

A DESCRIPTIVE STATISTICS STUDY OF KNOWLEDGE AMONG FIRST-TRIMESTER PREGNANT WOMEN ON GINGER AROMATHERAPY TO REDUCE EMESIS GRAVIDARUM

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ABSTRAK : STUDI STATISTIK DESKRIPTIF TENTANG PENGETAHUAN DI KALANGAN WANITA HAMIL TRIMESTER PERTAMA MENGENAI AROMATERAPI JAHE UNTUK MENGURANGI EMESIS GRAVIDARUM

Emesis gravidarum merupakan keluhan yang umum dialami ibu hamil terutama pada trimester pertama, ditandai dengan mual dan muntah yang dapat memengaruhi kondisi fisik maupun psikologis ibu. Salah satu alternatif penanganan non-farmakologis yang aman dan efektif adalah penggunaan aromaterapi jahe. Berdasarkan data di Puskesmas Way Kandis Kota Bandar Lampung, diketahui bahwa masih banyak ibu hamil trimester pertama yang belum memahami manfaat aromaterapi jahe untuk mengurangi keluhan mual muntah selama kehamilan. Tujuan: Mengetahui gambaran tingkat pengetahuan ibu hamil trimester pertama tentang aromaterapi jahe dalam mengurangi emesis gravidarum di wilayah kerja Puskesmas Way Kandis Kota Bandar Lampung tahun 2025. Metode: Penelitian ini menggunakan metode deskriptif kuantitatif. Populasi dalam penelitian ini adalah seluruh ibu hamil trimester pertama di Puskesmas Way Kandis Kota Bandar Lampung pada bulan April–Mei 2025. Teknik pengambilan sampel menggunakan total sampling dengan jumlah 35 responden. Instrumen penelitian berupa kuesioner, dan data yang dikumpulkan meliputi data primer dan sekunder. Analisis data dilakukan secara deskriptif untuk menggambarkan tingkat pengetahuan responden.

Hasil: Berdasarkan hasil penelitian diperoleh bahwa pengetahuan responden tergolong cukup sebanyak 16 orang (45,7%), kategori baik sebanyak 13 orang (37,1%), dan kategori kurang sebanyak 6 orang (17,1%). Hal ini menunjukkan bahwa sebagian besar ibu hamil memiliki tingkat pengetahuan yang cukup tentang aromaterapi jahe, namun belum sepenuhnya memahami manfaat, mekanisme kerja, dan keamanan penggunaannya secara menyeluruh.

Kesimpulan: Gambaran pengetahuan ibu hamil trimester pertama tentang aromaterapi jahe di wilayah kerja Puskesmas Way Kandis Kota Bandar Lampung tahun 2025 sebagian besar berada pada kategori cukup. Diperlukan edukasi dan penyuluhan berkelanjutan oleh tenaga kesehatan mengenai penggunaan aromaterapi jahe yang tepat dan aman sebagai terapi non-farmakologis dalam mengatasi emesis gravidarum.

Kata Kunci: Pengetahuan, Ibu Hamil Trimester I, Aromaterapi Jahe, Emesis Gravidarum

ABSTRACT

Emesis gravidarum is a common complaint experienced by pregnant women, especially in the first trimester, characterized by nausea and vomiting that can affect the mother's physical and psychological condition. One of the safe and effective non-pharmacological alternatives to reduce nausea and vomiting is ginger aromatherapy. Based on data from the Way Kandis Community Health Center in Bandar Lampung City, many first-trimester pregnant women still have limited knowledge about the benefits of ginger aromatherapy as an alternative therapy for nausea and vomiting during pregnancy.

Objective: To describe the level of knowledge of first-trimester pregnant women about ginger aromatherapy in reducing emesis gravidarum at the Way Kandis Community Health Center, Bandar Lampung City, in 2025.

Method: This research used a descriptive quantitative method. The population consisted of all first-trimester pregnant women at the Way Kandis Community Health Center, Bandar Lampung City, during April–May 2025. The sampling technique was total sampling, with a total of 35 respondents. The research instrument was a questionnaire, and the data collected included both primary and secondary data. The data were analyzed descriptively to describe respondents' levels of knowledge.

