

THE INFLUENCE OF ACUPRESSURE POINT PERICARDIUM 6 AGAINST A DECREASE IN THE FREQUENCY OF NAUSEA VOMITING THE FIRST TRIMESTER OF PREGNANT WOMEN WITH HYPEREMESIS GRAVIDARUM

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Abstract

The purpose of this research is to know the influence of acupressure point pericardium 6 against a decrease in the frequency of nausea vomiting in the first trimester of pregnant women with hyperemesis gravidarum, using design research quasy alphabets experiment. This research was conducted against the 30 respondents mother with hyperemesis gravidarum who are being treated at Petala Bumi Hospital Pekanbaru with 15 people as the experimental group and 15 people as the control group. Sampling technique was purposing sample. The instruments used in the study is a questionnaire and observation. Univariate analysis in the study exposed the frequency distribution and percentage data about demographics and bivariate analysis that is used to view the difference between the nausea and vomiting when pretest and post-test between the experimental and control group differences as well as nausea vomiting when pretest and post-test in experimental group T-test is a test used by are Two Independent Sample Test (Mann-Whitney U Test) the results of the research value of the P value $0.84 > \alpha$ (adequate $\alpha = 0.05$) so that H_0 failed rejected and it can be inferred that There is no significant difference in the value of the nausea vomiting when post-test on a control group and experimental. As well as the influence of treatment on experimental groups before and after therapeutic acupressure given on point pericardium 6 is Two Related Sample Test (Mann-Whitney U Test where analysis indicates P value = 0, 014 < α (0.05)) so that it can be concluded that there is a significant difference in the value of nausea vomiting of pregnant women before and after the acupressure point pericardium 6 Group experiments.

Keywords: acupressure, hyperemesis gravidarum, point pericardium 6,

INTRODUCTION

Pregnancy is a continuous process that begins with conception, ovulation, implantation and development of the embryo in the uterus until the age of pregnancy. Each process is a condition in pregnancy crisis requiring psychological and physiological adaptation against the influence of the hormone. Mechanical pressure resulting from pregnancy and uterine enlargement and other networks (Bobak, 2005). In accordance with the physiological condition, pregnant women will experience changes in each semester. In the first trimester increase secretion of the hormone Human Chorionic Gonadotropin, in large quantities derived from the placenta, the rapid invasion of trophoblast to the endometrium and large amounts of estrogen secretion from the placenta, where circumstances are circumstances that go with nausea and vomiting in pregnant women (Artika, 2006). Physiological changes in pregnancy first trimester many raises complaints in pregnancy. One of the complaints often arise and cause discomfort on the pregnant mother is nausea and vomiting in pregnancy are usually referred to as nausea gravidarum (Artika, 2006). If the nausea and vomiting that interfere with daily activities or cause complications, this State is called hyperemesis gravidarum. Complications that can occur is ketonuria, dehydration, hypokalemia, and weight loss of more than 3 kg or 5% of body weight (Jueckstok, 2010, and Gunawan dkk, 2011 in BKMT, 2013).

Nausea and vomiting in pregnancy usually begins on the 9th week of pregnancy until the 10th week of pregnancy, the more weight on the 11th until the 13th and ending on Sunday the 12th until the 14th. Only 1-10% of pregnancies continues past the week 20th to the 22nd. At 0.3%-2% of pregnancy hyperemesis gravidarum occurs which causes the mother should be styled as with inpatient (Gunawan dkk, 2011 in BKMT, 2013).

Initial governance and for nausea and vomiting without complications is rest and avoid food that stimulates, such as spicy foods, fatty foods, or iron supplements. Simple diet changes, i.e., consume foods in small portions but often quite effective to overcome a mild degree of nausea and vomiting. Whereas, hyperemesis gravidarum patients should be treated at home when ill is dehydrated and done with liquid sodium chloride or lactate ringer. Pharmacological and non pharmacological therapy which has been researched for the treatment of nausea and vomiting in pregnancy are alternative therapies such as acupuncture or acupressure, and Ginger (Gunawan dkk, 2011 in BKMT, 2013).

