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The Effect of PC6 Acupressure on Nausea and Vomiting in First Trimester Pregnant Women at PMB Y Purwakarta in 2024

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ABSTRACT
Nausea and vomiting of pregnancy (NVP) in the first trimester remain common and can compromise maternal comfort and nutritional intake, warranting simple, safe, non-pharmacological interventions. This study aimed to analyze the effect of Pericardium-6 (P6) acupressure on the frequency of NVP among first-trimester pregnant women at PMB Y Purwakarta in 2024. A pre-experimental one-group pretest–posttest design with consecutive sampling was used (n = 30). Most respondents were aged 20–35 years (93.3%), multiparous (60%), had high-school education (80%), and were not employed (83.3%). NVP severity was measured using a standardized instrument. The research method used the experimental Quasy method. The design used in this study is one group pre-posttest design without control group. From the results of the study, it was found that the Univariate Analysis was obtained based on the highest age of the mother, which is 20-35 years old 2. The frequency of nausea and vomiting before the intervention was mostly nausea and moderate vomiting as many as 19 people (63.3%). The frequency of nausea and vomiting after the intervention was mostly nausea and mild vomiting (100%). There was an effect of P6 acupressure massage on the frequency of nausea and vomiting in pregnant women in the 1st trimester at PMB Y Purwakarta in 2024 with p = 0.000. There is an effect of P6 acupressure massage on the frequency of nausea and vomiting in pregnant women in the 1st trimester at PMB Y Purwakarta in 2024.

INTRODUCTION

Nausea and vomiting is one of the early signs of pregnancy. Nausea and vomiting in pregnancy are caused by changes in the endocrine system that occur during pregnancy. One of the primary causes is high fluctuations in *hCG* levels. The most common time for nausea or vomiting during pregnancy is the first 12–16 weeks, when *hCG* reaches its highest level (Rizkia, 2019).

Nausea and vomiting that occur in pregnant women are natural signs and are not uncommon in the first trimester of pregnancy. This usually occurs in the morning but can also happen at any time, including at night. Nausea and vomiting typically begin around 6 weeks after the first day of the last menstrual period and last for approximately 10 weeks (Rizkia, 2019).

According to the World Health Organization (WHO), mortality and morbidity among pregnant women and newborns have long been significant problems, especially in developing countries. Causes of maternal death include hyperemesis gravidarum, accounting for approximately 25–50% of such cases, along with other pregnancy-related factors. Maternal mortality remains a leading cause of death among women during their peak reproductive years (WHO, 2020).

The World Health Organization (WHO) estimates that every year there are 210 million

pregnancies worldwide. Of these, 20 million women experience complications due to pregnancy-related pain, with about 8 million experiencing life-threatening complications, and more than 500,000 maternal deaths recorded in 1995. Approximately 240,000 of these deaths, nearly 50%, occur in South and Southeast Asian countries, including Indonesia (WHO, 2020). Meanwhile, according to the Ministry of Health of the Republic of Indonesia (2018), the prevalence of hyperemesis gravidarum is such that more than 80% of pregnant women in Indonesia experience excessive nausea and vomiting. The incidence of hyperemesis gravidarum ranges from 0.8 to 3.2% of all pregnancies worldwide, or approximately 8 to 32 cases per 1,000 pregnancies. Complaints of nausea and vomiting occur in 60–80% of primigravida and 40–60% of multigravida.

Excessive nausea and vomiting during pregnancy cause body fluids to decrease, resulting in thickened blood (hemoconcentration) and delayed blood circulation to tissues. When this happens, the delivery of oxygen and nutrients to tissues also decreases. Reduced oxygen and nutrient supply can cause tissue damage, which may compromise maternal health and fetal development, including low birth weight (*BBLR*) (Fitria, 2019).

Management of nausea and vomiting in pregnant women depends on the severity of symptoms and can be done through pharmacological or non-pharmacological interventions. Pharmacological interventions include administering antiemetics, antihistamines, anticholinergics, and corticosteroids, while non-pharmacological interventions include the use of herbs, acupuncture, and acupressure (Fitria, 2019).

One of the non-pharmacological interventions used to treat nausea and vomiting is acupressure at the Pericardium 6 (*PC 6*) point (Mobarakabadi, Shahbazzadegan, and Ozgoli, 2020). This intervention, originating from traditional Chinese medicine, involves stimulation of the *PC 6* point. According to *Acupuncture in Clinical Practice*, stimulation at the *PC 6* point is important for clients with hyperemesis. The effect of stimulation at this point can increase the release of beta-endorphins in the pituitary gland and adrenocorticotropic hormone (ACTH) along the chemoreceptor trigger zone (*CTZ*), which can inhibit the vomiting center (Fitria, 2019).

The term acupressure comes from the words "accus" and "pressure," meaning needle and pressing/massage, respectively. Acupressure refers to the stimulation of acupressure points by applying pressure or massage techniques. This pressing or massage is done as a substitute for needle insertion in acupuncture, with the aim of facilitating the flow of vital energy throughout the body (Ministry of Health of the Republic of Indonesia, 2019).

