.

Apart from providing therapy acupressure, giving ginger juice accompanied by honey can also be used as herbal therapy to overcome emesis gravidarum. Ginger can cause a comfortable feeling in the stomach so it can overcome nausea and vomiting because it contains oil Essential oils Zingiberen, Zingiberol, Bisabilena, Curkumen, Gingerol, Flandrena, vitamin A and bitter resin. The content of these substances can block serotonin, a neurotransmitter of the central nervous system and enterochromaffin cells in the digestive tract by inhibiting the induction of HCG into the stomach (Hasnita & Hasnaeni, 2021). Honey can reduce nausea and vomiting in pregnant women because honey contains several minerals that are important for the body. Honey contains pyridoxine (0.024 mg) as a receptor antagonist and other benefits are that it can help maintain stamina and health during pregnancy, as well

as helping with high nutritional intake for the growth of the fetus in the womb (Widowati et al., 2020).

The research results of Setiyaningsih & Isro'aini (2023) showed that before being given ginger and honey capsules, the frequency of nausea and vomiting was almost entirely moderate, 3-4 times/day (83.3%). After being given ginger and honey capsules, the frequency of nausea and vomiting was almost completely reduced to mild 1-2 times/day (91.7%) so that there was an effect of giving ginger on nausea and vomiting. The frequency of nausea and vomiting before giving ginger and honey to pregnant women in the 1st trimester with a significance value of 0.003. The results of a preliminary study conducted by researchers at the Multazam Clinic, North Cikarang District, Bekasi Regency, is one of the places in Indonesia in 2022, out of 387 pregnant women in the first trimester, it was found that 225 mothers (58.1%) experienced emesis gravidarum. Meanwhile, in 2023, of 392 pregnant women in the first trimester, 258 mothers (65.8%) were found to experience emesis gravidarum. The treatment given was vitamin B6 which was consumed by the mother for 7 days and counseling on diet, while giving acupressure or giving ginger juice accompanied by honey to reduce nausea and vomiting had never been done.

Based on the background description above, the researcher is interested in conducting research entitled "Effectiveness of Giving Massage Acupressure Point P6 (Nei Guan) Accompanied by the provision of ginger juice and honey to Emesis Gravidarum in First Trimester Pregnant Women in Indonesia in 2024".

Method

Based on the above background, the limitation of this research is that it only examines the effectiveness of giving acupressure massage to the P6 point (Nei Guan) accompanied by the administration of ginger juice and honey against emesis gravidarum in first trimester pregnant women. This research was carried out in Indonesia covering the PMB Ina Iryani Karang Anyar, Central Lampung area, BPM Rina Listiana, SS.T., PMB E Sepatan Timur Tangerang Regency, BPM Ai Hayati Karawang, PMB H Grogol Petamburan West Jakarta City, Multazam Clinic, North Cikarang District, Bekasi Regency, PMB R Cibitung, Bekasi Regency. The research was conducted in May-June 2024. This type of research uses pre-experimental research (pre-experiment design), this research design uses one group pretest posttest design. The population of this study was all first trimester pregnant women who experienced emesis gravidarum in Indonesia including the areas of PMB Ina Iryani Karang Anyar Central Lampung, BPM Rina Listiana, SS.T., PMB E Sepatan Timur Tangerang

Regency, BPM Ai Hayati Karawang, PMB H Grogol Petamburan, West Jakarta City, Multazam Clinic, North Cikarang District, Bekasi Regency, PMB R Cibitung, Bekasi Regency. Data analysis using paired sample t-test as shown in Figure 1.



Figure 1. Research Flowchart

Result and Discussion

Result

Table 1. Frequency Distribution *Emesis Gravidarum* in First Trimester Pregnant Women Before Giving Massage *Acupressure* Point P6 (*Nei Guan*) Accompanied by the provision of ginger juice and honey in Indonesia in 2024

Emesis Gravidarum	Frequency (f)	Percentage (%)
No Nausea, Vomiting	0	0.00
Light	18	8.80
Currently	166	81.00
Heavy	21	10.20
Amount	205	100

Based on the research results in Table 1, it is known that 30 pregnant women were in their first trimester before giving massage *acupressure* point P6 (*neiguan*) accompanied by administration of ginger juice and honey mostly with *emesis gravidarum* medium as many as 166 people (81.00%).