One of the interventions for the treatment has no side effects is the technique of Acupressure for not using chemicals, so it is believed there is no negative effect on the mother or the baby (Bratman, 2001, in Artika 2006). Acupressure methods have long been applied in Chinese as written in the book of *Acupuncture Without Needle Dr. Cerney*. The first trimester is the most sensitive period of the fetus to be exposed a result of trauma, herbs or other-medication, so the acupressure that do not use the drug safe to do it yourself by the treatment procedures (Artika, 2006).

Acupressure therapy for the treatment of nausea vomiting is to do an emphasis on point pericardium 6 located approximately 6 cm above the wrist of the front. Stimulation at acupoints include doing acupressure point pericardium 6 cause reactions of the nervous system that is local. According to the research of in 2002, stimulation at that point pericardium 6 can enable system modulation on opioid system, system of non opioid and inhibition on sympathetic nerves which hopefully will decline the frequency of nausea (Artika, 2006).

The research results of Artika (2006) influence of acupressure point pericardium 6 against a decrease in the frequency of vomiting in first trimester primigravida with nausea gravidarum in Wengi Malang village test results obtained from the value of the p value $0.00 < p < 0.05$ shows means frequency of vomiting in meaningful on the respondents after the acupressure point pericardium 6.

Based on explanation above, compilers are interested to do the implementation of evidence based on the “influence of the acupressure point pericardium 6 towards a decrease in the frequency of nausea vomiting in first trimester of pregnant women with hyperemesis gravidarum in Petala Bumi Hospital Pekanbaru.”

RESEARCH OBJECTIVES

The purpose of this research is to know the application of evidence based on the influence of acupressure point pericardium 6 towards a decrease in the frequency of nausea vomiting in first trimester of pregnant women with hyperemesis gravidarum.

RESEARCH METHODS

This research is quantitative research using design research quasy alphabets experiment. Research of the correlation is a descriptive research that examines the relationship between two variables in a given situation or a group of subjects. This research was conducted in Petala Bumi Hospital of the population in this study are all mothers who were treated with hyperemesis gravidarum. The sample was pregnant first trimester with hyperemesis gravidarum who have met the criteria, namely:

1. Experiencing nausea and vomiting
2. Do not have complications
3. Never a miscarriage

The total number of samples is 30 people with details of 15 people as a group of 15 people and experiments as a control group. Sampling technique was purposive sampling.

The instruments used were questionnaires and observation. To obtain data characteristics (data

General) pregnant women trimester I data collection, researchers used to discover the intensity of nausea and vomiting is the observation sheet with structured interview techniques.

RESEARCH RESULTS

Research on the influence of the acupressure point pericardium 6 towards a decrease in the frequency of nausea vomiting in first trimester of pregnant women with hyperemesis gravidarum. This research was conducted against the 30 respondent mother with hyperemesis gravidarum treated in Petala Bumi obtained the following results:

A. Univariate Analysis.

Univariate analysis in the study exposed the frequency distribution and demographic data about the percentage examined from 30 respondents mother with hyperemesis gravidarum treated in Petala Bumi Hospital Pekanbaru. As for the results of the univariate analysis can be seen in the following descriptions:

1. Characteristics of respondents

From the 30 respondents treated in Petala Bumi hospital obtained data the following characteristics of the distribution of respondents according to age described in the table below:

Table 1
Frequency distribution of respondents based on their age, tribe, gravid (pregnancy)

| No | Age | Frequency | Presentation (%) |
|----|------------------|-----------|------------------|
| 1. | Age | | |
| | < 20 y/o | 1 | 3.3 |
| | 20-30 y/o | 16 | 53.3 |
| | >30 y/o | 13 | 43.3 |
| 2. | Tribes | | |
| | Malay | 2 | 6.7 |
| | Minang | 22 | 73.3 |
| | Batak | 0 | 0 |
| | Java | 6 | 20.0 |
| 3. | Pregnancy | | |
| | Primigravida | 7 | 23.3 |
| | Multigravida | 23 | 76.7 |

Table 1 shows that most pregnant women are at the age range of 20-30 years that is as much as 16 (53,3%). Pregnant women aged less than 20 years amounts to 1 people (3.3%). Based on the tribe most respondents came from Padang with a total of 22 people (73,3%). While the Malays is the least that is as much as 2 people (6%). On the table is also visible imagery that most pregnancy respondents are on the group with a total of 23 people multigravida (70.7%)) and the rest are in the Group of 7 people (primigravida 23.3%).

