

DIFFERENCES IN THE EFFECTIVENESS OF ACCUPRESSURE THERAPY AND PHARMACOLOGICAL B6 THERAPY ON THE INTENSITY OF EMESIS GRAVIDARUM AT THE WALISONGO CLINIC

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ABSTRACT

Background; Emesis gravidarum is a symptom of nausea in first trimester pregnancy that occurs in the morning experienced by about 70-80% of pregnant women and is a phenomenon that often occurs at 5-12 weeks of pregnancy. Based on the results of preliminary studies conducted at the Walisongo Clinic on 10 pregnant women in the first trimester, the results showed that 7 people (70%) experienced emesis gravidarum, and 3 people (30%) did not experience hyperemesis gravidarum. At the Walisongo Clinic, *accupressure* therapy has never been done to reduce the incidence of excessive nausea and vomiting, only given B6. **Methodology;** Type of quantitative research, quasy experiment or pseudo experiment using pretest-posttest control group design. The target population in this study were all first trimester pregnant women at Walisongo Clinic, Grobogan Regency, totaling 40 pregnant women. The sample used total sampling of 40 pregnant women. Data analysis using *Wilcoxon* test and *Mann Whitney Test*. **Results; The** level of intensity of emesis gravidarum before being given B6 pharmacology and acupressure therapy, in the B6 pharmacology group alone most of the moderate category 65% (13 respondents) and the B6 and accupressure treatment groups most of the moderate category 50% (10 respondents). The level of intensity of emesis gravidarum after being given B6 pharmacology therapy and acupressure, in the B6 pharmacology group alone most of the moderate category 55% (11 respondents) and the B6 and accupressure treatment groups most of the mild category 85% (17 respondents). **Conclusion; The** results of the Wilcoxon statistical test obtained a p value of $0.000 < 0.05$ means that H_a is accepted and it can be concluded that there is an effect of accupressure therapy at pericardium point 6 on reducing the intensity of emesis gravidarum at Walisongo Clinic, Grobogan Regency. The results of the Wilcoxon statistical test obtained a p value of $0.014 < 0.05$ means that H_a is accepted and it can be concluded that there is an effect of B6 pharmacology therapy on reducing

the intensity of emesis gravidarum at Walisongo Clinic, Grobogan Regency. The results of the Mann Whitney Test statistical test obtained p value $0.009 < 0.05$ means that H_a is accepted and it can be concluded that there is a difference in the effectiveness of accupresure therapy at pericardium point 6 and pharmacological therapy B6 on reducing the intensity of emesis gravidarum at Walisongo Clinic, Grobogan Regency.

Keywords; Accupresure, B6 pharmacology, *emesis gravidarum*.

Bibliography; 20 (2016 - 2023)

INTRODUCTION

Emesis gravidarum is a symptom of nausea in first trimester pregnancy that occurs in the morning experienced by about 70-80% of pregnant women and is a phenomenon that often occurs at 5-12 weeks of pregnancy. Nausea and vomiting are experienced by about 50-90% of women, 60-80% occur in primigravida and 40-60% in multigravida, and only 25% of nausea without vomiting. The rate of nausea in pregnant women is 70%-85%, and half of this percentage experience vomiting. These symptoms become more severe in 100 out of 1000 pregnancies. WHO as a UN agency that deals with health issues, said that Hyperemesis *gravidarum* occurs throughout the world, including countries in the Americas with varying incidence rates. Meanwhile, the incidence of Hyperemesis *gravidarum* also occurs in Asia, for example in Pakistan, Turkey and Malaysia. Meanwhile, the incidence of Hyperemesis *gravidarum* in Indonesia is ranging from 1% to 3% of all pregnancies (Mulyandari, 2022) .

Emesis gravidarum will increase in severity to hyperemesis *gravidarum* which will cause the mother to vomit continuously every time she drinks or eats, as a result the mother's body becomes weak, pale, and the frequency of urination decreases dramatically so that the body fluids decrease and the blood becomes thick (hemoconcentration) which can slow down blood circulation which means oxygen consumption and tissue food is also reduced, lack of food and oxygen will cause tissue damage which can endanger the health of the mother and the development of the fetus she is carrying (Erniawati, 2019) .