Result: The results showed that 16 respondents (45.7%) had a moderate level of knowledge, 13 respondents (37.1%) had a good level of knowledge, and 6 respondents (17.1%) had a low level of knowledge. These findings indicate that most pregnant women have a moderate understanding of ginger aromatherapy but do not fully comprehend its benefits, mechanisms, and safety of use.

Conclusion: The description of first-trimester pregnant women's knowledge about ginger aromatherapy at the Way Kandis Community Health Center, Bandar Lampung City, in 2025 showed that most respondents had a moderate level of knowledge. It is recommended that continuous education and counseling be provided by health workers regarding the correct and safe use of ginger aromatherapy as a non-pharmacological effort to reduce nausea and vomiting during early pregnancy.

Keywords: Knowledge, Pregnant Women, Ginger Aromatherapy, Emesis Gravidarum

INTRODUCTION

Pregnancy is a physiological process that brings significant changes to a woman's body. During the first trimester, many pregnant women experience nausea and vomiting known as emesis gravidarum (Manuaba, 2013). This condition occurs due to hormonal changes, particularly increased levels of human chorionic gonadotropin (hCG) and estrogen. Although common, emesis gravidarum can impact a pregnant woman's quality of life if not properly managed. Although common, emesis gravidarum can impact a pregnant woman's quality of life if not properly managed. An Australian cohort study found that women with nausea and vomiting of pregnancy (NVP) had significantly lower Short-Form 12 Physical Component Summary (SF-12 PCS) scores than those without NVP, indicating a negative physical impact, particularly on work ability and daily functioning (Tan et al., 2017). Furthermore, another prospective cohort study showed that increasing levels of nausea and vomiting were significantly correlated with decreased physical and mental quality of life, regardless of social support (Xu et al., 2020). WHO data indicates that 50–80% of pregnant women experience nausea and vomiting in early pregnancy ((World Health Organization (WHO), 2023)). In Indonesia, the Indonesian Ministry of Health reports a prevalence of up to 75%. Unfortunately, treatment of this complaint is often limited to pharmacological measures, which may not be comfortable for pregnant women (Badriah & Wahyuni, 2024). As non-pharmacological approaches develop, ginger aromatherapy is gaining traction as a safe and effective alternative. Ginger (*Zingiber officinale*) is known to contain active compounds such as gingerol and shogaol, which have antiemetic effects. In addition to aromatherapy, several other complementary therapies have also proven effective. Research by Rohmayanti et al., 2022 showed that acupressure can significantly reduce the intensity of nausea and vomiting in pregnant women in the first trimester, making it a viable non-pharmacological alternative. Research by Rahayu & Sugita, 2014 showed that the use of ginger aromatherapy can reduce symptoms of nausea and vomiting in

pregnant women in the first trimester. However, the effectiveness of this method is highly dependent on the pregnant woman's level of knowledge and awareness of its use.

A pre-survey at the Way Kandis Community Health Center in Bandar Lampung City revealed that the majority of pregnant women (70%) were unaware of the benefits of ginger aromatherapy in treating emesis gravidarum. This indicates a lack of education from healthcare professionals regarding more natural treatment alternatives with minimal side effects. Therefore, efforts are needed to describe the level of knowledge of pregnant women about ginger aromatherapy, so that it can become a basis for developing more targeted health education and promotion. This study aims to determine the level of knowledge of first-trimester pregnant women regarding the use of ginger aromatherapy to reduce emesis gravidarum at the Way Kandis Community Health Center in Bandar Lampung City. The benefits of this study include educating pregnant women about the use of ginger aromatherapy, providing consideration for healthcare providers in providing non-pharmacological interventions, and adding to the literature available for midwifery educational institutions. Emesis gravidarum is a symptom of nausea and vomiting experienced in early pregnancy. It can be caused by hormonal changes and influenced by physical, psychological, and social factors. Non-pharmacological treatment for nausea and vomiting can include aromatherapy. Ginger aromatherapy works by stimulating the central nervous system and suppressing the vomiting center in the brain through its active compound gingerol. Ginger also has a relaxing effect and can increase gastrointestinal motility.

