



Efficacy of the Kundalini Method in Alleviating Emesis Gravidarum during the First Trimester

Authors:

Qatrunnada Naqiyyah Khusmitha^{1*}, Atik Farokah², Herdian Fitria Widyanto Putri³

¹Bhakti Wiyata Institute of Health Science; Kediri, (0354) 773299

²Bhakti Wiyata Institute of Health Science; Kediri, (0354) 773299

³Bhakti Wiyata Institute of Health Science; Kediri, (0354) 773299

Corresponding Email: *qatrunnada.nk@iik.ac.id

About the Author

1. 1st Author : Bd. Qatrunnada Naqiyyah Khusmitha, S.Keb, M.Keb
Affiliation : Midwifery department, Health Faculty, Bhakti Wiyata Institute of Health Science.
Mailing address : Jl. KH Wachid Hasyim No.65, Bandar Lor, Kec. Mojoroto, Kota Kediri, Jawa Timur 64114
Email of author : qatrunnada.nk@iik.ac.id
Orcid ID : <https://orcid.org/009-0003-9895-3842>
Google Scholar URL : <https://scholar.google.com/citations?hl=en&authuser=4&user=YqJpIVgAAAAJ>
Phone number : 085791519306
- 2nd Author : Atik Farokah, S.Keb, Bd., M.Keb
Affiliation : Midwifery department, Health Faculty, Bhakti Wiyata Institute of Health Science
Mailing address : Jl. KH Wachid Hasyim No.65, Bandar Lor, Kec. Mojoroto, Kota Kediri, Jawa Timur 64114
Email of author : atik.farokah@iik.ac.id
Orcid ID : <https://orcid.org/0000-0003-3995-7363>
Google Scholar URL : <https://scholar.google.co.id/citations?user=2Y-NvCUAAAAJ&hl=id>
Phone number : 085335221122
- 3nd Author : Bd. Herdian Fitria Widyanto Putri, S.Keb, M.Keb
Affiliation : Midwifery department, Health Faculty, Bhakti Wiyata Institute of Health Science
Mailing address : Jl. KH Wachid Hasyim No.65, Bandar Lor, Kec. Mojoroto, Kota Kediri, Jawa Timur 64114
Email of author : herdian.putri@iik.ac.id
Orcid ID : <https://orcid.org/0000-0002-8759-5785>
Google Scholar URL : <https://scholar.google.co.id/citations?hl=id&user=WGrKDtUAAAAJ>
Phone number : 085779291643

ABSTRACT

Stunting in toddlers might result from malnutrition during pregnancy. Emesis gravidarum is a natural alteration. Nevertheless, if not managed appropriately, it can escalate and interfere with the nutritional consumption of pregnant women. Anxiety can cause emesis gravidarum. Kundalini Yoga is effective in alleviating anxiety. This research follows a quasi-experimental approach, employing complete sampling and dividing participants into control and treatment groups. The PUQE-24 questionnaire assessed the severity of nausea and vomiting in pregnant women during the first trimester in the Polindes Mancon work area. Kundalini Yoga is offered by researchers who have received training from certified yoga instructors. Pregnant women are provided with instructional videos to assist them in performing workouts at home on an individual basis. The investigation was conducted for four weeks. The data were examined using descriptive and t-tests. The level of nausea reported by pregnant women during the first trimester showed a significant difference between the two groups ($p = 0.000$, $p < 0.05$). The incidence of vomiting following Kundalini was statistically significant ($p = 0.000$, $p < 0.05$). Kundalini Yoga is a highly successful approach for lowering emesis gravidarum in pregnant women during the first trimester.

