THE INFLUENCE OF ACUPRESSURE ON GRAVIDARUM EMESIS IN THE FIRST TRIMESTER AT MIDWIFE'S INDEPENDENT PRACTICE UNIT, CIMAHI CITY

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Abstract

Introduction: *Emesis gravidarum is a problem that is often complained of by all pregnant women. Emesis or what is called nausea and vomiting occurs in early pregnancy (trimester 1) due to a sudden hormone estrogen, gastric HCL and HCG (Human Chorionic Gonadotropin). The impact of emesis gravidarum will cause hyperemisis gravidarum, significant weight loss, to dehydration. This is certainly dangerous for the mother and fetus. The occurrence of emesis gravidarum cannot be predicted, it can occur anytime and anywhere. So this will cause discomfort for pregnant women. Currently there are many therapies used to reduce nausea, it can be in the form of drinks, food, movement or massage, the closer to a certain point that causes nausea and vomiting, the better the effect. One way is to use massage / acupressure. Acupressure therapy is done to reduce complaints of pregnant women. Because emesis can occur anytime and anywhere, pregnant women need a guide that is understood and can be used anytime.* ***Methodology:*** *In this study, it began by looking at the effect of acupressure on reducing emesis gravidarum in pregnant women at Midwife's Independent Practice Unit, Cimahi City. Actions will be carried out during the first 3 trimesters of pregnancy. The research method is the One-Group Pretest Posttest Design method, namely a research design where there is a pretest before being given treatment. Thus the results of the treatment can be known more accurately, because it can be compared with the conditions before being given treatment.* ***Research findings:*** *The output of this research is to create an application that includes how to do acupressure at points that can reduce nausea in pregnancy according to complaints and the level of emesis gravidarum.* ***Conclusions:*** *This application will certainly be very useful considering that it can be used anytime and anywhere according to the needs of pregnant women. Pregnant women will feel better and be able to get through the first trimester of pregnancy well*

Keywords: *Acupressure, emesis gravidarum*

1. Introduction

Pregnancy is a complex process that begins with conception and culminates in the birth of the fetus. A typical pregnancy spans 280 days or 40 weeks, calculated from the first day of the last menstrual period (Widatiningsih & Dewi, 2017). One prominent sign of increased levels of Chorionic Gonadotropin hormone, characterized by nausea and vomiting during pregnancy, is commonly known as morning sickness. This phenomenon occurs during the first trimester of pregnancy (0-12 weeks) (Kustriyani et al., 2017). Excessive nausea in pregnant women can lead to significant weight loss, dehydration, and the development of hyperemesis gravidarum. The exact causes of hyperemesis gravidarum are not precisely known, but hormonal and psychological changes in pregnant women are potential contributors (Varney, 2007).

Research by Kurniawati (2012)

revealed that 60% of pregnant women are generally aware of discomfort during pregnancy. In a study conducted in the working area of the Kademangan Health Center in Bobojong Village, 10 pregnant women were asked about discomfort during pregnancy. Seven of them reported experiencing discomfort, including nausea, vomiting, and dizziness, without knowing how to address it. Meanwhile, three women acknowledged both awareness of discomfort and understanding how to manage it by resting and eating small, frequent meals.

The exact cause of emesis gravidarum is uncertain, but vomiting and nausea can result from a sudden increase in hormone levels, elevated estrogen, gastric hydrochloric acid, and even Human Chorionic Gonadotropin (HCG). The mechanism of nausea and vomiting involves two areas in the central nervous system: the Chemoreceptor Trigger Zone (CTZ) and the reticular formation (as a modulator and premotor). CTZ, located bilaterally at the base of the fourth ventricle of the Medulla Oblongata, responds to emetogenic substances (low emetogenic substances cause nausea and the urge to vomit). Consequently, the body responds to emetogenic stimuli by sending signals directly through the vagus nerve to the stomach, causing a nausea-vomiting reaction. Other stimuli that activate CTZ include gastric distension, gas accumulation, psychological factors (anxiety), and irritation in the stomach (caused by viruses or bacteria).