RESEARCH METHODS

This quantitative descriptive study aimed to describe the level of knowledge of first-trimester pregnant women regarding the use of ginger aromatherapy to reduce emesis gravidarum. The study was conducted at the Way Kandis Community Health Center in Bandar Lampung City from April to May 2025. The single variable was the level of

knowledge of pregnant women, categorized as good, sufficient, and poor. The study population was all first-trimester pregnant women attending ANC visits. A total sampling technique was used, resulting in 35 respondents who met the inclusion criteria. Emesis gravidarum is nausea and vomiting in early pregnancy caused by hormonal changes and physical, psychological, and social factors. One non-pharmacological treatment is ginger aromatherapy, which contains gingerol, which functions to suppress the vomiting center, provide a relaxing effect, and accelerate gastric emptying. The results of the study at the Way Kandis Community Health Center indicated that the level of knowledge of first-trimester pregnant women regarding the use of ginger aromatherapy ranged from poor to sufficient. The research instrument was a multiple-choice questionnaire designed based on knowledge indicators about ginger aromatherapy, covering the definition, benefits, how to use, safety, and effects on nausea and vomiting. The questionnaire was tested for validity and reliability before use, then distributed directly to pregnant women in their first trimester at the Way Kandis Community Health Center (Puskesmas), with a prior explanation of the research objectives. Primary data were obtained from the questionnaire results, while secondary data were obtained from Puskesmas documentation. The tools used included questionnaires, stationery, computers, and medical records. Data were analyzed descriptively by categorizing respondents' scores into good, sufficient, or poor, then presented in frequency distribution tables and percentages. This study only describes respondents' level of knowledge without examining causal relationships or intervention effectiveness.

RESEARCH RESULT

The research was conducted at the Way Kandis Community Health Center in Tanjung Senang District, Bandar Lampung City, a first-level health facility under the Bandar Lampung City Health Office. This community health center offers extensive services with various units, including general, dental, MCH/FP, laboratory, and nutrition clinics, as well as a full complement of health professionals. Data from 2024 showed that pregnant women received 500–600 visits per year, with 60–70% occurring in the first trimester. The most common complaint was nausea and vomiting (emesis gravidarum), but treatment was still predominantly pharmacological rather than alternative therapies. Public awareness of reproductive health is quite good, but utilization of

complementary therapies such as aromatherapy remains low. Its strategic geographic location and easy access support affordable healthcare services. Therefore, Way Kandis Community Health Center was selected as the research location due to the high number of visits from pregnant women, adequate access to services, and the opportunity to implement complementary therapies through midwifery education. The subjects in this study were first-trimester pregnant women who visited the Way Kandis Community Health Center in Bandar Lampung City between April and May 2025. A total of 35 respondents were selected using an accidental sampling technique. Observed characteristics included age, highest education, occupation, and number of pregnancies (parity), which are presented as percentages to support the results of the univariate analysis.

Tabel 1
Respondent Age Distribution

Category	Frequency	Persentase (%)
< 20 years	2	5,71%
20-35 years	31	88,57%
> 35 years	2	5,71%

The majority of respondents were in the 20–35 age range, the optimal healthy reproductive age for receiving education and navigating pregnancy adaptively.

Tabel 2
Respondent Education Distribution

Tingkat Pendidikan	Frequency	Persentase (%)
Junior High School	2	5,7%
High School	18	51,4%
Bachelor's Degree	15	42,9%

Tabel 3
Distribution of Respondents' Occupations

Occupation Type	Frequency	Persentase (%)
Housewife	14	40,0%
Private Employee	5	14,3%
Public Servant	6	17,1%
Entrepreneur	9	25,7%
Other	1	2,9%

Most pregnant women had a high school education, indicating a sufficient level of literacy to receive and understand health information,

including non-pharmacological therapies such as ginger aromatherapy.

More than half of respondents were not formally employed, allowing them more time to attend pregnancy counseling or education.

Tabel 4
Respondent Parity Distribution

Paritas	Frequency	Percentage (%)
Primigravida (First Pregnancy)	13	37,1%
Multigravida (More Than One Pregnancy)	22	62,9%

The majority of respondents were multigravida, meaning they had previous pregnancy experience, which may influence their level of knowledge and readiness to receive intervention.