Keywords: Kundalini, Emesis gravidarum, Nausea, Vomiting, Yoga

ABSTRAK

Kondisi gizi kurang selama hamil dapat menyebabkan stunting pada balita. Kejadian mual muntah pada ibu hamil (emesis gravidarum) merupakan perubahan fisiologis tetapi jika tidak ditangani dengan baik emesis gravidarum dapat semakin parah dan mengganggu asupan nutrisi ibu hamil. Salah satu faktor penyebab terjadinya emesis gravidarum adalah kecemasan. Yoga Kundalini dipercaya dapat bermanfaat untuk mengurangi kecemasan. Desain penelitian ini adalah eksperimen semu dengan total sampling dibagi menjadi kelompok kontrol dan perlakuan. Seluruh ibu hamil trimester 1 di wilayah kerja Polindes Mancon diukur mual dan muntahnya menggunakan kuesioner PUQE-24. Yoga Kundalini diberikan oleh peneliti yang telah dilatih oleh instruktur yoga bersertifikat. Untuk latihan individu di rumah, ibu hamil diberikan video sebagai panduan. Penelitian dilakukan dalam waktu 4 minggu. Data dianalisis menggunakan statistik deskriptif dan inferensial (uji-t). Jumlah mual yang dialami ibu hamil pada trimester pertama berbeda secara signifikan antara kelompok perlakuan dan kelompok kontrol ($p = 0,000$, $p < 0,05$). Angka muntah pada kelompok perlakuan dan kelompok kontrol berbeda artinya setelah dilakukan terapi teknik Kundalini ($p = 0.000$, $p < 0.05$). Yoga Kundalini merupakan strategi yang efektif untuk mengurangi emesis gravidarum pada ibu hamil trimester 1.

Kata kunci: Kundalini, Emesis gravidarum, Mual, Muntah, Yoga

INTRODUCTION

The Indonesian Nutrition Status Survey conducted in 2022 revealed a decline of 2.8% in the stunting rate, bringing it down to 21.6% in Indonesia. The prevalence of wasting and underweight has risen by 0.6% and 0.1%, respectively, reaching 7.7% and 17.1%. The prevalence of stunting in Nganjuk Regency is 20% greater than the average prevalence in East Java, which is 19%. (Syarifah Liza Munira, 2022). Pregnant women's nutritional status contributes to stunting (Qurani et al., 2022; Santosa et al., 2022). Inadequate nutrition during pregnancy is believed to impact the health and development of the fetus significantly. Up to 75% of moms suffer from persistent energy insufficiency as a result of nausea and vomiting during pregnancy. During the initial trimester, the mother undergoes physiological changes, including elevated levels of hCG and alterations in glucose metabolism, resulting in symptoms such as nausea, vomiting, and reduced appetite (Karemoi et al., 2020). Multiple studies indicate that women who encounter early pregnancy-related symptoms of nausea and vomiting are likely to participate in reduced levels of physical activity throughout their leisure time throughout pregnancy (Owe et al., 2019). Pregnant women experiencing nausea and vomiting may have heightened levels of anxiety (Beyazit & Sahin, 2018).

Moderate exercise, such as walking, is considered to have a small risk of pregnancy in the first trimester (Hassan et al., 2022). Kundalini Yoga is one sport that has proven effective in reducing anxiety disorders (Simon et al., 2020). However, research on the Kundalini method in pregnant women is very limited.

Pregnancy is a critical period in a woman's life because it is essential to achieve good health for both mother and fetus. During pregnancy, the mother will improve her lifestyle habits and food intake (Gerontidis et al., 2022). Sustainable optimal nutrition plays an important role, one of which is in pregnancy, and is a topic that needs attention today. Nutrient intake in the first trimester is essential to prevent complications in both mother and child because the results show that nutrient intake in the first trimester is the strongest predictor of adverse outcomes in pregnancy (Jouanne et al., 2021; Marshall et al., 2022). Emesis gravidarum, or nausea and vomiting in pregnancy, is a complaint experienced by 50-80% of pregnant women in early pregnancy (Singh et al., 2022; Sriadnyani, 2022). In some women, this complaint can be felt more severe and excessive so that it can affect the activities of pregnant women and the health of the mother and fetus due to decreased appetite and dehydration (Rufaridah et al., 2019). Emesis gravidarum primarily affects primiparous women under the age of 20, with an educational background ranging from elementary to middle school, who do not smoke and are obese. The development of emesis gravidarum is linked to hormonal elements originating from the GDF15-GFRAL axis. Elevated levels of GDF15 in the bloodstream will inhibit hormonal communication in the brain. Human chorionic gonadotropin (hCG) is a hormone cytotrophoblast cells produce in the placenta during pregnancy. The hCG hormone is controlled during the initial stages of pregnancy in conjunction with the onset of vomiting symptoms. The thyroid function during pregnancy also increases to adapt to the metabolic demands of the fetus. Abnormally high levels of thyroid hormones are also linked to emesis gravidarum. Additional hormones linked to vomiting are connected to TNF- α , which plays a role in developing emesis gravidarum (Liu et al., 2022). Early pregnancy vomiting necessitates careful consideration due to its correlation with a heightened likelihood of delivering an infant with a low birth weight (Petry et al., 2018). Multiple studies indicate that pregnant women who encounter early pregnancy nausea and vomiting exhibit infrequent participation in physical activities during their leisure time throughout pregnancy (Owe et al., 2019).