Continuous nausea and vomiting (due to emesis gravidarum) can lead to weight loss, dehydration, and ketosis. When a pregnant woman loses 5% of her body weight, it is classified as hyperemesis, which adversely affects the fetus, resulting in miscarriage, stillbirth, low birth weight, premature birth, and various physical and psychological abnormalities.

Non-pharmacological therapy can be applied in various ways, one of which is through acupressure. Acupressure is a form of physiotherapy that involves massaging and stimulating specific points on the body to alleviate various pains and activate the flow of vital energy and chi. Acupressure therapy has been employed to alleviate discomfort in pregnant women (Kamariyah, 2014).

Based on this background, the researcher is keen to delve further by conducting a study on the "Influence of Acupressure on hyperemesis gravidarum at the Nia Midwife Clinic in Cimahi City."

2. Methods

2.1 Study Design

The design employed in this study is a pre-experimental research design, utilizing the one-group pre-post test design technique. Prior to the intervention, measurements of emesis gravidarum incidents were conducted. The measuring instrument used was the modified Pregnancy-Unique Quantification of Emesis and Nausea (PUQE) scale. Once the emesis scale values were obtained, the subsequent steps involved administering acupressure therapy. Acupressure therapy was conducted with a frequency of 3 times per week.

Subsequently, a reassessment of emesis incidents was carried out for further analysis. The population in this study comprises all first-trimester pregnant women diagnosed with emesis gravidarum who visited the Midwife's Independent Practice during the research period. The sample for this study includes all pregnant women diagnosed with emesis gravidarum who made visits during the research period, with the following criteria:

1. Inclusion criteria:
a. Willing to participate as research respondents
b. Pregnancy age <12 weeks
c. Primigravida parity
2. Exclusion criteria:
a. History of illness
b. Experiencing pregnancy complications

2.2 Data Analysis

Research Instrument: The data for this study are primary data obtained from the measurement of the emesis gravidarum severity questionnaire.

The researcher gathered first-trimester pregnant women, provided an explanation of the study to them, and then obtained their signed Informed Consent if they agreed to be research subjects. Afterward, the pregnant women were briefed on acupressure to reduce emesis/nausea. During the data collection, the researcher directly measured the level of emesis before the acupressure procedure and recorded it on the observation sheet. Following this process, pregnant women were allowed to continue until the completion of the first trimester, after which the level of emesis in pregnant women was measured again. After conducting the analysis, if it is proven that acupressure has an effect on emesis gravidarum, the researcher will proceed with the development of an acupressure application for reducing emesis gravidarum.

3. Results

Table 1. Description of emesis gravidarum in first-trimester pregnant women before and after *acupressure* intervention

Emesis Level	Emesis Category					
	Light		Moderate		Total	
	n	%	n	%	n	%
Before Acuspressure	3	16.7	15	83.3	18	100
After Acuspressure	12	66.7	6	33.3	18	100

Table 1 illustrates the description of emesis in pregnant women before the intervention, where 15 individuals (83.3%) experienced moderate emesis, and 3 individuals (16.7%) experienced light emesis. After the intervention, the number of pregnant women experiencing moderate emesis decreased to 6 individuals (33.3%), while those with light emesis increased to 12 individuals (66.7%)

Table 2. The Effect of Acupressure on Emesis Gravidarum

Emesis Level	n	Mean ± SD	Mean difference ± SD	IK 95%	p-value
Before Acuspressure	18	8.33 ± 1.78	2.83 ± 2.89	1.39 4.27	0.001
After Acuspressure	18	5.50 ± 2.31			

Based on Table 2, the obtained p-value is 0.001. When compared with α = 5% or 0.05, the p-value < α or 0.000 < 0.05, so the meaning that there was an effect of acupressure on the level of emesis in first trimester pregnant women with a significant difference in the mean level of emesis before and after being given acupressure for five days was 2.83. The Confidence Index used is 95%, so the interval for the difference in mean emission levels is between 1.39-4.27.

4. Discussion

A study has been conducted on the effect of acupressure on emesis gravidarum in first-trimester pregnant women. The acupressure procedure was performed in the morning, from 07:00 to 09:00 AM. Pressure points were applied to three locations, namely PC 6 and ST36. Pressure was exerted 30 times clockwise, and the Zu San Li (St36) point was located anterior to the lower leg, 3 cm below St 35. This pressure aimed to stimulate acupressure points to activate sensory

nerve receptors around these points. The impulse would then be transmitted to the spinal medulla, followed by the mesencephalon with the pituitary hypothalamus complex, all of which would be activated to release endorphins (Saputra & Sudirman, 2009).