Nausea and vomiting can be treated pharmacologically by giving drugs to reduce nausea and vomiting such as tiemetic drugs or vitamin B6, but these drugs have side effects for pregnant women such as headaches, diarrhea and drowsiness. Not all pregnant women can undergo therapy using drugs, there are some pregnant women who cannot take drugs, so non-pharmacological therapy is needed. Non-pharmacological treatment or complementary therapy which has the advantage of being cheaper and has no pharmacological effects (Fengge, 2018).

Management of nausea and vomiting in pregnancy depends on the severity of symptoms. Treatment ranges from the mildest with dietary changes to approaches with antimietic medication, hospitalization, or parenteral nutrition. Treatment consists of pharmacological and non-pharmacological therapies. Pharmacological therapy is carried out by administering thymetics, antihistamines, and orthosteroids. Non-pharmacological therapy is carried out by regulating diet, emotional support, and *acupressure* (Fengge, 2018) .

Accupressure (pericardium point 6) is an action to reduce or reduce nausea and vomiting in pregnancy by pressing on a certain body point (pericardium point 6 or three fingers below the wrist). *Accupressure* is a way of massage based on acupuncture or can also be called acupuncture without needles. *Accupressure* therapy is one of the non-pharmacological therapies in the form of massage therapy at certain meridian points related to organs in the body to treat nausea and vomiting. This therapy does not include drugs or invasive procedures but rather activates existing cells in the body, so this therapy does not provide side effects such as drugs and does not require expensive costs. The principle of *accupressure* therapy is the same as massaging so it does not require special skills unlike acupuncture which requires training. *Accupressure* therapy for nausea and vomiting is done by manually pressing on the Pericardium 6 (Mulyandari, 2022) .

Walisongo Clinic is one of the clinics located in Grobogan Regency and with an average number of ANC visits of 50 pregnant women in each month and 40 pregnant women with *emesis gravidarum*. Based on the results of preliminary studies conducted at the Walisongo Clinic on 10 pregnant women in the first trimester, the results showed that 7 people (70%) experienced *emesis gravidarum*, and 3 people (30%) did not experience hyperemesis *gravidarum*. Based on the information obtained, mothers who experience excessive nausea and vomiting will usually consume sugar mixed with coffee or bitter tea then eat enough candy or sour food, while other pregnant women usually consume ginger candy or warm rice and Vitamin B6 with a dose of 3 x 1 as a vitamin and anti-vomiting. At the Walisongo Clinic, *accupressure* therapy has never been done to reduce the incidence of excessive nausea and vomiting, so researchers are interested in conducting research with the title *accupressure* therapy in pregnant women with *emesis garvidarum* and compiling a thesis with the title "Differences in the effectiveness of *accupressure* therapy and B6 pharmacology therapy on the intensity of *emesis gravidarum* at Walisongo Clinic, Grobogan Regency".

The results of previous supporting research state that there is an effect of *Accupresure* PC6 on the frequency of *Emesis gravidarum* in first trimester pregnant women ($p=0.000$).

Other related research also states that there is a difference in the effect of *accupressure* and vitamin B6 on reducing the intensity of nausea and vomiting in *emesis gravidarum*. *Accupressure* is more effective than vitamin B6 to overcome nausea and vomiting in pregnant women with severe hyperemesis *gravidarum*.

The purpose of the study was to analyze the differences in the effectiveness of accupressure therapy and B6 pharmacological therapy on the intensity of *emesis gravidarum* at Walisongo Clinic, Grobogan Regency.