Engaging in physical activity is crucial for the well-being of both the mother and the developing fetus. Physical activity is the term used to describe the movement of the body's skeletal muscles that leads to energy use. Engaging in physical activity while pregnant can effectively control gestational weight growth, lower the likelihood of postpartum maternal mental problems, and enhance body image satisfaction. Engaging in physical activity while pregnant is crucial for promoting favorable health outcomes in the infant. Nevertheless, there is a significant number of expectant mothers who lack comprehension regarding physical exertion while being pregnant. The absence of physical activity in pregnant women can be attributed to factors such as maternal ignorance, socio-economic situation, cultural background, and educational level. The optimal level of physical activity is engaging in low to moderate-intensity exercise for a minimum of 150 minutes each week. The exercises offered encompass a range of training modalities, including strength, balance, stretching, and integrated modalities (Budler & Budler, 2022). Engaging in physical activity, particularly in the initial stage of pregnancy, offers significant advantages for expectant mothers. There is thought to be a slight chance of pregnancy during the first trimester with this mild exercise (Hassan et al., 2022).

Kundalini is one branch of yoga that will help people relax, overcome stress, and calm the mind. Kundalini yoga is not just a physical activity but rather something dynamic and a powerful tool for expanding consciousness (Khalsa, 1998). Kundalini yoga can be done during pregnancy up to 120 days of age if the pregnant woman does not experience bleeding complications during pregnancy.

The kundalini technique involves regulating deep and prolonged breaths for 1-3 minutes, followed by doing Basic Spinal Flex 26 times and concluding with a pregnant meditation lasting 3-11 minutes. The Kundalini method focuses on breath and light movements to focus a person on feeling relaxed.

Currently, a significant number of pregnant women in the initial stage of pregnancy fail to engage in sufficient physical activity due to concerns about potential hazards, which in turn increases the likelihood of experiencing nausea and vomiting. This complaint, in turn, poses a threat to the proper growth and development of the fetus. The Kundalini method is a light yoga because it focuses on breathing and makes it easier for mothers to relax. Limited literature is available on the benefits of the Kundalini approach during pregnancy. Hence, this study aims to assess the efficacy of implementing the Kundalini technique in mitigating the severity of nausea and vomiting experienced by pregnant women during the first trimester.

METHOD

Participant characteristics and research design

This research employs a quasi-experimental design and utilizes a total sampling technique. The PUQE questionnaire assessed the severity of nausea and vomiting in pregnant women during the first trimester within the Mancon Polindes work area.

Sampling procedures

The PUQE questionnaire consisted of questions regarding the duration of nausea in the past 24 hours, the amount of nausea in the last 24 hours, and the number of vomiting in the last 24 hours. The gathered samples were separated into two groups: the control group, consisting of pregnant women with emesis gravidarum who received routine prenatal care, and the treatment group, consisting of pregnant women with emesis gravidarum who received routine antenatal care along with kundalini yoga. The Kundalini technique of yoga is practiced daily for 15 minutes. This exercise includes specific exercises such as deep and prolonged breathing for 2 minutes, fundamental spinal flexion for 2 minutes, and pregnant meditation for 11 minutes. Kundalini Yoga is conducted by researchers under the supervision of professional yoga instructors. Furthermore, pregnant women are provided with instructional videos for individual training in the comfort of their homes. An evaluation of nausea and vomiting was conducted within a timeframe of 4 weeks following the medication.