Table 1 illustrates the prevalence of emesis in pregnant women before the intervention, with 15 individuals (83.3%) experiencing moderate emesis and 3 individuals (16.7%) experiencing mild emesis. After the intervention, the number of pregnant women with moderate emesis decreased to 6 individuals (33.3%), while those with mild emesis increased to 12 individuals (66.7%). Based on Table 2, the obtained p-value is 0.001. When compared with α = 5% or 0.05, the p-value < α or 0.000 < 0.05, so H0 is rejected, indicating a significant difference in emesis in First-Trimester Pregnant Women before and after Acupressure.

Nausea and vomiting are common symptoms in the first trimester of pregnancy related to changes in the endocrine system, primarily the increase in hCG hormone. According to Oxorn and Forte, nausea and vomiting are common and normal symptoms in the first trimester of pregnancy. Nausea usually occurs in the morning around 6-10 weeks. Hyperemesis gravidarum is a common complaint that often occurs in early pregnancy. Pregnancy involves physiological changes, such as hormonal changes. Pregnant women experience an increase in estrogen, progesterone, and HCG hormones, leading to hyperemesis gravidarum.

Emesis gravidarum is a common symptom in the third trimester of pregnancy. Nausea usually occurs in the morning but can also arise at night. Nausea and vomiting lead to a decrease in appetite, causing an imbalance in electrolytes (potassium, calcium, and sodium), resulting in changes in body metabolism. Acupressure can stimulate the regulatory system and activate endocrine and neurological mechanisms by stimulating the hypothalamus to release endorphins, providing a sense of relaxation.

This research is supported by the study of Dewi R, which found the influence of acupressure therapy in reducing the intensity of nausea and vomiting, with a P-value < 0.008 (accessed at https://ejurnalmalahayati.ac.id/index.php/holistik/article/view/4268). It is also supported by the study of Mariza and Lia, who, after the intervention, obtained a Mean of 10.53, Min of 9, Max of 13, and after acupressure, Mean of 7.30, Min of 5, Max of 10 with a standard deviation of 1.317. The statistical test result with a P-value of 0.000 indicates that there is an influence of acupressure at the P6 point on nausea and vomiting in first-trimester pregnant women.

Acupressure is a form of touch therapy based on the principles of acupuncture and traditional Chinese medicine, where specific points on the body's surface are stimulated by finger pressure (Dupler, 2005). The acupressure points that can reduce nausea and vomiting are PC6 and St36. These points can facilitate Qi and overall blood circulation in the body, restoring the reversed meridian pathway, thereby reducing nausea and vomiting after therapy. Acupressure can promote Qi and blood flow, instructing the endocrine system to release an appropriate amount of endorphins to induce a sense of calm (Hartono, 2012).

Literature reviews indicate that acupressure is more effective in alleviating nausea and vomiting in pregnant women. The acupressure

technique focuses on specific nerve points in the body. Acupressure therapy involves applying pressure by massaging the P6 point on the wrist, located three fingers from the wrist. It is hoped that acupressure can be considered a non-pharmacological therapy option for pregnant women experiencing nausea and vomiting, and health facilities can enhance health promotion in this regard.

5. Conclusion

Before the acupressure intervention, it was found that 15 individuals (83.3%) experienced moderate nausea, and 3 individuals (16.7%) experienced mild nausea. After the administration of acupressure, the number of pregnant women experiencing moderate nausea decreased to 6 individuals (33.3%), while those experiencing mild nausea increased to 12 individuals (66.7%). Acupressure can influence the level of gravidarum emesis, with a obtained p-value of 0.001.

