

## THE EFFECTIVENESS OF JSJ (JIN SHIN JYUTSU) IN ADDRESSING EMESIS OF GRAVIDARUM IN PREGNANT WOMEN AT PMB IKA MARDIYANTI SIDOARJO

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### ABSTRACT

**Background:** Nausea and vomiting are often ignored because they are considered as a normal consequence at the beginning of pregnancy without knowing the great impact they can cause. The incidence of nausea and vomiting occurs in 60-80% primigravida and 40-60% multigravida. If nausea and vomiting in pregnant women is not immediately carried out further action causes pregnant women to be malnourished so that the fetus does not get adequate nutrition and can have an impact on the fetus it contains.

**Objectives:** This study aimed to determine the effect of JSJ massage (Jin Shin Jyutsu) on Emesis Gravidarum on pregnant women in PMB Ika Mardiyanti, Jedong Cangkring Village, Prambon Sub-District, Sidoarjo District, East Java Province, Indonesia.

**Methods:** This study used an observational analytic design with a cross sectional approach. The sample in this study was taken by consecutive sampling. The method of collecting data uses primary data, by applying JSJ Messages (Jin Shin Jyutsu) and performing anamnesas against emesis gravidarum experienced by pregnant women. Data analysis using McNemar Test and Mann Withney U Test.

**Results:** The results showed that respondents aged low risk (20-35 years) were 20 respondents (66.66%); had good nutritional status (LILA > 23.5 cm); as many as 25 respondents (83.33%); and had low risk parity (children <5), as many as 21 respondents (70.00%). Statistical analysis with McNemar Test obtained  $p = 0.125 > \alpha = 0.05$ , meaning that there was no effect of JSJ massage on emesis gravidarum. The Mann Withney U Test results obtained  $p = 0.217 > \alpha = 0.05$ , meaning there is no difference between the intervention group and the control group.

**Conclusion:** The results showed that there was no effect of giving JSJ massage to emesis gravidarum in pregnant women. It is expected that midwives will increase information and education communication (IEC) about the handling of emesis gravidarum both pharmacologically and non-pharmacologically so as not to become pathological and have an impact on the mother and the fetus.

**Key words:** Massage Jin Shin Jyutsu (JSJ), emesis gravidarum, pregnant women.

### INTRODUCTION

Nausea and vomiting are among the earliest, most common and most stressful symptoms associated with pregnancy (Tiran, 2008). For pregnant women, nausea and vomiting are often ignored because they are considered as a normal consequence at the beginning of pregnancy without knowing the great impact they can cause. Nausea and vomiting are usually

experienced by the mother during the first trimester. Some pregnant women will try to deal with the symptoms of nausea and vomiting themselves. The habit of pregnant women who overcome the problem of nausea and vomiting themselves, sometimes realized or cannot endanger the health of the mother and fetus.

The incidence of emesis gravidarum in the World Health Organization (WHO)

estimates that at least 14% of all pregnant women are affected by emesis gravidarum (WHO, 2010). The incidence of emesis gravidarum in Indonesia obtained from 2,203 pregnancies that can be observed in full is 543 pregnant women who experience emesis gravidarum (King, et al 2009). According to (Depkes RI, 2013), 10% of pregnant women are affected by emesis gravidarum. The incidence of emesis gravidarum in Indonesia obtained from 2,203 pregnancies that can be observed in full was 543 mothers affected by emesis gravidarum. In East Java in 2011 there were 67.9% of pregnant women experiencing emesis gravidarum, known as morning sickness (morning sickness). The incidence of nausea and vomiting occurs in 60-80% primigravida and 40-60% multigravida. Based on the results of interviews conducted on 5 pregnant women in Jedong Cangkring Village, Prambon Sub-District, Sidoarjo District, East Java Province, Indonesia, it was found that 2 out of 5 pregnant women who experienced nausea and vomiting during the first trimester overcame their nausea and vomiting with medical treatment (taking medicine), 2 mothers were able to handle independently by drinking warm tea and resting at home. Whereas 1 pregnant woman falls into a hyperemesis condition (Runiari, 2010).

Physiologically, nausea is caused by increased estrogen levels in the blood which affect the digestive system. Continuous nausea and vomiting can result in dehydration, hyponatremia, hypochloremia, and decreased urine chloride (Lowdermilk, 2013). If nausea and vomiting in pregnant women do not take immediate action, then it can cause pregnant women to be malnourished and affect the fetus in adequate nutrition, causing LBW or prematurity. Complaints of nausea and vomiting that are initially physiological will become pathological and have an impact on the fetus that is conceived (Astuti, 2017).