Acupressure at the *PC 6* point can stimulate an increase in the release of beta-endorphins in the pituitary gland and ACTH along the *CTZ*, which inhibits the vomiting center (Fengge, 2012). This technique can also reduce or decrease nausea and vomiting in pregnancy by applying pressure to specific body points—the *PC 6* points (Fitria, 2019).

Based on Elsa's research (2021), acupressure is safe to perform independently, even by those who have never tried it before, as long as instructions are followed. It poses no harm because it does not involve chemicals and is believed to have no negative effects on the mother or baby. However, according to Septa et al. (2021), it is preferable for acupressure massage to be conducted by someone who is an expert or has received acupressure training, as they are more familiar with acupressure points and application techniques.

Each acupressure point has specific effects on the body's systems and other organs. Gentle stimulation and massage at these points can cause physiological changes that affect mental and emotional conditions. Complementary nursing methods using acupressure at the *PC 6* point should be further promoted and implemented routinely in the care of pregnant women with complaints of emesis gravidarum (Fitria, 2019).

According to Masdinarsyah (2022), acupressure as a complementary therapy can reduce emesis gravidarum in pregnant women in Jagabaya Village, Cimaung District, Bandung

Regency. The mean emesis gravidarum scores for pregnant women in the first trimester before receiving acupressure therapy showed a statistically significant improvement with a p-value of <0.05 using the Chi-square test. Acupressure was found to be more effective than vitamin B6 in alleviating nausea and vomiting in pregnant women with emesis gravidarum. This indicates that administering pressure to the *PC 6* point can positively affect emesis gravidarum. These results support complementary or non-pharmacological therapy as an alternative, especially for pregnant women who are reluctant to take medication for fear of worsening their nausea and vomiting.

A preliminary study conducted on 10 first-trimester pregnant women found that 8 (80%) experienced nausea and vomiting but had not received any intervention to address it. One (10%) managed nausea and vomiting by drinking warm water, while another 1 (10%) had nausea without vomiting and did not provide any intervention. None of the 10 women had tried acupressure massage or were aware of this intervention.

Based on medical records at PMB Y from 2022 to 2023, 158 pregnant women experienced nausea and vomiting in the first trimester.

The problems described above provide the background for this study on the effect of acupressure *P6* on nausea and vomiting in pregnant women in the first trimester at PMB Y in 2024. The purpose of this study is to analyze the effect of *PC 6* acupressure on the frequency of nausea and vomiting in pregnant women in the first trimester at PMB Y Purwakarta in 2024. Theoretically, this study enriches the evidence base for physiology-based complementary therapy (*PC 6*) in managing pregnancy-related nausea and vomiting. Practically, it provides a standardized implementation framework for midwives and cadres to safely deliver education and non-pharmacological interventions. Programmatically, it offers input for integrating *PC 6* acupressure into community antenatal service SOPs, health worker training, and self-counseling resources for pregnant women.

RESEARCH METHODS

This research uses a one-group pre-posttest design without a control group, where the experimental group is observed first before receiving treatment and then observed again after the treatment to compare outcomes within the intervention group. Primary data collection was conducted, with data taken directly by the researcher through observation (Notoatmodjo, 2010).

The study employed a one-group pre-test and post-test design without a control group. The population in this study consisted of all pregnant women in the first trimester at PMB Y during the study period from the third to the fourth week of July 2024.

According to Sugiyono (2012:56), *accidental sampling* is a technique for determining samples based on chance, meaning anyone who happens to meet the researcher can be used as a sample if that person is deemed suitable as a data source. Therefore, in this study, sampling was carried out on pregnant women in the first trimester who happened to meet the researcher during the research period at PMB Y from the third to the fourth week of July 2024. The sample in this study consisted of 30 respondents.

RESULTS AND DISCUSSION

Based on the results of the research on maternal age, it can be found that the majority of pregnant women in the 1st trimester are 20-35 years old (93.3%) and the minority is >35 years old, as many as 2 people (6.7%). Based on parity, it can be seen that as many as 18 people (60%) are mothers with Multipara and 12 people (40%) are mothers with Primipara. Based on the education status of mothers, the majority of high school education is 24 people (80.0%) and the minority of junior high school education is 2 people (6.7%). Based on the employment status of mothers, the majority of mothers with unemployed status are 25 people (83.3%) and

minorities have working status as many as 5 people (16.7%).

Based on the univariate results of the frequency of nausea and vomiting in pregnant women before and after PC6 acupressure massage, it can be seen that the frequency of nausea and vomiting before the intervention of pregnant women in the first trimester was 19 people (63.3%), severe nausea and vomiting as many as 7 people (23.4%) and the minority of mild nausea and vomiting as many as 4 people (13.3%). Meanwhile, the frequency of nausea and vomiting after the intervention of pregnant women in the first trimester was 30 people (100%).

