



Original Research

The Impact of Administering Acupressure Massage on The Nausea and Vomiting in Pregnancy During The First Trimester

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Abstract

NVP are common conditions experienced by pregnant women in the first trimester due to hormonal changes. If left untreated, this condition can interfere with daily activities and cause nutritional disorders. The objective to analyze the impact of administering acupressure massage on the NVP during the first trimester. Method is quantitative study with a pre-experimental one group pretest-posttest design. A mount of 20 respondents were selected by total sampling from pregnant women in the first trimester who experienced NVP at the Ternate City Health Center. The intervention was acupressure therapy. Analized was use the Wilcoxon Signed Ranks Test. The results was a significant decrease in the frequency of NVP after being given acupressure with p -value = 0.000 ($p < 0.05$). Thus, acupressure has been proven effective in reducing the frequency of emesis gravidarum and can be recommended as a safe complementary method for pregnant women.

1. Introduction

Pregnancy spans from conception to delivery, typically lasting about 280 days, or 40 weeks. It is split into three trimesters: the first trimester lasts up to 12 weeks, the second trimester extends from 16 weeks to 24 weeks, and the third trimester spans from 28 weeks to 40 weeks (Gahayu Putri & Ristica, 2021). The first trimester is the phase of pregnancy that starts at conception and lasts until the gestational age reaches 12 weeks (0-3 months). During this trimester, expectant mothers frequently experience various discomforts (Septa et al., 2021).

Nausea and vomiting in pregnancy (NVP) is a frequent occurrence. NVP symptoms typically start between 4 to 12 weeks of pregnancy and generally fade by 16 weeks, affecting approximately 90% of women. The majority of women do not need treatment and can experience pregnancy without any particular assistance. Nonetheless, if nausea and vomiting intensify and last for an extended period, the situation may escalate to hyperemesis gravidarum, particularly if women struggle to keep hydrated, maintain fluid and electrolyte balance, and ensure proper nutritional consumption. The exact incidence of hyperemesis gravidarum is still uncertain, but the majority of studies indicate an incidence ratio of 1:200 (Nurmala, 2021).

The prevalence of nausea ranges from 50-80%, while vomiting affects 50%. According to information from the Indonesian Ministry of Health, the occurrence of NVP among pregnant women in Indonesia is between 50% and 75% during early stages of pregnancy. This condition is deemed mild and typically resolves independently, and can be managed with conservative approaches (Jannah et al., 2024). NVP affect around 50-90% of women during pregnancy, with 60-80% in first-time mothers and 40-60% in those with previous pregnancies, whereas 25% experience nausea without vomiting. Nausea affects 70%-85% of pregnant women, with vomiting occurring in half of these cases (Mulyandari & Alvina, 2022).

Treatment of NVP can be done with pharmacological and complementary approaches. Pharmacological approaches involve the administration of a combination of Pyridoxine-Doxylamine, central and peripheral dopamine antagonist antiemetics, antihistamines,

anticholinergics, and other agents such as Ondansetron (Kusumaningsih, 2022). Although conventional treatments such as giving antiemetic drugs are often used to relieve these symptoms, concerns about the side effects of drugs on the fetus encourage pregnant women to look for safer alternatives. (Sriwidyastuti et al., 2024). One alternative to relieve nausea and vomiting during pregnancy non-pharmacologically is to use acupressure. This method is very crucial because it does not cause side effects. (Simanjuntak et al., 2023). Treatment of NVP is also adjusted to the severity of the symptoms experienced. Treatment methods can vary, from simple dietary changes to antiemetics, inpatient care, or parenteral nutrition (Fithriani et al., 2024)

Acupressure is now widely known in Indonesia. The mechanism of acupressure itself comes from Chinese tradition. Massage is a habit that is no longer foreign to Indonesian society, which has existed and developed for hundreds of years. (Masdinarsyah, 2022). Acupressure is a TCM method that involves the stimulation of specific points on the body. In acupuncture, needles are used to stimulate the points, while in acupressure, the fingertips are used to apply pressure. Acupressure and acupuncture both activate the body's regulatory systems and engage endocrine and neurological processes, contributing to the maintenance of physiological equilibrium. Acupressure methods target the body's nerve points and are thought to enhance or activate diseased organs, in addition to aiding in the improvement of disrupted blood circulation (Tanjung et al., 2020). Acupressure methods focus on restoring weakened body cells and assisting in the activation of the body's defense mechanisms and cellular regeneration. Stimulating acupressure points helps the body alleviate muscle tension, enhances blood flow, and boosts the vital energy (Qi) of the body to aid in healing (Lestari et al., 2022). The objective to analyze the impact of administering acupressure massage on the incidence of NVP during the first trimester.