In order to avoid a dangerous situation for pregnant women and their fetuses, then to deal with nausea and vomiting various treatments can be performed, both pharmacological and nonpharmacological. Pharmacological treatments such as giving pyridoxine (vitamin B6) in doses of 25 ng, antiemetics, and corticosteroids (Kusmiati, 2009). Nonpharmacological treatment is done by providing health counseling, such as eating a little but often, and avoid foods that are difficult to digest. When vomiting in the morning, it is expected to eat dry foods, such as biscuits, cereals before getting out of bed or eating high-protein snacks before going to bed, keep input fluids, and eat snacks every 2-3 hours. Eat slowly until the food is chewed perfectly, keep sitting upright for 10-20 minutes after eating to avoid gastric reflux, avoid consuming large amounts of water at one time, avoid spicy foods, fried foods, coffee and fatty foods, ginger is effective enough to reduce nausea, and the emotional support of the family (Denise, 2008).

The reason the researchers conducted the study in Jedong Cangkring Village was due to the considerable coverage of ANC, especially pregnant women who experienced emesis gravidarum. In addition, there are still many people who do not understand the things that can interfere with pregnancy and how to handle it, for example emesis gravidarum. Based on the above phenomenon, researchers are interested in conducting research with the title "The Effectiveness of JSJ (Jin Shin Jyutsu) in Addressing Emesis Gravidarum in Pregnant Women at PMB Ika Mardiyanti, Jedong Cangkring Village, Prambon Sub-District, Sidoarjo District, East Java Province, Indonesia".

## **METHODS**

### *Study Design*

The design of this study used quantitative research with the quasy experiment method with a non-equivalent control-group approach.

### Setting

The study was conducted in PMB Ika Mardiyanti, Jedong Cangkring Village, Prambon Sub-District, Sidoarjo District, East Java Province, Indonesia.

### Research Subject

The population in this study were all Pregnant Women at PMB Ika Mardiyanti, Jedong Cangkring Village, Prambon Sub-District, Sidoarjo District, East Java Province, Indonesia. The sample collection technique used Nonprobability sampling with Consequential sampling. The sample of 30 respondents was divided into 15 respondents in the intervention group and 15 respondents in the control group.

### Instruments

The instrument for the Emesis Gravidarum assessment in pregnant women by using checklist for the Emesis Gravidarum case.

### Data Analysis

The data from the results of this study were analyzed by McNemar Test and Mann Withney U Test with a significance level of 95%.

### Ethical Consideration

This research has gone through an ethical test from the Nahdlatul Ulama University of Surabaya and obtained permission from National Unity and Politics Sidoarjo Regency.

## RESULTS

### Characteristics of Respondents by Age

Based on the results of the research in table 1, it was found that the majority of pregnant women in this study were in the low risk age of 20 respondents (66.66%).

**Table 1.** Distribution of Frequency of Respondents by Age in PMB Ika Mardiyanti, Jedong Cangkring Village, Prambon Sub-District, Sidoarjo District, East Java Province, Indonesia (n = 30).

Group	Age of Pregnant Women		Total
	Low risk	High risk	
	Treatment	10 33.33%	
Control	10 33.33%	5 16.67%	15 50.0%
Total	20 66.66%	10 33.34%	30 100.0%

Sources: Primary Data of Questionnaire, 2018

### Characteristics of Respondents by Nutritional Status

**Table 2.** Distribution of Frequency of Respondents by Nutritional Status in PMB Ika Mardiyanti, Jedong Cangkring Village, Prambon Sub-District, Sidoarjo District, East Java Province, Indonesia (n = 30).

Group	Nutritional Status (LILA)		Total
	Less	Good	
	Treatment	2 6.67%	
Control	3 10.00%	12 40.00%	15 50.0%
Total	5 16.67%	25 83.33%	30 100.0%

Sources: Primary Data of Questionnaire, 2018

Based on table 2, it was found that almost all respondents had good nutritional status, as many as 25 respondents (83.33%).

### Characteristics of Respondents by Parity of Pregnant Women

Based on table 3, it was found that the majority of respondents had low risk parity, as many as 21 respondents (70.00%).

**Table 3.** Distribution of Frequency of Respondents by Parity of Pregnant Women in PMB Ika Mardiyanti, Jedong Cangkring Village, Prambon Sub-District, Sidoarjo District, East Java Province, Indonesia (n = 30).