2. Characteristics of nausea vomiting pregnant 1st trimester

The results showed that nausea vomiting of pregnant women trimester I at the time of pretest can be seen in table 2.

Table 2

The average distribution of nausea vomiting of pregnant women trimester I when pretest on the group control experiment

| No | Group | Mean | SD | Min | Max |
|----|------------|------|-------|-----|-----|
| 1. | Control | 2.73 | 1.624 | 1 | 6 |
| 2. | Experiment | 3.87 | 1.407 | 2 | 6 |

From table 2 it is known that the average nausea vomiting before intervention in the control group of 2.73 with standard deviation, while 1.624 to experimental group averaged his nausea is 3.87 with standard deviation 1.407. The value of nausea vomiting at least appear on the group control is on point I while the experimental group is on point 2. The value of nausea vomiting most often appear in the control group or the experimental group is on the point of 6. To know the characteristics of the changes of nausea vomiting, then pregnant women given acupressure therapy intervention on point p6. After completion of the intervention, the nausea and vomiting return measured. Results of the study are outlined in table 3 below:

Table

3

The average distribution of nausea vomiting of pregnant women first trimester when pretest on the group control experiment

| No | Group | Mean | SD | Min | Max |
|----|------------|------|------|------|------|
| 1. | Control | 2.47 | 1.5 | 1 | 6.25 |
| 2. | Experiment | 2.78 | 1.75 | 0.75 | 6.5 |

From table 3 it can be seen that the average value of post-test nausea vomiting after the intervention of the experiment and control experiments are likely to be dropped from the first day until the fourth day. The average value of post-test experimental group was 2.78 with standard deviation of 1.75 while the average value of the post test control group is 2.47 with standard deviation of 1.50. The value of nausea vomiting at least appear on the group control is on point 1 and the value that appears most often is the point of 6.25. The value of nausea vomiting at least appeared in experimental group was on the point of 0.75 and value the most frequently appearing 6.5 is on point.

B. Bivariat Analysis

Analysis bivariat used to see the difference between the nausea and vomiting when pretest and post test between control and experimental as well as the difference in nausea vomiting when pre-and post test-test in experimental group T-test is a test of known normality. Based on the results of the P value (0.05) $\hat{a} <$ and seen that the Gaussian data is not normal so that terms of use T test is not met. Statistical techniques that became the choice for this research is a non-parametric statistics (Mann-Whitney U Test and Wilcoxon).

1. Two Independent Sample Test

To analyze the difference between the nausea vomiting when pretest and post test on a control group and experimental, testing used are Two Independent Sample Test (Mann-Whitney U Test).

Table 4

To avoid nausea vomiting of pregnant women first trimester when pre-test on a control group and experimental

| N o | Group | Mea n | SD | <i>Mann Whitn ey</i> | P <i>valu e</i> |
|--------|----------------|-----------|-----------|------------------------------|------------------------|
| 1. | Control | 12,2 3 | 1.60 1 | 65 | 0.05 |
| 2. | Experime nt | 18,6 7 | | | |

From table 4 can be seen that the average value of rank in the control group and the experimental group was 12.33 is 18.67. The Mean value of the control group and experimental is 3.30 with standard deviation 1.601. The value of the Mann Whitney U are 65 and P value is the real extent of $0.05 < (\alpha = 0.05)$ so that we can reject H_0 , it means there is a significant difference in the value of the nausea vomiting when pre-test on a control group and experimental.

Table 5

The difference in nausea vomiting of pregnant women first trimester when post-test on a control group and experimental

| No | Group | Mean | SD | <i>Mann Whitney</i> | P <i>value</i> |
|----|------------|------|------|-------------------------|-------------------|
| 1. | Control | 8.00 | 1.61 | 107,5 | 0.84 |
| 2. | Experiment | | | | |

Table 5 shows the average value of rank when the post-test on a control group from the first day until the 4th day is 14.53; 15.00; 14.83; a group of experiments while 14.90 16.47; 16.00; 16.17; 16.10. Indigo average Mann Whitney 107 with a standard deviation of 1.61. The value of the P value $0.84 > \alpha = 0.05$ so that H_0 failed rejected and it can be concluded that there is no significant difference in the value of the nausea vomiting when post-test on a control group and experimental.