Based on the results, the sig value of 0.261 is greater than the significant value of 0.05 (0.261>0.05) or Ho is accepted, meaning that there is no significant influence between age on the frequency of nausea and vomiting in pregnant women in the first trimester at PMB Y Purwakarta in 2024.

Researchers assume that nausea and vomiting are caused by increased levels of estrogen and HCG (Human Choronic Gonadotropin) hormones in serum, besides that progesterone is also suspected to be a factor causing nausea and vomiting. When a woman is pregnant with her first child, hormonal levels will increase more than in multigravida women. In multigravida women, they are able to adapt to the pregnancy hormones because they already have experience with pregnancy and childbirth. So that the nausea and vomiting experienced by primigravida is usually higher than that of multigravida.

Most primigravida have not been able to adapt to the hormones estrogen and chorionic gonadotropin. The increase in this hormone makes stomach acid levels increase, until complaints of nausea appear. This complaint usually appears in the morning when the mother's stomach is empty and there is an increase in stomach acid. In this study, it can be concluded that the lower the maternal gravida rate, the more mothers experience emesis gravidarum. On the other hand, if the higher the maternal gravity rate, the fewer mothers will experience emesis gravidarum (Kartika, 2019).

According to the theory, it was found that in most primigravida, it has not been able to adapt to the hormones estrogen and choronic gonadotropin, so emesis gravidarum occurs more often. Meanwhile, multigravida and grandemultigravida are able to adapt to the hormones estrogen and choronic gonadotropin because they already have experience with pregnancy and childbirth (Nurdiana, 2022).

A person's level of education can affect the ease or ability to grasp information or knowledge. With a good level of education, the level of knowledge is expected to be higher about discomfort during pregnancy and how to manage it in reducing discomfort so that it can reduce the risk of complications during pregnancy.

Work has an influence on the emesis gravidarum. A healthy work environment and a light physical and psychological workload will reduce the incidence of excessive/abnormal emesis. A healthy work environment can be created with the cooperation of all employees or people in the environment and supported by clear policies and regulations from the managerial of the institution/office. In addition, the workload both physically and psychologically is also a common concern. The work of responsible housewives is obliged to continuously pay attention to the health of the home.

Based on the results of the study, it was found that the frequency of nausea and vomiting before the intervention of pregnant women in the first trimester was 19 people (63.3%), severe nausea and vomiting were 7 people (23.4%) and the minority of nausea and mild vomiting were 4 people (13.3%). Meanwhile, the frequency of nausea and vomiting after the intervention of pregnant women in the first trimester was 30 people (100%).

The results showed that before acupressure massage, nausea and vomiting were more severe and moderate categories. Nausea and vomiting are the result of stimuli that occur in the brain. The cause of this nausea and vomiting is not known for sure, but it seems to be related to high levels of the hormone hCG. The management of nausea and vomiting in pregnancy

depends on the severity of the symptoms.

This research is in line with the research of Tutik (2020) in pregnant women that nausea and vomiting will make it more difficult to eat even though their favorite foods are available. Nausea and vomiting are caused by changes in the Human chorionic gonnadotropine (hCG) hormone that occur in pregnant women. Oily foods can cause nausea and vomiting in pregnant women. The function of the digestive system decreases due to hormones will worsen when you get spicy and oily food intake. So acupressure massage intervention was given to reduce nausea and vomiting. (Tutik, 2020).

Acupressure is an intervention that can provide a stimulus of pressure (massage) on certain points of the body and provide stimulation that can produce therapeutic effects and is useful for relieving nausea, and indigestion. The acupressure point for nausea and vomiting is at point PC 6 located 3 cung from the wrist line parallel to the middle finger. This point is to reduce nausea and vomiting which is carried out for 3 days during the mother's nausea by massaging counterclockwise (sedation) 30 times. . (Tutik, 2020).

Treatment can be done by pharmacological or non-pharmacological means. Non-pharmacological therapy is carried out by administering aromatherapy. Nausea in early pregnancy can also be overcome by using acupressure massage (Tutik, 2020).

CONCLUSION

Most respondents were pregnant women aged 20–35 years (28; 93.3%), multiparous (18; 60%), with high school education (24; 80%), and not employed (25; 83.3%). Before the intervention, the majority experienced moderate nausea and vomiting (19; 63.3%), while after *P6* acupressure, all shifted to mild nausea and vomiting (100%). Statistical testing showed a significant effect of *P6* acupressure on the frequency of nausea and vomiting among first-trimester pregnant women at PMB Y Purwakarta in 2024 ($p = 0.000$), supporting its use as an effective non-pharmacological complementary therapy. It is recommended to integrate *P6* acupressure into antenatal SOPs at PMB/*posyandu* through standardized training for midwives and cadres, along with education promoting safe self-practice for pregnant women; to implement routine monitoring for technique fidelity and safety; and in future research, to employ controlled designs with larger samples and longer follow-up periods, while adjusting for confounders such as gestational age, parity, and antiemetic use, to strengthen external validity and generalizability.

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