Univariate Analysis

The univariate analysis aimed to describe the frequency and percentage distribution of pregnant women's knowledge about ginger aromatherapy. The results of the analysis of 35 respondents showed the following distribution:

Tabel 1
Distribution of Respondents' Knowledge Levels about Ginger Aromatherapy

Knowledge Category	Frequency (n)	Percentage (%)
Good (>76)	13	37,1%
Fair (56-75)	16	45,7%
Poor (≤55)	6	17,1%

The results showed that the majority of respondents had a level of knowledge in the sufficient category (45.7%), followed by a good category (37.1%), and the rest had insufficient knowledge (17.1%). Before conducting the hypothesis test, the assumption of data normality was tested using the Kolmogorov-Smirnov test. The test results showed a significance value > 0.05 , which means the data was normally distributed and met the requirements for parametric testing. The hypothesis test was conducted using proportional descriptive statistical analysis because the purpose of the study was only to describe the level of knowledge, not the relationship between variables. The hypothesis that the level of knowledge of pregnant women is still in the insufficient to

sufficient category can be proven by the dominant percentage in the two categories (62.8%). From these results, it can be concluded that further education is still needed to increase pregnant women's knowledge about the benefits and how to use ginger aromatherapy in reducing emesis gravidarum. This study aimed to determine the level of knowledge of pregnant women in their first trimester regarding the use of ginger aromatherapy to reduce emesis gravidarum at the Way Kandis Community Health Center in Bandar Lampung City. Based on the results of the study with 35 respondents, it was found that the majority of pregnant women had sufficient knowledge (45.7%), followed by good (37.1%), and poor (17.1%). These results indicate that maternal knowledge regarding the use of ginger aromatherapy is quite promising, although not yet fully distributed.

The study respondents were predominantly pregnant women aged 20–35 (91.4%), who are in their productive and reproductive years. This age group is psychologically more ready to receive information, thus contributing to increased knowledge. In terms of education, the majority of pregnant women had a high school education (51.4%) and a college education (42.9%), indicating an adequate level of literacy to receive health information. Most pregnant women worked as housewives (40%) and entrepreneurs (25.7%), which provided more time for education. In terms of parity, 62.9% were multigravida, meaning they had previous pregnancy experience, thus contributing to increased knowledge about pregnancy complaints and how to handle them independently. According to Notoatmodjo (2014), Knowledge is the result of knowing that occurs after a person perceives a particular object through the five senses. Knowledge is acquired through education, experience, information from the media, and social interaction. The higher a person's education and experience, the greater their knowledge. In this context, education and pregnancy experience (parity) are the main factors influencing research results.

The results of this study are in line with several previous studies. Research by Rahayu & Sugita, 2014 showed that pregnant women who received structured education tended to have better attitudes and knowledge about herbal therapies, including ginger aromatherapy. This finding aligns with research Rohmayanti et al., 2022 which also demonstrated the effectiveness of non-pharmacological therapy in the form of acupressure in reducing the frequency of nausea and vomiting in pregnant women in the first trimester. This confirms

that complementary approaches, both aromatherapy and acupressure, can be a safe option for pregnant women in reducing the symptoms of emesis gravidarum. Meanwhile, according to Sari & Andini, 2021 educational media significantly influences pregnant women's understanding, with information obtained directly from health professionals being more effective than information from social media or the surrounding environment. A similar study conducted by Lestari, 2020 found that providing education using leaflets increased pregnant women's knowledge about non-pharmacological therapies for managing nausea and vomiting. Furthermore, a study by Handayani et al., 2019 also reported that the use of inhaled ginger aromatherapy can reduce the frequency of nausea and vomiting in pregnant women in the first trimester. Clinical research by Sripramote & Lekhyananda (2023) in Thailand even showed that ginger extract was more effective than placebo in reducing the intensity of nausea and vomiting during pregnancy. Furthermore, research by Ozgoli et al. (2019) in Iran found that ginger was as effective as vitamin B6 in reducing nausea and vomiting during pregnancy, but with minimal side effects. These results support the use of ginger as a safe complementary therapy. In Indonesia, a study by Rohmayanti et al., 2022 also found that ginger aromatherapy can improve the comfort of pregnant women and reduce dependence on pharmacological medications. Ginger's mechanism of action is supported by its gingerol and shogaol compounds, which have antiemetic effects by suppressing the vomiting center in the brain and accelerating gastric emptying. This makes ginger aromatherapy a safe and natural alternative for treating emesis gravidarum. However, the effectiveness of ginger use is greatly influenced by the mother's level of knowledge regarding its use, dosage, frequency, and safety. Overall, this study shows that pregnant women in their first trimester at the Way Kandis Community Health Center have sufficient knowledge of ginger aromatherapy, although some (17.1%) still have insufficient knowledge. Therefore, more comprehensive education is needed through counseling, educational media such as leaflets and infographics, and the involvement of husbands and health workers so that this non-pharmacological intervention can be implemented appropriately and safely.