Data analysis

The Kundalini technique of yoga is practiced daily for 15 minutes. This exercise includes specific exercises such as deep and prolonged breathing for 2 minutes, fundamental spinal flexion for 2 minutes, and pregnant meditation for 11 minutes. Kundalini Yoga is conducted by researchers under the supervision of professional yoga instructors. Furthermore, pregnant women are provided with instructional videos for individual training in the comfort of their homes. An evaluation of nausea and vomiting was conducted within a timeframe of 4 weeks following the medication.

RESULTS AND DISCUSSION

Characteristics		Pre-Intervention						Post-Intervention					
		Treatment		Control		Total		Treatment		Control		Total	
		n=25	%	n=25	%	%	n=25	n=25	%	n=25	%	n=25	%
Nausea	Moderate	7	28	3	12	10	20	0	0	14	56	14	28
	Mild	18	72	22	88	40	80	6	24	9	36	15	30
	Not experienced	0	0	0	0	0	0	19	76	2	8	21	42
Vomiting	Moderate	0	0	1	4	1	2	0	0	2	8	2	4
	Mild	7	28	17	68	24	48	3	12	18	72	21	42
	Not experienced	18	72	7	28	25	50	22	88	5	20	27	54

Table 1. Distribution of nausea and vomiting in the treatment and control groups of pregnant women in the first trimester

According to Table 1, before the intervention, both the treatment and control groups were primarily composed of moms who had mild nausea. Following the intervention, a significant reduction in nausea was observed among 76% of participants in the treatment group, compared to only 8% in the control group. In the control group, 68% of respondents experienced mild vomiting, but in the treatment group, this percentage was 28%. Following the intervention, a total of 72% of individuals in the control group reported experiencing mild vomiting, but only 12% of individuals in the treatment group reported the same.

			N	Mean level	Classification	Correlation	Sig
Nausea	Treatment	Pre-intervention	25	2.28	Moderate	0.901	0.000
		Post-intervention	25	1.24	Mild		
	Control	Pre-intervention	25	2.12	Moderate	0.300	0.145
		Post-intervention	25	2.48	Moderate		
Vomiting	Treatment	Pre-intervention	25	1.72	Moderate	-0.044	0.835
		Post-intervention	25	1.12	Mild		
	Control	Pre-intervention	25	1.76	Moderate	0.194	0.353
		Post-intervention	25	1.88	Moderate		

Table 2. Results of a paired test for the levels of nausea and vomiting in pregnant women during the first trimester

According to the data presented in Table 2, there was a significant difference in the levels of nausea experienced by pregnant women in the first trimester before and after participating in kundalini yoga. The statistical analysis showed a correlation value of 0.901, indicating a strong association between kundalini yoga and reduced nausea intensity. The p-value of 0.000 further supports the significance of this relationship. The degree of nausea in the control group did not show any statistically significant difference for four weeks ($p = 0.145$, $p > 0.05$). The incidence of vomiting in pregnant women with emesis gravidarum fell from a moderate level to a mild level in the treatment group both before and after engaging in kundalini yoga. Nevertheless, this alteration showed no statistically significant difference ($p = 0.835$, $p > 0.05$). There was no statistically significant difference in the rate of vomiting for four weeks in the control group ($p = 0.353$, $p > 0.05$). The control group experienced predominantly moderate levels of vomiting intensity during the first trimester of pregnancy.

		N	T	Sig (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Nausea	Pre-intervention	50	1.414	0.164	0.160	-0.068	0.388
	Post-intervention	50	-7.895	0.000	-1.240	-1.557	-0.923
Vomiting	Pre-intervention	50	-0.288	0.775	-0.040	-0.320	0.240
	Post-intervention	50	-6.111	0.000	-0.760	-1.010	-0.510

Table 3. The results of an independent t-test on the level of nausea experienced by pregnant women during the first trimester

Table 3 indicates no statistically significant disparity between the control and treatment groups regarding the amount of nausea before the intervention. The level of nausea reported by pregnant women during the first trimester showed a significant difference between the treatment group and the control group after the intervention ($p = 0.000$, $p < 0.05$). The incidence of emesis was decreased in the experimental group. There was no significant disparity in the frequency of vomiting between the control and treatment groups prior to the intervention ($p = 0.775$, $p > 0.05$). The incidence of vomiting in the treatment and control groups showed a statistically significant difference following the Kundalini method therapy ($p = 0.000$, $p < 0.05$). Applying the Kundalini technique treatment results in a significant decrease in the incidence of vomiting, compared to the control group, by one level.