METHODS

The type of research used was quasy experiment or pseudo experiment using *pretest-posttest control group design* (Sugiyono, 2018) . The treatment group was given *accupressure* therapy and B6 pharmacology therapy while the control group was only B6 pharmacology. The population in this study was the total number of first trimester pregnant women at the Walisongo Clinic, Grobogan Regency, totaling 50 pregnant women. The study population included all first trimester pregnant women who experienced *emesis gravidarum* in August 2024 at the Walisongo Clinic, Grobogan Regency, totaling 40 pregnant women, with sampling using *total sampling* technique with a sample size of 40 first trimester pregnant women with *emesis gravidarum*.

The research instrument used a checklist for the administration of B6 therapy, accupressure SOP, and PUQE (*Pregnancy - Unique Quantification of Emesis*) score sheet to determine the frequency of nausea and vomiting and the category of *emesis gravidarum*. Data were collected through interviews, observations, and documentation studies. Data analysis was performed using univariate analysis on each variable and bivariate analysis using the *Wilcoxon test*, while to analyze the difference in the effectiveness of *accupressure* therapy at pericardium point 6 and B6 pharmacology therapy on reducing the intensity of *emesis gravidarum* at Walisongo Clinic, Grobogan Regency with an ordinal variable measuring scale using the *Mann Whitney Test*.

RESULTS

The research was conducted at the Primary Outpatient Clinic "Walisongo" which is located at Jalan Raya Purwodadi-Grobogan, Temon Brati Village, tel. (0292) 42627.

a. Univariate Results

1. Level of intensity of *emesis gravidarum* before treatment in the intervention group and control group

Table 1.1 Level of *emesis gravidarum* intensity before treatment in the intervention group and control group at Walisongo Clinic, Grobogan Regency, 2024

Rate of <i>emesis gravidarum</i>	Group			
	Control		Intervention	
	f	%	f	%
Lightweight	5	25,0	7	35,0
Medium	13	65,0	10	50,0
Weight	2	10,0	3	15,0
Total	20	100,0	20	100,0

Source: Primary Data, 2024.

The results of table 4.1 above show that the level of intensity of *emesis gravidarum* before being given B6 pharmacology therapy and acupressure, in the B6 pharmacology group alone most of the moderate category 65% (13 respondents) and the B6 and *acupressure* treatment groups at Walisongo Clinic Grobogan Regency most of the moderate category 50% (10 respondents).

2. Level of intensity of *emesis gravidarum* after treatment in the intervention group and control group

Table 1.2 Level of intensity of *emesis gravidarum* after treatment in the intervention group and control group at Walisongo Clinic, Grobogan Regency, 2024

Rate of <i>emesis gravidarum</i>	Group			
	Control		Intervention	
	f	%	f	%

Lightweight	9	45,0	17	85,0
Medium	11	55,0	3	15,0
Weight	0	0,0	0	0,0

Source: Primary Data, 2024.

The results of table 4.2 above show that the level of intensity of *emesis gravidarum* after being given B6 pharmacology therapy and acupuncture, in the B6 pharmacology group alone most of the moderate category 55% (11 respondents) and the B6 and *acupuncture* treatment group at Walisongo Clinic, Grobogan Regency most of the mild category 85% (17 respondents).

b. Data Normality Test

The normality test of the research data entitled "Differences in the Effectiveness of Acupuncture Therapy and B6 Pharmacology Therapy on the Intensity of *Emesis gravidarum* at Walisongo Clinic, Grobogan Regency" used the Shapiro Wilk test because the number n (sample) was less than 50 respondents. The results of the data normality test are presented in the table below:

Table 1.3 Normality Test Results of Research Data Year 2024

Variables	Group	p value	Results	Description
PUQE score before	Control	0,031	$p < 0,05$	Not normal
	Intervention	0,003	$p < 0,05$	Not normal
PUQE score after	Control	0,005	$p < 0,05$	Not normal
	Intervention	0,000	$p < 0,05$	Not normal

Source: Primary Data, 2024.