2. Two Independent Sample Test

The analysis is used to find out the influence of treatment on experimental groups before and after therapeutic acupressure given on point p6 is Two Realated Sample Test (Mann-Whitney U Test).

Table 6

The difference in nausea vomiting on the experimental group before and after the given intervention on the pregnant women first trimester

| No | Group | Mean | SD | <i>Mean rank</i> | P <i>value</i> |
|----|-----------------------|------|------|----------------------|-------------------|
| 1. | <i>Pre- test</i> | 3.87 | 1.41 | 7.32 | 0.014 |
| 2. | <i>Post- test</i> | 2.78 | 1.75 | 5.25 | |

Based on table 6 above we can see the average rating for nausea vomiting on the experimental group when pretest is a time value and 3.87 post-test is 2.78. The difference in nausea vomiting also looks at the average rank when pretest of 7.32 and when post-5.25 test. The results of the analysis show the P value = 0, 014 < α (0.05) so that it can be concluded that there is a significant difference in the value of nausea vomiting of pregnant women before and after the acupressure point pericardium 6 Group experiments.

DISCUSSION

A. Characteristics of respondents

Based on the results of research in Petala Bumi hospital Pekanbaru obtained most of the respondents are in the age range of the safe in the age of pregnancy (20-30 years) of 16 (53,3%), and the majority of respondents are Minang with number of 22 people (73,3%). The habit of every tribe mainly eating patterns will have an effect on the incidence of nausea and vomiting. Robert and Pepper (2006), analyze 56 pregnant women from 21 countries. They study the incidence of nausea vomiting that occurs in pregnant women. They link eating habits in each country and estimated that nausea vomiting that occurs in pregnant women has to do with eating habits.

Maulana (2008), suggests that nausea vomiting will not develop good when a pregnant mother consuming a healthy diet. The results of research they mention that nausea vomiting that occurs in pregnant women is associated with high intake of caffeine, sugar, vegetables, milk and eggs. Liputo (2005) added that on the Minang, the main ingredients for most types of cuisine is pepper, herbs and coconut. Coconut fat value saturated fatty acids almost 90%. So pregnant women who came from the tribe of minang have greater risk for experiencing nausea vomiting events.

In addition to the tribal factor, a factor also affects the incidence of gravida nausea vomiting. Tyrant (2008) revealed an increase in the incidence of nausea vomiting occurs in women who have experienced several times of pregnancy (multigravida) than women who are first-time pregnant (primigravida). This is caused by the pregnancy hormone production differences in the two groups. In some cases, symptoms can be used as a way of attracting attention or as a way of asking for help on the issue of a woman's life.

Lack of knowledge, information and poor communication among expectant mothers and families undertook to affect perceptions of pregnant women against the severity of the symptoms. It underlies the woman requires looking hospitahsasi primigravida than women multigravida. In women multigravida, mind against the severity of the symptoms of nausea vomiting can be overlooked because women multigravida will be more preoccupied with the other kids.

B. Hyperemesis Gravidarum

Based on the results obtained by research that the average nausea vomiting experimental groups prior to granting of 3.87 ginger drink. The National Cancer Institute (NCI)/(2009), classify those values in the category of nausea vomiting. The Group experiments with value of nausea vomiting most appears is 6, according to NCI (2009), the value of the vomiting nausea is severe vomiting nausea in the category. While, the average nausea vomiting in the control group was 2.73. According to NCI (2009), nausea vomiting category is being. The value of nausea vomiting most appear in the control group was 6, according to NCI (2009) nausea vomiting is severe

vomiting nausea category after being given the intervention therapy on point p6 on the Group experiments, worth nausea vomiting on the two groups was measured again. Average nausea vomiting decreased in the control group when post-test day one until day 4 with the value of the 2.8; 2.53; 2.4; 2.13. According to NCI (2009), the average value of post-test day one until day 4 is on the category of nausea vomiting. The average value of nausea vomiting on the experimental group when post-test also experienced a decline from the first day until day 4 with value 3.27; 2.93; 2.67; 2.27. NCI (2009) enter those values in the category of nausea vomiting.