2. Research Method

This study utilized a quantitative method through a pre-experimental single group pretest-posttest design. This design aims to assess how effective acupressure therapy is at decreasing the occurrence of nausea and vomiting in first-trimester pregnant women. The participants in this study were first trimester pregnant women who encountered nausea and vomiting at the Ternate City Health Center during October-November 2024, comprising a total of 20 respondents. The research sample was chosen through total sampling, with the entire population consisting of 20 respondents. Data were collected using an questionnaire PUQE 24 that recorded the frequency of nausea and vomiting before and after the intervention and writing its results in observation sheet. Duration of acupressure is 10 minutes in ST36 and P6 point, with frequency 2 time per days for 7days. Data analysis was carried out using the Wilcoxon Signed Ranks Test using SPSS 25.

3. Results and Discussion

Table 1. Age Frequency Distribution

Age	f	Percentage (%)
<20 years	1	5
20-35 years	17	85
>35 years	2	10
Total	1	100

According to Table 1, the distribution of respondents' ages shows that they are in the age range of 20-35 years, with a total of 17 people (85%). On the other hand, pregnant women under the age of 20 years only numbered 1 person (5%), and those over 35 years old were 2 people (10%). It is a healthy reproductive age period, where most pregnant women are in optimal physiological conditions to deal with hormonal changes that can trigger NVP during pregnancy.

Table 2. Frequency Distribution of Gravida

Parity	f	Percentage (%)
Primigravida	9	45
Multigravida	11	55
Total	20	100

Based on Table 2, the distribution of gravida shows that there are 9 pregnant women (45%) who are pregnant for the first time (primigravida), while 11 pregnant women (55%) have a history of more

than one pregnancy (multigravida). Emesis gravidarum is more often experienced by primigravida compared to multigravida.

Table 3. Characteristics of NVP Before Acupressure Massage

EG Freq before intervention	f	Percentage (%)
1	3	15
2	13	65
3	4	20
Total	20	100

Based on Table 3, before being given acupressure massage intervention, the majority of respondents experienced emesis gravidarum with a frequency of moderate category (category 2) of 13 people (65%), mild category (category 1) of 3 people (15%), and severe category (category 3) of 4 people (20%).

Table 4. Characteristics of NVP After Acupressure Massage

EG Freq after intervention	f	Percentage (%)
1	15	15
2	5	65
Total	20	100

Based on Table 4, after acupressure therapy was carried out, there was a significant change, where 15 people (75%) experienced a decrease in the frequency of nausea and vomiting to the mild category, while 5 people (25%) were still in the moderate category.

Table 5. Results of Analysis of the Effect of Acupressure Massage on the Frequency of NVP Women in the First Trimester at the Ternate City Health Center

		N	Mean	Sum of ranks
Pretest Score- Posttest Score	Negative Ranks	16	8.50	136.00
	Positive Ranks	0	.00	.00
	Ties	4		
	Total	20		
Wilcoxon's p-value		0.000		

3.1. Comparison of Results Before and After Intervention

A notable difference was observed in the occurrence of nausea and vomiting prior to and following the acupressure massage intervention. Among the 20 participants in this research, 16 individuals reported a reduction in the occurrence of NVP following acupressure treatment (Negative Ranks = 16), yielding a Mean Rank of 8.50 and a Sum of Ranks totaling 136.00. At the same time, no participants showed any rise in the occurrence of NVP following the intervention (Positive Ranks = 0), suggesting that this treatment does not exacerbate NVP in pregnant women during the first trimester. Moreover, there were 4 individuals who did not see any change in the incidence of NVP following therapy (Ties = 4). Statistical analyses employing the Wilcoxon Signed Ranks Test yielded a Z value of -4.000 and a p-value of 0.000 ($p < 0.05$) (Table 5). This value shows that the variation from before to after the intervention is highly statistically significant. Consequently, it can be inferred that acupressure massage successfully decreases the occurrence of NVP in pregnant women during the first trimester.

3.2. Effectiveness of Acupressure on NVP in the First Trimester

Acupressure therapy has been shown to be effective in decreasing the incidence of emesis gravidarum in expectant mothers during the first trimester. The findings of the Wilcoxon Signed Ranks Test indicated a notable disparity prior to and following the intervention, with a p-value = 0.000. Acupressure is thought to activate the central nervous system to lessen nausea and vomiting responses. Consequently, acupressure may serve as a safe and straightforward non-pharmacological approach in obstetric care.