Table 2. *Emesis Gravidarum* in First Trimester Pregnant Women Before Giving Massage *Acupressure* Point P6 (*Nei Guan*) Accompanied by the provision of ginger juice and honey in Indonesia in 2024

Emesis Gravidarum	Rate-rate	Std. Deviation	Max	Min
Before	9.40	2.48	15	5

Based on the research results in table 2, it is known that *emesis gravidarum* in first trimester pregnant women before giving massage *acupressure* point P6 (*Nei Guan*) accompanied by administration of ginger juice and honey with an average of 9.40, std. deviation = 2.48 maximum = 15 and minimum = 5.

Table 3. Frequency Distribution *Emesis Gravidarum* in First Trimester Pregnant Women After Giving Massage *Acupressure* Point P6 (*Nei Guan*) Accompanied by the provision of ginger juice and honey in Indonesia in 2024

Emesis Gravidarum	Frequency (f)	Percentage (%)
No Nausea, Vomiting	64	31.20
Light	111	54.10
Currently	27	13.20
Heavy	3	1.50
Amount	205	100

Based on the research results in table 1, it is known that 30 pregnant women were in the first trimester after giving massage *acupressure* point P6 (*neiguan*) accompanied by administration of ginger juice and honey mostly with *emesis gravidarum* mild as many as 111 people (54.10%).

Table 4. *Emesis Gravidarum* in First Trimester Pregnant Women After Giving Massage *Acupressure* Point P6 (*Nei Guan*) Accompanied by the provision of ginger juice and honey in Indonesia in 2024

Emesis Gravidarum	Rate-rate	Std. Deviation	Max	Min
After	4.49	1.99	14	2

Based on the research results in table 2, it is known that *emesis gravidarum* in first trimester pregnant women before giving massage *acupressure* point P6 (*Nei Guan*) accompanied by administration of ginger juice and honey with an average of 4.49, std. deviation = 1.99 maximum = 14 and minimum = 2.

Table 5. Effectiveness of Giving Massage *Acupressure* Point P6 (*Nei Guan*) Accompanied by giving ginger juice and honey to *Emesis Gravidarum* in first trimester pregnant women in Indonesia in 2024

Emesis Gravidarum	Mean	Mean Difference	p value
Before	9.40		
After	4.49	4.91	0.000

Test results *paired sample t-test* The significance value is known before and after the mosaic is carried out and *puzzle* equal to $0.000 < 0.05$, it can be concluded that H_0 is rejected and H_a is accepted, thus it can be concluded that there is effectiveness in providing *acupressure* massage at point P6 (*Nei Guan*) accompanied by the administration of ginger juice and honey *emesis gravidarum* in First Trimester Pregnant Women in Indonesia.

Discussion

Emesis Gravidarum in First Trimester Pregnant Women Before Giving Massage *Acupressure* Point P6 (*Nei Guan*)

Accompanied by the provision of ginger juice and honey in Indonesia in 2024

Based on the research results, it was found that pregnant women were in the first trimester before giving massage acupressure point P6 (*Nei Guan*) accompanied by administration of ginger juice and honey mostly with *emesis gravidarum* while there were 166 people (81.0%). Meanwhile, the average value is 9.40. *Emesis gravidarum* is the result of stimuli that occur in the brain. The cause of nausea and vomiting is not known for certain, but it appears to be related to high levels of the hCG hormone. The hCG hormone which increases in pregnancy is thought to be the cause of nausea and vomiting and vomiting which acts on the vomiting center in the brain, namely *medulla* (Goldberg, 2022). Psychological problems can predict that some women will experience nausea and vomiting during pregnancy (Tiran, 2022). How to overcome *emesis gravidarum* according to Hulliana (2022), these include eating more small portions, avoiding foods that smell strong, are too salty or spicy, consume foods rich in carbohydrates, massage acupressure point p6 (*neiguan*), consume ginger juice and honey.

In accordance with the results of Fatmawaty et al. (2023) shows the results of the incident *emesis gravidarum* Before the intervention in the treatment group, the majority of pregnant women in the first trimester experienced moderate nausea, namely 66.60%. Likewise with the results of Rohmayanti et al. (2022) it is known that the average nausea and vomiting before being given acupressure therapy is 8.90 (*emesis gravidarum* currently). The results of subsequent research conducted by Arianti & Yuliani (2021) showed the results of the incident *emesis gravidarum* Before the intervention in the treatment group, the majority of pregnant women in the first trimester experienced moderate nausea, namely 85%. Researchers assume that many pregnant women experience this *emesis gravidarum* in the moderate category, this is caused by increased HCG production, causing increased progesterone levels, causing fluid balance disorders in the body. This condition has an impact on increasing stomach acid, causing nausea and vomiting during pregnancy. Apart from that, there are psychological factors that have an impact on the occurrence of nausea and vomiting which is caused by increased levels of the hormone serotonin, which is a hormone that has an important role in mood, so that if pregnant women experience mood disorders or excessive anxiety, it can result in nausea and vomiting. Several efforts to prevent its occurrence *emesis gravidarum* those that are more severe include eating small portions but often, avoiding fatty, fried foods or foods containing coconut milk because they can increase stomach acid, triggering nausea and vomiting. Another

effort is to do massage acupressure point p6 (*neiguan*) accompanied by consumption of ginger juice and honey.