Based on table 4.3 above, it is known that all data are not normally distributed, so to determine the effect of *acupuncture* therapy at pericardium point 6 on reducing the intensity of *emesis gravidarum* at Walisongo Clinic, Grobogan Regency with an ordinal data measurement scale using the *Wilcoxon test*, while to analyze the difference in the effectiveness of *acupuncture* therapy at pericardium point 6 and B6 pharmacology therapy on reducing the intensity of *emesis gravidarum* at Walisongo Clinic, Grobogan Regency with an ordinal variable measurement scale using the *Mann Whitney Test*.

c. Bivariate Results

1. Effect of *accupressure* therapy and B6 pharmacological therapy on the intensity of *emesis gravidarum* at Walisongo Clinic, Grobogan Regency

Table 1.4 Effect of *accupressure* therapy on the intensity of *emesis gravidarum* at Walisongo Clinic, Grobogan Regency, 2024

Before-After	Z test	Mean±SD	p value
Treatment (B6 and acupressure)	-3,606	1,15±0,366	0,000

Source: Primary Data, 2024.

Based on table 4.4, the results of the *Wilcoxon* statistical test obtained a value of $p = 0.000$ or $p \text{ value} < 0.05$ so that H_0 is rejected and H_a is accepted, so there is an effect of *accupressure* therapy at pericardium point 6 on reducing the intensity of *emesis gravidarum* at Walisongo Clinic, Grobogan Regency with a z test value of -3.606.

2. Effect of B6 pharmacology therapy on the intensity of *emesis gravidarum* at Walisongo Clinic, Grobogan Regency

Table 1.5 Effect of B6 pharmacology therapy on reducing the intensity of *emesis gravidarum* at Walisongo Clinic, Grobogan Regency, 2024

Before-After	Z test	Mean±SD	p value
Control (B6 Pharmacology)	-2,449	1,55±0,510	0,014

Source: Primary Data, 2024.

Based on table 4.5, the results of the *Wilcoxon* statistical test obtained a p value of 0.014 or a p value < 0.05 so that H_0 is rejected and H_a is accepted, so there is an

effect of B6 pharmacology therapy on reducing the intensity of *emesis gravidarum* at the Walisongo Clinic, Grobogan Regency with a z test value of -2.449.

3. Differences in the effectiveness of *accupressure* therapy and B6 pharmacological therapy on reducing the intensity of *emesis gravidarum* at Walisongo Clinic, Grobogan Regency

Table 1.6 Differences in the effectiveness of *accupressure* therapy and B6 pharmacology therapy on reducing the intensity of *emesis gravidarum* at Walisongo Clinic, Grobogan Regency in 2024

Difference	Mean Rank	Z test	p value
Control	16,50	-2,619	0,009
Intervention	24,50		

Source: Primary Data, 2024.

Based on table 4.6, the results of the *Mann Whitney Test* statistical test obtained a value of $p = 0.009$ or a value of $p < 0.05$ so that H_0 is rejected and H_a is accepted, so there is a difference in the effectiveness of *accupressure* therapy at pericardium point 6 and B6 pharmacology therapy on reducing the intensity of *emesis gravidarum* at Walisongo Clinic, Grobogan Regency, *accupressure* therapy is more effective with a z test value of -2.619.

DISCUSSION

1. Level of intensity of *emesis gravidarum* before being given *accupressure* therapy and B6 pharmacology therapy at Walisongo Clinic, Grobogan Regency

The level of intensity of *emesis gravidarum* before being given *accupressure* therapy and B6 pharmacology therapy at Walisongo Clinic, Grobogan Regency based on univariate analysis with frequency and percentage distribution, in the B6 pharmacology group alone most of the categories were moderate 65% (13 respondents), mild 25% (5 respondents) and severe 10% (2 respondents). While in the B6 and *accupressure* treatment group at the Walisongo Clinic, Grobogan

Regency, most of the categories were moderate 50% (10 respondents), mild 35% (7 respondents) and severe 15% (3 respondents).

In this initial condition, pregnant women who experience *emesis gravidarum* and visit for antenatal care at the Walisongo clinic in Grobogan Regency when measuring or observing the level of intensity of nausea and vomiting or *emesis gravidarum*, these pregnant women have not received any treatment.