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References

1. Adam, M. (2011). *Pengaruh Akupresur Terhadap Kekuatan Otot dan Rentang GerakEkstremitas Atas Pada Pasien Stroke Pasca Rawat Inap di RSUP Fatmawati Jakarta*, Tesis, Depok, Universitas Indonesia
2. Beach. (2014). Acupuncture Center Of Fernandina Traditional Chinese Medicine and Complementary Therapies. http://www.bodymindspirit.ws/faq/
3. Charandabi, et al. (2011).*The effect of acupressure at the Sanyinjiao point (SP6) on primary dysmenorrhea in students resident in dormitories of Tabriz.* Iranian Journal of Nursing and Midwifery Research, 16 (4), 309-317
4. Chen, HM and Chen CH. (2004). *Effects Of Acupressure At The Sanyinjiao Poin On Primary Dysmenorrhoea.* J Adv Nurs 48, 380-387.
5. Chen Hsieh et al . 2010. *Effect of Acupressure and Trigger Points in Treating Headache: A Randomized Controlled Trial.* The American Journal of Chinese Medicine, 38 (1), 1-14
6. Chung, et al. (2012). *Accupoin Stimulation Intervention For People With Primary Dysmenorrhea. Systematic Review and Meta-Analysis Of Randozed Trials.* PubMeD, 20 (05), 356-363
7. Cyosauna. (2013).*Endorphins, Cryosauna and their role in our body.* http://www.cyosaunastudio.gr
8. Fegge, A. (2012). *Terapi Akupresur Manfaat dan TeknikPengobatan*. Yogyakarta: Crop Cirele Crop
9. Gharloghi, S et al.(2012). *The effects of acupressure on severity of primary dysmenorrhea*. Patient Prefer Adherence. 6, 137-142
10. Hartono, R, I, W. (2012). *Akupresur untuk Berbagai Penyakit.* Yogyakarta: Rafa Puplishing
11. Julianti, Hasanah dan Erwin., (2012), *Efektivitas Terapi Akupresur Terhadap Dismenore pada remaja di SMAN 5 dan MA Al-Huda Bengkalis,* Tesis, Riau, Universitas Riau
12. Kang, H. S., Sok, S. R dan Kang, J. S. (2009). *Effects of Meridian Acupressure ForStroke Patients In Korea.* Journal of Clinical Nursing, 18, 2145–2152
13. Metha. (2007). *The Science and Benefits Of Akupresur Therapy*. Tersedia http//:www.voices.yahoo.com, 13 Mei 2014

14. Nathan, A. (2005). *Primary dymenorrhoea. Practice Nure minor Ailments.* Tersedia http://proquest.umi.co./pqdweb?index=65, 28 Januari 2014
15. Ochi. (2013). *Acupuncture Instead Of Codeine For Tonsillectomy Pain InChildren.* International Journal of Pediatric Otorhinolaryngology. 772058–2062
16. Rad, M. N, et al. (2012). *Arandomized Clinical Trial of the Efficacy of KID21 Point (Youmen) Acupressure on Nausea and Vomiting of Pregnancy. I*ranian Red Crescent Medical Journal , 4 (11), 97-701
17. Ratna Dewi, *Pengaruh holistic jurnal Kesehatan (HJK)*, Sinta 4 publisher ikantan ners alumni universitas Malahayati
18. Saputra, K dan Sudirman, S. (2009). *Akupunktur Untuk Nyeri Dengan Pendekatan Neurosain*. Jakarta: Sagung Seto
19. Sharma, A, Taneja, D.K, Sharma, P. & Saha R. (2008). *Problem Related to Menstruation and Their Effect On Daily Routine Of Students Of A Medical College In Delhi, India. Asia Pacific Journal Of Public Health,* 53 (10), 439-443
20. Sukanta, P.(2008). *Pijat Akupresur Untuk Kesehatan.* Jakarta :Penerbit Plus
21. Susanto. (2012). Buku Ajar Keperawatan Keluarga, Aplikasi Teori Pada Praktik Asuhan Keperawatan Keluarga. Jakarta: Trans Info Media
22. Tsay S.L., Cho Y.C., Chen M.L. (2004). *Acupresur and Transcutaneous Electrical Acupoin Stimulation in Improving Fatigue, Sleep Quality and Depression in Hemodialysis Patients.* Jurnal of Chinese Medicine, 32(3), 407-416
23. Turana, Y. 2004. *Akupresur*. Tersedia http://www.medikaholistik.com, 03 Februari 2014