Emesis Gravidarum in First Trimester Pregnant Women After Giving Massage Acupressure Point P6 (Nei Guan) Accompanied by the provision of ginger juice and honey in Indonesia in 2024

Based on the research results, it was found that pregnant women were in the first trimester before giving massage acupressure point P6 (*Nei Guan*) accompanied by administration of ginger juice and honey mostly with *emesis gravidarum* while there were 111 people (54.10%). Meanwhile, the average value is 4.49. Acupressure (pericardium point 6) is an action to reduce or reduce feelings of nausea and vomiting and vomiting in pregnancy which is carried out by pressing a certain point on the body (pericardium point 6 or three fingers below the wrist). Benefit acupressure It is therapy with principles *healing touch* which shows more behavior *caring* to respondents, so that it can provide a feeling of calm, comfort, a feeling of greater attention which can bring the therapeutic relationship between researchers and respondents closer (Sari & Hindratni, 2022). Giving ginger juice can be used as herbal therapy to overcome *emesis gravidarum* because it contains oil *Essentials Zingiberen*, *Zingiberol*, *Bisabilena*, *Curkumen*, *Gingerol*. Its antiseptic effect is comparable to *metachlorobromide* (Hasnita & Hasnaeni, 2021). Honey is pregnant *pyridoxine* as a receptor antagonist which provides benefits such as preventing nausea and vomiting, honey can help maintain energy and health during pregnancy and is a high nutrient that helps the growth of the fetus and uterus (Soa et al., 2018).

In accordance with the results of Fatmawaty et al. (2023) in their research shows results that occur *emesis gravidarum* Before the intervention, the majority of pregnant women in the first trimester experienced moderate nausea, namely 66.60%, and after the intervention, this decreased to no nausea and mild nausea, 40% each. Likewise the results of Kurniawati et al. (2023) shows average results *pretest* 9,15 (*emesis gravidarum* moderate) and *posttest* 5.25 (*emesis gravidarum* light) so that the average difference is found *emesis gravidarum* of 3.9. Nugraha et al. (2022) the difference in *emesis gravidarum* before being given intervention by a combination of P6 point acupressure massage and warm ginger drink was with a median value of 11.00 (*emesis gravidarum* moderate) and the median value after being given the intervention was 4.00 (*emesis gravidarum* mild) means there is a decrease in the *emesis gravidarum* score with a median of 7.

Researchers assume there will be a decline *emission gravidarum* In pregnant women in the first trimester, this is because through acupressure massage the stress experienced by the mother decreases due to the pressure

on the p6 Meridian point which will be passed on to the city to release endorphin hormones where these hormones can provide a feeling of relaxation in the body so that mother experiences relaxation (Mehta et al., 2017). The administration of ginger can reduce *emesis gravidarum* caused by the presence of content *ginerol* which works to prevent the formation of gas in the digestive tract so that it can overcome the nausea, vomiting and bloating experienced by mothers who experience it *emesis gravidarum*. Meanwhile, giving honey can overcome this *emesis gravidarum* caused by the presence of pyridoxine, which is a content that can help maintain energy and health during pregnancy, has high nutritional value and prevents nausea and vomiting experienced by pregnant women in the first trimester, so *emesis gravidarum* experienced is reduced. Based on these results, it is hoped that massage will be provided *acupressure* point p6 (*neiguan*) accompanied by giving ginger juice and honey can be done by pregnant women who experience *emission gravidarum* so that the nausea and vomiting that the mother experiences can be reduced.

Effectiveness of Giving Massage Acupressure Point P6 (Nei Guan) Accompanied by giving ginger juice and honey to Emesis Gravidarum in first trimester pregnant women in Indonesia in 2024

Based on research, the test results show *paired sample t-test* The significance value is known before and after the mosaic is carried out and *puzzle* equal to $0.000 < 0.05$, it can be concluded that H_0 is rejected and H_a is accepted, thus it can be concluded that there is effectiveness in providing *acupressure* massage at point P6 (*Nei Guan*) accompanied by the administration of ginger juice and honey *emesis gravidarum* in first trimester pregnant women in Indonesia in 2024.