The purpose of acupressure is to reduce the intensity and frequency of nausea and vomiting during pregnancy, improve comfort and quality of life for pregnant women, aid relaxation and reduce stress, serve as a safe non-pharmacological alternative or supportive therapy, and support adequate nutrition for pregnant women by reducing digestive disturbances. Acupressure, a traditional treatment from China, is indicated for pregnant women in the first to third trimesters experiencing mild to moderate nausea and vomiting. It is suitable for pregnant women who wish to reduce the use of antiemetic drugs, those with normal and stable pregnancies, and those experiencing mild stress or anxiety (Ria & Manek, 2022).

However, acupressure also has contraindications, such as pregnant women with high-risk pregnancies without medical supervision, the presence of wounds, infections, or inflammation at the acupressure points, pregnant women with a history of bleeding, threatened abortion, or severe preeclampsia, and severe hyperemesis gravidarum requiring intensive medical management (Sari & Hindratni, 2022).

The acupressure points used for treating nausea and vomiting in pregnant women during the first trimester are the Pericardium 6 (PC6) or Neiguan point and the ST36 or Zusanli point. Acupressure works by stimulating specific points on the body that are connected to the nervous, hormonal, and digestive systems. Pressure on the PC6 (Neiguan) and ST36 (Zusanli) points triggers neurophysiological responses that help reduce the sensation of nausea and vomiting in pregnant women. The PC6 point is located along the Pericardium meridian, which is closely related to heart function, the nervous system, and the digestive tract. In the afferent nervous system, acupuncture works by stimulating afferent nerve fibres that send impulses to the central nervous system, particularly to the medulla oblongata, which regulates the vomiting centre and the chemoreceptor trigger zone (CTZ). Meanwhile, neurotransmitter modulation shows that PC6 stimulation increases the release of neurotransmitters such as endorphins and serotonin, which help suppress the vomiting reflex and induce a relaxing effect. Furthermore, acupressure at the PC6 point works on the stomach by normalising gastric peristalsis and reducing delayed gastric emptying, a condition that often worsens nausea in pregnant women (Ariani, 2024).

This study is in line with research conducted by (Zaen & Ramadani, 2019) with the results of Acupressure massage has a significant effect on NVP the first trimester in the Sukaramai Medan Health Center Work Area in 2019, with a p-value (0.000) smaller than α (0.05). Because Acupressure is a form of traditional medicine that is passed down from generation to generation and continues to develop. This transcultural health care goes hand in hand with traditional and professional health care systems. The traditional health care system includes folk medicine methods and other home therapies, which have been used long before the professional health care system was introduced in a culture. So this acupressure massage is popular with pregnant women with complaints of NVP (Zaen & Ramadani, 2019).

This study result are also in line with studies by (Rahma et al., 2024) that acupressure had an effect on the intensity of NVP in the first trimester, with a p value of 0.000 ($p < 0.05$). Midwives can apply acupressure therapy as a complementary method to help reduce complaints of NVP. In addition, midwives can also provide education or health promotion to pregnant women as an effort to prevent and treat complaints of nausea and vomiting during the first three months of pregnancy. Acupressure has also been shown to be effective in relieving discomfort in pregnant women, such as nausea, vomiting, and back pain, through massage at certain points. In addition, this method can be done independently at home (Nurbaiti & Tiwi, 2024).

4. Conclusion

Acupressure massage is effective to reduce the frequency of NVP in the first trimester. Thus, acupressure therapy can be a safe and effective non-pharmacological intervention option in treating emesis gravidarum. Implementation of this method in obstetric practice can increase the comfort of pregnant women during pregnancy and reduce the risk of complications that may arise due to excessive NVP. The limitation of this study is the absence of a control group, so the validity of the research results still needs to be confirmed using other methods that include a control group to prove that the intervention provided is truly effective.