The above data shows that the rest of the respondents experienced nausea vomiting at both the control group and group experiments. Vutyavanich (2001) States that nausea vomiting is common problems that occur on the 1st trimester of pregnant women. Symptoms of nausea vomiting is not life threatening, but the symptoms can be the source of a stressor for pregnant women and families. Wesson (2002), adding that 70-90% of pregnant women experience nausea and vomiting experienced 50% at least 1 time.

Nausea and vomiting of pregnancy due to physiological reactions is the influence of the hormone of pregnancy as progesterone, HCG, etc. Nausea and vomiting severe (Hyperemesis Gravidarum) can be a symptom of several health problems such as mola hidatidosa, hipertiroid, deficiency of vitamin B complex or heavy stress (Moeloe, et al., 2006). According to Quinlan (2003), the cause of nausea and vomiting in pregnant women is still not Known with certainty but there are various things that become factors predisposing factors such as psychological and hormonal changes. Pregnant women with hysterical personality type and an excessive dependence on mother tend to suffered nausea and vomiting. Other factors that influence is the hormone progesterone and HCG is causing an increase in gastric motility and gastric acid so that arise from the reaction of nausea vomiting.

C. The effectiveness of acupressure therapy intervention on point pericardium 6.

Based on the results of the analysis, there was a decrease in the average nausea vomiting before and after the granting of a therapeutic intervention acupressure point pericardium 6. Average nausea vomiting before a given intervention is given after the intervention and 3.87 is 2.78. The results of Two Related Sample Test showed the value of Pvalue $0.014 < \alpha$ (0.05). Acupressure therapy means on point p6 is effective in lowering the nausea vomiting in pregnant women first trimester show that happens to drop in the frequency of nausea vomiting after done action acupressure. This happens due to the effect of the stimulation at that point Pericardium 6 is believed to be able to increase the release of beta-endorphin and ACTH in hypophysis along the chemoreceptor trigger zone (CTZ) to inhibit vomiting Center. This stimulation is also able to help release the neurotransmitter as endorphin, serotonin, and norepinephrine which is able to

block pain and release of neurotransmitters also affects system and immune system antinociceptive (BKTM, 2013).

A decrease in the frequency of vomiting after the acupressure point pericardium 6 in accordance with the results of the study in the *Journal of Reproductive Medicine* stating that the acupressure point pericardium 6 for 3 to 15 minutes can reduce nausea vomiting in pregnancy and also nausea vomiting due to chemotherapy and travel sickness (Artika, 2006).

At the time the research was conducted, researchers found the phenomenon of inflammatory clinic on the respondent as the respondent complained of pain and redness in the area of emphasis. This is in accordance with the theories expressed by Shier, et al. (2004) that the stimulation of the pain caused by the intense pressure and extreme temperatures can lead to changes in vascular permeability and the opening of Na⁺ channel that will produce nervous system activation on nociceptor on the ends of the nerve endings of the skin (Artika, 2006).

The difference in frequency of vomiting in pregnant women affected by the mechanism of the body that cannot be controlled by researchers and are individually on each of the respondents. Pregnancy hormone levels change affecting nausea gravidarum as HCG and estrogen and increase the motility of the intestine decreases progesterone cause hyperemesis gravidarum complaints time difference.

Conclusion

The influence of the techniques of acupressure point pericardium 6 lowers the frequency of nausea vomiting in pregnant women with hyperemesis gravidarum.

Nausea vomiting overload will result in a person becoming anemic. Especially for pregnant women with excessive vomiting nausea, pregnant mothers will result in shortages of a variety of nutrients and will abort the fetus, resulting in a premature, low birth weight or even result in the death of a fetus. During handling of this nausea vomiting dominant use of drugs, but with handling without drugs has been found, such as with the technique of acupressur at the point the pericardium 6 can decrease the frequency of nausea vomiting in first trimester of pregnant women with hyperemesis gravidarum

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