During pregnancy, changes occur in the pregnant woman's gastrointestinal system. High levels of progesterone at the same time that hCG production reaches its peak disrupts the body's fluid balance, causing saliva secretion to become more acidic, more abundant and stomach acid to decrease (Irianti, 2022). Through massage *acupressure* will stimulate sensory nerve cells around the point *acupressure* then it is continued to the spinal cord, mesencephalon and hypothalamus pituitary complex, all three of which are stimulated to release endorphin hormones which can provide a feeling of relaxation, with the presence of endorphin hormones the body will feel relaxed so that. Benefit *acupressure* It is therapy with principles *healing touch* which shows more behavior *caring* to respondents, so that it can provide a feeling of calm, comfort, a feeling of greater attention which can bring the therapeutic relationship between researchers and respondents closer (Sari & Hindratni, 2022). Giving ginger juice can cause a

feeling of comfort in the stomach so that it can overcome nausea and vomiting because it contains oil *Essential oils Zingiberen, Zingiberol, Bisabilena, Curkumen, Gingerol, Flandrena*, vitamin A and bitter resin.

The content of these substances can block serotonin, a central nervous system neurotransmitter and enterochromaffin cells in the digestive tract by inhibiting the induction of HCG into the stomach so that nausea and vomiting experienced by pregnant women is reduced (Hasnita & Hasnaeni, 2021). Honey contains pyridoxine as a receptor antagonist which provides benefits such as preventing nausea and vomiting, honey can help maintain energy and health during pregnancy and is a high nutrient that helps the growth of the fetus and uterus. When ginger and honey are combined, the effects of ginger spread quickly because honey contains metabolic enzymes such as amylase invertase, glucose oxidase and peroxidase which are quickly absorbed by the body. The pyridoxine content in honey is 0.024 mg (2%) which can help maintain stamina during pregnancy and contribute to nutritional support for the fetus in the womb (Soa et al., 2018).

In accordance with the results of Rohmayanti et al. (2022) showed that there was an effect of *acupressure* on nausea and vomiting in TM I pregnant women with a value of *p-value* = 0.000. Floriana et al. (2022) in their research showed that the results of giving PC 6 *acupressure* therapy accompanied by giving ginger and honey could reduce vomiting in first trimester pregnant women by *p value* 0,000. Likewise, the results of research by Arianti & Yuliani (2021) obtained values *p-value* 0.000 < from the alpha value (0.05) it can be concluded that there is a significant effect before and after giving ginger and honey drinks.

Researchers assume the effectiveness of giving *acupressure* massage to the P6 point (*Nei Guan*) accompanied by the administration of ginger juice and honey for *emesis gravidarum* in first trimester pregnant women, this is because massage at the pericardium point 6 makes the mother feel calm and comfortable, especially in the stomach area, while the administration of ginger juice will provide a warm feeling, in addition it's through the womb *gingerol* can reduce stomach acid so that the mother's nausea is reduced. Moreover, by adding honey which contains vitamin B 6 which functions to reduce nausea and a source of carbohydrates that functions as a source of energy and works to coat the esophagus and stomach walls, thereby preventing food and fluids in the stomach from rising again, resulting in reduced feelings of nausea and vomiting. It is necessary to provide massage intervention *acupressure* point P6 (*neiguan*) accompanied by giving ginger juice and honey routinely when experiencing nausea and vomiting in the first trimester

of pregnancy so that the nausea and vomiting that the mother experiences is reduced and the mother feels comfortable during pregnancy (Formenti et al., 2023; Mobarakabadi et al., 2020).

Conclusion

The main Emesis gravidarum in first trimester pregnant women in Indonesia in 2024 before giving massage acupressure point P6 (Nei Guan) accompanied by the provision of ginger juice and honey with an average of 9.40 (emesis gravidarum currently). Emesis gravidarum in Indonesian first trimester pregnant women in 2024 after giving massage acupressure point P6 (Nei Guan) accompanied by the provision of ginger juice and honey with an average of 4.49 (emesis gravidarum light). There is effectiveness in giving acupressure massage to the P6 point (Nei Guan) accompanied by the administration of ginger juice and honey to emesis gravidarum in first trimester pregnant women in Indonesia in 2024 with value p value = 0,000.

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Author Contributions

The following statements should be used Conceptualization RK, MPS, SAP, NIS, AH, KN, NF, RP contributed to the data collection process, data processing, article writing.

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Conflicts of Interest

The authors declare no conflict of interest.

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