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References

- Ariani, N. (2024). Acupressure in The Management of Hyperemesis Gravidarum: A Systematic Analysis. *Jurnal Eduhealth*, 15(04), 468–484. <https://doi.org/10.54209/eduhealth.v15i04>
- Fithriani, Nasution, H. S., & Husni, F. I. (2024). Pengaruh Akupresur Terhadap Emesis Gravidarum Pada Ibu Hamil Trimester I di Praktik Bidan Hj. Hemawati Kecamatan Babel Kabupaten Aceh Tenggara Tahun 2023. *JURNAL MEDIA INFORMATIKA [JUMIN]*, 5, 242–248.
- Gahayu Putri, & Ristica, O. D. (2021). Penerapan Teknik Akupresur Untuk Mengurangi Keluhan Mual Muntah pada Kehamilan Trimester I di PMB Siti Juleha Pekanbaru Tahun 2021. *Jurnal Kebidanan Terkini (Current Midwifery Journal)*, 1(2), 70–78. <https://doi.org/10.25311/jkt/vol1.iss2.461>
- Jannah, M., Hartati, K., & Astuti, Y. (2024). Efektivitas Pemberian Akupresur terhadap Pengurangan Frekuensi Mual Muntah pada Ibu Hamil Trimester I : Literature Review. *Media Publikasi Promosi Kesehatan Indonesia (MPPKI)*, 7(3), 531–539. <https://doi.org/10.56338/mppki.v7i3.4590>
- Kusumaningsih, M. R. (2022). AKUPRESSURE SEBAGAI TERAPI MUAL MUNTAH PADA IBU HAMIL. *Scientific Proceedings of Islamic and Complementary Medicine*, 1(1), 29–40. <https://doi.org/10.55116/spicm.v1i1.5>
- Lestari, A. D., Sadila, A. S., Nara, A. D., Putri, A. A. F., Febriani, A. N., & Barokah, A. F. (2022). AKUPRESUR MENGURANGI MUAL MUNTAH DALAM KEHAMILAN: Literature Review. *JMSWH Journal of Midwifery Science and Women's Health*, 3. <https://doi.org/10.36082/jmswh.v3i1.566>
- Masdinarsyah. (2022). AKUPRESUR DALAM MENGURANGI EMESIS GRAVIDARUM. *JURNAL ASUHAN IBU DAN ANAK*, 7.
- Mulyandari, A., & Alvina, D. (2022). TERAPI AKUPRESUR PADA IBU HAMIL DENGAN EMESIS GRAVIDARUM. *JMNS Journal of Midwifery and Nursing Studies*, 4(2).
- Nurbaiti, & Tiwi, L. S. (2024). Pengetahuan dan Persepsi Ibu Hamil tentang Akupresur dalam Mengatasi Ketidaknyamanan pada Kehamilan. *JABJ*, 13(2), 201–207. <https://doi.org/10.36565/jab.v13i2.781>
- Nurmala, C. (2021). Efek Akupresur Dalam Mengatasi Mual Muntah Selama Kehamilan. *Jurnal Ilmiah Bidan*, 9.
- Rahma, M., Fitriani, D. R., & Anggraeni, R. D. (2024). PENGARUH METODE ACUPRESSURE UNTUK MEREDAKAN MUAL MUNTAH PADA IBU HAMIL TRIMESTER I. *Cetak) Journal of Innovation Research and Knowledge*, 3(11).
- Ria, M. B., & Manek, B. D. (2022). The Effectiveness of Acupressure Points PC-6 and SP-3 on the Hyperemesis Gravidarum in Pregnant Women. *Journal of Maternal and Child Health*, 7(2), 138–147. <https://doi.org/10.26911/thejmch.2022.07.02.03>
- Sari, S. I. P., & Hindratni, F. (2022). Pericardial Acupressure (P6) to Reduce Nausea and Vomiting for Pregnant Women. *Jurnal Kebidanan Malahayati*, 8(4), 822–827. <https://doi.org/10.33024/jkm.v8i4.7236>
- Septa, A. F., HS, S. A. S., & Dewi, N. R. (2021). PENERAPAN AKUPRESUR PADA IBU HAMIL TRIMESTER I UNTUK MENGATASI MUAL DAN MUNTAH DI WILAYAH KERJA PUSKESMAS METRO. *Jurnal Cendikia Muda*, 1(4).
- Simanjuntak, E. H., Parapat, F. M., Taringan, S. nanda R., Purnama, L., & Zebua, F. (2023). Edukasi Pemberian Terapi Akupresur Dalam Membantu Penurunan Mual Dan Muntah Pada Ibu Hamil Trimester I Di BPM Mariana. 2(2), 1–07. <https://tourjournal.akupuntour.com/index.php/tourabdimasjournal>
- Sriwidyastuti, Ermawati, Sumarmi, & Aenul Saputri. (2024). LITERATURE REVIEW: TERAPI KOMPLEMENTER UNTUK MENGURANGI MUAL MUNTAH PADA MASA KEHAMILAN. *Journal Kebidanan Uniasman*, 3.
- Tanjung, W. W., Wari, Y., & Antoni, A. (2020). PENGARUH AKUPRESUR PADA TITIK PERIKARDIUM 6 TERHADAP INTENSITAS MUAL MUNTAH PADA IBU HAMIL TRIMESTER I. *Jurnal Education and Development Institut Pendidikan Tapanuli Selatan*, 8.
- Zaen, N. L., & Ramadani, D. (2019). Pengaruh Pijat Akupresur terhadap Mual Muntah pada Ibu Hamil Trimester 1 di Wilayah Kerja Puskesmas Sukaramai Medan Tahun 2019. In *AMIK IMELDA*. <http://sintaks.kitamenuis.id/index.php/Sintaks>