	Group	Parity of Pregnant Women		Total
		Low risk	High risk	
	Treatment	11 36.67%	4 13.33%	15 50.0%
	Control	10 33.33%	5 16.67%	15 50.0%
	Total	21 70.00%	9 30.00%	30 100.0%

Sources: Primary Data of Questionnaire, 2018

*Analysis of the Effectiveness of JSJ (Jin Shin Jyutsu) in Addressing Emesis of Gravidarum in Pregnant Women at PMB Ika Mardiyanti, Jedong Cangkring Village, Prambon Sub-District, Sidoarjo District, East Java Province, Indonesia*

Based on table 4, it was found that in the treatment group there was an increase in the number of respondents who did not experience emesis gravidarum after JSJ from 8 respondents (26.67%) to 12 respondents (40.00%). In the control group there was also an increase in the number of respondents who did not experience emesis gravidarum from 4 respondents (13.33%) to 8 respondents (26.67%). Based on the test results using McNemar Test, it was found that  $p = 0.125 > \alpha = 0.05$ , meaning that there was no effect of JSJ massage on emesis gravidarum. The Mann Withney U Test results obtained  $p = 0.217 > \alpha = 0.05$ , meaning there is no difference between the intervention group and the control group.

**Table 4.** Analysis of the Effectiveness of JSJ (Jin Shin Jyutsu) in Addressing Emesis of Gravidarum in Pregnant Women at PMB Ika Mardiyanti, Jedong Cangkring Village, Prambon Sub-District, Sidoarjo District, East Java Province, Indonesia (n = 30).

Group	Emesis of Gravidarum Before JSJ		Total	Emesis of Gravidarum After JSJ		Total
	No	Yes		No	Yes	
	Treatment	8 26.67%	7 23.33%	15 50.0%	12 40.00%	3 10.00%
Control	4 13.33%	11 36.67%	15 50.0%	8 26.67%	7 23.33%	15 50.0%
Total	12 40.00%	18 60.00%	30 100.0%	20 66.67%	10 33.33%	30 100.0%

McNemar Test obtained  $p = 0.125 > \alpha = 0.05$

Mann Withney U Test obtained  $p = 0.217 > \alpha = 0.05$

Sources: Primary Data of Questionnaire, 2018

## DISCUSSION

Age is one of the physiological factors that can directly affect the pregnancy process. Based on the data in Table 1 it can be seen that of the 30 respondents, most of them were in the low risk age range of 20-

35 years as many as 20 respondents (66.66%), where this age is the productive age and the right time for pregnancy and childbirth. This means that the majority of respondents are in the reproductive age that is healthy and safe (not at risk), which is 20-

35 years, at which age is a productive age. At the age of healthy reproduction, most women can undergo a period of pregnancy, childbirth, and childbirth in optimal conditions so that the mother and baby are healthy (Hidayati, 2009). At the age of 20-35 years, female reproductive organs have developed and functioned optimally so that it will reduce various risks during pregnancy (Gunawan, 2010). Emesis Gravidarum under the age of 20 years is more due to insufficient physical, mental and social functioning of the prospective mother who raises physical doubts of love and care and care for the child to be born. This affects the emotions of the mother resulting in mental conflicts that make the mother less appetite. If this happens it can cause gastric irritation which can react to motor impulses to give stimulation to the vomiting center through the brain nerves in the upper digestive tract and through the spinal nerves to the diaphragm and abdominal muscles resulting in vomiting (Anasari, 2015). Emesis Gravidarum which occurs above 35 years of age is also inseparable from psychological factors that are caused because the mother is not ready to become pregnant or even does not want her pregnancy anymore so she will feel so depressed and stressful for the mother (Pratami, 2013). Stress affects the hypothalamus and gives stimulation to the center of the brain resulting in contractions of the abdominal muscles and chest muscles accompanied by a decrease in the diaphragm causing high pressure in the stomach, high pressure in the stomach forcing the mother to take deep breaths making the upper esophageal sphincter open and sphincter the lower part of relaxation is what triggers nausea and vomiting (Anasari, 2015). Nugraha (2007) found young women were more likely to experience morning sickness. Older people also tend to suffer from nausea and vomiting. Nauseous severity is also related to the lifestyle of prospective mothers, lack of food, poor diet, lack of sleep or rest, and

stress can worsen nausea (Rose & Neil, 2006).

Data from the research results in table 2 show that almost all respondents were in good nutritional status as many as 25 respondents (83.33%). From these data, it is possible for pregnant women who have good nutritional status because their nutritional needs are adequately fulfilled during pregnancy, so the need for protein, folic acid, zinc, choline, DHA and iron is sufficient for the formation of perfect fetal organs (Walsh, 2008). Foods that contain enough nutrients during pregnancy are very important because they will reduce the risk and complications of pregnant women.