The results of this study are in line with previous research related to the application of pc 6 acupressure and ginger drinks in reducing *emesis gravidarum* in the Cisolok Health Center work area, the results of univariate analysis before getting treatment found that almost all respondents experienced nausea and vomiting, namely as many as 24 respondents (80%) (Mulyani et al., 2023) .

2. Level of intensity of *emesis gravidarum* after *accupressure* therapy and B6 pharmacology therapy at Walisongo Clinic, Grobogan Regency.

The level of intensity of *emesis gravidarum* after being given *accupressure* therapy and B6 pharmacology therapy at Walisongo Clinic, Grobogan Regency based on univariate analysis with frequency distribution, in the B6 pharmacology group alone most of the moderate category 55% (11 respondents) and the B6 and *accupressure* treatment groups at Walisongo Clinic, Grobogan Regency most of the mild category 85% (17 respondents). After being given treatment, both B6 pharmacology alone and with acupressure therapy, the intensity of severe nausea and vomiting was either absent or 0%. However, in the treatment group after the intervention there were still 3 respondents (15%) with moderate levels of *emesis gravidarum*, this could occur due to genetic aspects and family history related to the response to hormonal changes and nausea in pregnant women and an unbalanced diet such as lack of vegetables and fruit.

Theoretically, the treatment of *emesis gravidarum* can be given Vitamin B6 at a dose of 3 x 1 as a vitamin and anti-vomiting. In addition, acupressure therapy for nausea and vomiting can be done by manually pressing on P6 Neiguan or Pericardium 6 in the wrist area (Alvira, 2017).

The results of this study are in line with previous research related to the application of pc 6 acupressure and ginger drinks in reducing *emesis gravidarum* in the Cisolok Puskesmas work area, the level of *emesis gravidarum* in all

respondents decreased with data showing that respondents with mild nausea and vomiting were 30 people (100%) (Mulyani et al., 2023) .

3. The effect of *accupressure* therapy at pericardium point 6 on reducing the intensity of *emesis gravidarum* at Walisongo Clinic, Grobogan Regency.

Based on the results of the *Wilcoxon* statistical test, the p value = 0.000 or p value <0.05 so that H_0 is rejected and H_a is accepted, so there is an effect of *accupressure* therapy at pericardium point 6 on reducing the intensity of *emesis gravidarum* at Walisongo Clinic, Grobogan Regency. This can be seen and supported by data that before treatment most respondents with moderate levels of *emesis gravidarum* by 50% and after being given *accupressure* treatment P6 most of the levels of *emesis gravidarum* fell to light by 85%.

Point P6 is located on the heart membrane meridian. The heart membrane meridian has two branches, one of which enters the heart membrane and heart, then continues downward through the diaphragm, into the middle and lower chambers of the abdomen. This meridian also crosses the stomach and colon. *Acupressure* is a therapy that can be performed with ease and minimal side effects. *Acupressure* should not be performed on injured, swollen, fractured or broken bones and burned skin (Farhadi et al., 2016). *Acupressure* therapy for nausea and vomiting can be done by manually pressing on P6 Neiguan or Pericardium 6 in the wrist area, namely 3 from the distal area of the wrist between two tendons (flexor carpi radialis and palmaris longus muscles), for 30 seconds to two minutes and *acupressure* works quite quickly. Usually one to two minutes for people with p disorders The journal of previous related research states that there are differences in the effect of *accupressure* and vitamin B6 on reducing the intensity of nausea and vomiting in *emesis gravidarum*. *Accupressure* is more effective than vitamin B6 to treat nausea and vomiting in pregnant women with severe hyperemesis *gravidarum* (Masdinarsah, 2022). digestion (Alvira 2017).