Administering kundalini intervention can significantly alleviate nausea and vomiting in pregnant women throughout the first trimester. Prior research findings have indicated that consistent and regular practice of yoga movements can successfully alleviate nausea and vomiting in pregnant women throughout the first trimester (Mudlikah & Kesehatan, 2022). The occurrence of nausea and vomiting in the first trimester of pregnancy is attributed to elevated levels of the hormone estrogen and the hormone HCG, which are involved in the development of the fetal placenta and trigger these symptoms. Furthermore, the data indicates that breathing exercises twice daily might effectively diminish the severity of nausea and vomiting in pregnant women during the first trimester. Specifically, 66.7% of participants who practiced breathing exercises reported feeling more at ease and saw a reduction in symptoms of nausea and vomiting (Musfirowati et al., 2017).

Diaphragmatic breathing, along with other breathing exercises, has been scientifically demonstrated to alleviate anxiety in the body effectively. Anxiety is a medical disease that can induce physical symptoms, including nausea. During episodes of anxiety, the body redistributes blood flow from the digestive system to the larger muscle groups, resulting in a slowdown of digestion and alterations in the immune system. There exists a correlation between the brain and the gastrointestinal tract. The gastrointestinal nervous system is composed of neurons located within the intestinal wall. This system is intricately connected to the human central nervous system, which comprises the brain and spinal cord. There is a reciprocal relationship between the brain and intestines. The brain can initiate the stomach's reaction to thoughts and emotions and vice versa. The gut can initiate the response of the emotional and cognitive center in the brain.

Self-hypnosis and prenatal gentle yoga treatment have the potential to decrease the severity of emesis gravidarum in pregnant women during the first trimester. These alternative therapies are convenient to use and have few adverse effects for pregnant women experiencing emesis gravidarum. Prior studies have demonstrated that Self Hypnosis is superior to Prenatal Gentle Yoga in diminishing the severity of nausea and vomiting in emesis gravidarum (Anggasari et al., 2023).

Kundalini is an integral aspect of yoga practices that aim to stimulate the highest internal energy from the spinal cord. By harnessing this energy, it is anticipated to have the ability to purify the body's systems of any mental, spiritual, and physical ailments. Kundalini energy is directed towards harmonizing many bodily systems, such as the neurological, cardiovascular, and digestive systems. Kundalini is a practice that integrates meditation and yoga, emphasizing the coordination of physical movements, body positions, and breath regulation to enhance mental and spiritual well-being. Kundalini seeks to attain silence as the supreme power surpasses noise and motion. The findings of this study indicate that the utilization of the kundalini approach, which involves the integration of meditation and yoga, can effectively alleviate symptoms of nausea and vomiting experienced by pregnant women during the initial trimester.

CONCLUSIONS AND SUGESTION

Kundalini Yoga is a beneficial practice for alleviating pregnancy-induced nausea. The application of Kundalini intervention techniques in pregnant women is likely to result in a reduction in the severity of vomiting, while the difference is not statistically significant. During the final post-intervention evaluation, a notable disparity in the level of nausea was seen among pregnant women in the first trimester between the treatment group and the control group. Following the implementation of Kundalini technique therapy, a significant disparity in the frequency of emesis was observed between the treatment and control cohorts. This study can serve as a valuable resource for first-trimester pregnant women with emesis gravidarum, guiding engaging in gentle activities that help alleviate pregnancy-related pain. Subsequent investigations can assess the efficacy of kundalini yoga in alleviating emesis gravidarum during pregnancy, both in its specific use and in a broader context.

Acknowledgment

The manuscript has been published with the author's approval.

Funding Statement.

- The research leading to these results received funding from a Beginner Lecturer Research Grant with budget source: Directorate of Research, Technology and Community Service; Directorate General of Higher Education, Research and Technology; Ministry of Education, Culture, Research and Technology under Grant Agreement No. 45/R/PN/VII/2023

Conflict of Interest Statement

There are no conflicts of interest, according to the authors.

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