For parity respondents in table 3 shows that most of the 21 respondents (70.00%) had a low risk, namely primigravida and multigravida. In most primigravidas it has not been able to adapt to estrogen hormones and chorionic gonadotropin so that gravidarum emesis is more common. Whereas in multigravida and grandemigravida, it has been able to adapt to estrogen hormone and chorionic gonadotropin because it already has experience with pregnancy and childbirth. So that the emesis of gravidarum experienced by primigravida is usually higher than multigravida (Prawirohardjo, 2009).

Based on the test results using McNemar Test, it was found that  $p = 0.125 > \alpha = 0.05$ , meaning that there was no effect of JSJ massage on emesis gravidarum. The Mann Withney U Test results obtained  $p = 0.217 > \alpha = 0.05$ , meaning there is no difference between the intervention group and the control group.

Emesis gravidarum is a symptom of nausea, dizziness and vomiting that usually occurs early in pregnancy. These symptoms generally occur in the morning, but can also occur at any time and night. Emesis gravidarum during pregnancy is usually caused by changes in the endocrine system that occur during pregnancy, mainly due to high fluctuations in HCG levels (human

chorionic gonadotropin), especially because the most common period of gestational nausea and vomiting is the first 12-16 weeks, which at that time, HCG reaches its highest level. HCG is the same as LH (luteinizing hormone) and secretion by trophoblast cells of the corpus luteum/uterus produces estrogen and progesterone, a function that is later taken over by the chorionic layer of the placenta. HCG can be detected in a woman's blood from around 3 weeks gestation (i.e. 1 week after fertilization), a fact that forms the basis of pregnancy testing (Dewi, 2014).

In theory, pregnancy nausea may be a natural way of protecting the fetus by preventing the mother from eating dangerous food has also been proposed, with women becoming nauseous when they see, smell or feel food that might potentially affect the fetus, and if food eaten causes women to vomit so that food is removed. Women who have HCG levels below the normal range more often experience poor pregnancy outcomes, including miscarriage, premature birth or intrauterine growth retardation (IUGR) (Woolfson, 2004).

Based on research conducted by Jamigorn, & Phupong published in 2007 in Juwita (2015) on "Acupressure and vitamin B6 to relieve nausea and vomiting in pregnancy" in the Department of Obstetrics and Gynecology, Faculty of Medicine, Chulalongkorn University Bangkok, Thailand, namely by giving an acupressure bracelet to be used at P6 point and oral therapy that is identical to vitamin B6 50 mg. The results of this study indicate that acupressure therapy is no more effective than vitamin B6 in reducing nausea and vomiting in women in the first trimester of pregnancy.

Research conducted by Heazell, Thorneycroft, Walton, & Etherington (2006) on "Acupressure for patient treatment of nausea and vomiting in a randomized control trial" in British hospitals of pregnant women with pregnant

women first hospitalization, gestational age between 5 and 14 weeks, requires hospitalization, patients have at least ketonuria 2+ from urine, inability to tolerate oral fluids, and require antiemetic drugs, the treatment group uses acupressure bracelets on respondents at point P6. Number of control groups of pregnant women The intervention given is to use an acupressure bracelet on the back of the forearm. The results of the study in this article are that there is no difference between the length of stay, the amount of medication, or the fluid needed between acupressure and the control group, although acupressure reduces the number of patients staying in the hospital.

Psychological factors that influence the occurrence of emesis gravidarum also consist of stress, husband and family support and social, cultural and economic environmental factors. Prawirohardjo (2010) also argues that in pregnancy psychological factors that cause stress play an important role such as divorce, job loss, fear of pregnancy and childbirth, fear of maternal responsibility, can cause mental conflicts that can aggravate nausea and vomiting as unconscious expressions against reluctance to become pregnant or as an escape from the hardships of life (Prawirohardjo, 2009).

## CONCLUSION

Based on the results of the study it was found that there was no effect of JSJ (Jin Shin Jyutsu) massage on emesis gravidarum in pregnant women.

## SUGGESTIONS

The results of this study should be studied and intervened by midwives in an effort to manage emesis gravidarum in pregnant women. The results of this study can also be used as material studies (evidence-based practice) in the academic setting as an effort to develop the theory and practice of midwifery in pregnancy. In addition, the results of this study can be

used as basic data for further research related to handling maternity emergency.

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