Effect of B6 pharmacological therapy on reducing the intensity of *emesis gravidarum* at Walisongo Clinic, Grobogan Regency

Based on the results of the *Wilcoxon* statistical test, the p value = 0.014 or p value <0.05 so that H_0 is rejected and H_a is accepted, so there is an effect of B6 pharmacology therapy on reducing the intensity of *emesis gravidarum* at Walisongo Clinic, Grobogan Regency with a z test value of -2.449. Before being given B6 pharmacology, the level

of emesis gravidarum was mostly moderate 65% and after being given B6 pharmacology, the moderate intensity dropped to 55% and mild 45%.

The American Congress of Obstetricians and Gynecologists (ACOG) also recommends taking pyridoxine (vitamin B6) and doxylamine when nausea and vomiting during pregnancy is not relieved by dietary and lifestyle changes. The recommended dose is usually 10 mg to 25 mg which can be taken three times a day is considered safe and effective (Ministry of Health, 2018).

4. Differences in the effectiveness of *accupressure* therapy at pericardium point 6 and B6 pharmacology therapy on reducing the intensity of *emesis gravidarum* at Walisongo Clinic, Grobogan Regency

Based on the results of the *Mann Whitney Test* statistical test, the p value = 0.009 or p value <0.05 so that H_0 is rejected and H_a is accepted, so there is a difference in the effectiveness of *accupressure* therapy at pericardium point 6 and B6 pharmacology therapy on reducing the intensity of *emesis gravidarum* at Walisongo Clinic, Grobogan Regency, *accupressure* therapy is more effective with a z test value of -2.619.

In theory, *acupressure* therapy at point P6 can reduce nausea and vomiting in early pregnancy. This result is because point P6 is located in the heart membrane meridian which has two branches, one branch enters the heart membrane and heart, then continues down through the diaphragm, into the middle and lower chambers of the stomach. This meridian also crosses the stomach and colon (Farhadi et al., 2016). *The American Congress of Obstetricians and Gynecologists* (ACOG) also recommends taking pyridoxine (vitamin B6) and doxylamine when nausea and vomiting during pregnancy is not relieved by diet and lifestyle changes. The recommended dose is usually 10 mg to 25 mg which can be taken three times a day is considered safe and effective (Ministry of Health, 2018). Previous related research journals state that there are differences in the effect of *accupressure* and vitamin B6 on reducing the intensity of nausea and vomiting in *emesis gravidarum*. *Accupressure* is more effective than vitamin B6 to treat nausea and vomiting in pregnant women with severe hyperemesis *gravidarum* (Masdinarsah, 2022) .

CONCLUSION

Based on the results of collecting, processing and analyzing research data, the researcher can conclude from the results of this study as follows:

1. The level of intensity of *emesis gravidarum* before being given pharmacological therapy B6 and acupressure, in the B6 pharmacology group alone most of the moderate category 65% (13 respondents) and the B6 and *accupressure* treatment group most of the moderate category 50% (10 respondents).
2. The level of intensity of *emesis gravidarum* after being given B6 pharmacology therapy and acupressure, in the B6 pharmacology group alone most of the moderate category 55% (11 respondents) and the B6 and *accupressure* treatment group most of the mild category 85% (17 respondents).
3. The results of the *Wilcoxon* statistical test obtained a p value of $0.000 < 0.05$ means that H_a is accepted and it can be concluded that there is an effect of *accupressure* therapy at the pericardium point 6 on reducing the intensity of *emesis gravidarum* at Walisongo Clinic, Grobogan Regency.
4. The results of the *Wilcoxon* statistical test obtained a p value of $0.014 < 0.05$ means that H_a is accepted and it can be concluded that there is an effect of B6 pharmacological therapy on reducing the intensity of *emesis gravidarum* at Walisongo Clinic, Grobogan Regency.
5. The results of the *Mann Whitney Test* statistical test obtained a p value of $0.009 < 0.05$ means that H_a is accepted and it can be concluded that there are differences in the effectiveness of *accupressure* therapy at pericardium point 6 and B6 pharmacology therapy on reducing the intensity of *emesis gravidarum* at Walisongo Clinic, Grobogan Regency .

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