CONCLUSION

Based on the results of a study conducted on 35 pregnant women in their first trimester at the

Way Kandis Community Health Center in Bandar Lampung City regarding their level of knowledge regarding the use of ginger aromatherapy to reduce emesis gravidarum, it can be concluded that: The majority of respondents had a fair level of knowledge (45.7%), followed by good knowledge (37.1%), and the remainder had poor knowledge (17.1%). These results indicate that the knowledge of first-trimester pregnant women regarding ginger aromatherapy is in the moderate to good category. This indicates that most mothers are familiar with the concept and benefits of ginger aromatherapy, but not all of them fully understand its mechanism of action, dosage, usage, and safety during early pregnancy.

This level of knowledge is closely related to several respondent characteristics, namely age, education level, employment status, and parity. The majority of mothers were aged 20–35 (91.4%) and had secondary to higher education (high school and college). This theoretically supports their ability to receive and understand health information. Furthermore, the majority of multigravida (62.9%) mothers had previous pregnancy experience, thus tending to have higher levels of knowledge, as experience is an important learning tool. However, there were still respondents with insufficient knowledge (17.1%), indicating that not all pregnant women had sufficient access to information or received optimal health education from healthcare providers. This indicates that health education and promotion programs during antenatal care visits did not cover all aspects of information about alternative therapies such as ginger aromatherapy. Therefore, it can be concluded that although pregnant women's understanding of ginger aromatherapy to reduce emesis gravidarum has begun to develop, further strengthening is needed in the form of ongoing, systematic education tailored to their needs and level of understanding.

SUGGESTION

1. For Pregnant Women:

It is recommended that pregnant women in their first trimester actively seek information regarding non-pharmacological methods, including the use of ginger aromatherapy, to reduce nausea and vomiting during pregnancy.

2. For Healthcare Workers:

It is necessary to increase education and counseling for pregnant women regarding the benefits, how to use, and the safety of ginger aromatherapy. This education can be provided through routine counseling, leaflets, or digital media.

3. For Educational Institutions:
This research can serve as an additional reference in learning complementary therapies for midwifery students, particularly in the practice of evidence-based prenatal care.
4. For Future Researchers:
5. It is recommended to conduct further research using a quantitative analytical or experimental approach to directly evaluate the effectiveness of ginger aromatherapy on reducing the intensity of emesis gravidarum.

REFERENCES

- Apriany, N. (2018). Validity and Reliability of Rhodes Index Nausea, Vomiting, and Retching (INVR) in Assessing Morning Sickness. *Journal of Obstetric and Gynecologic Nursing*, 29(3), 215-223.
- Badriah, & Wahyuni, S. (2024). *Self-efficacy in mothers with emesis gravidarum*.
- Ebtavanny, L., Kurniasari, D., & Putri, R. (2022). Pengaruh Aromaterapi Jahe terhadap Emesis Gravidarum pada Ibu Hamil Trimester Pertama. *Jurnal Kebidanan Indonesia*, 14(1), 55-62.
- Federasi Obstetri Ginekologi Internasional. (2022). *Kehamilan dan Perkembangannya*. Jakarta: Penerbit Medika
- Handayani, S., Utami, R., & Dewi, N. (2019). Pengaruh aromaterapi jahe inhalasi terhadap frekuensi mual muntah pada ibu hamil trimester pertama. *Jurnal Ilmiah Bidan*, 6(1), 21-28.
<https://doi.org/10.33024/mnj.v4i10.6514>
- Herni, K. (2019). Pengaruh Pemberian Aromaterapi Jahe terhadap Mual Muntah pada Ibu Hamil Trimester I. *Jurnal Riset Kesehatan Poltekkes Depkes Bandung*, 11(1), 44-51.
- Kementerian Kesehatan Republik Indonesia (Kemenkes RI). (2021). *Laporan Kesehatan Ibu Hamil di Indonesia*. Jakarta: Kemenkes RI.
- Kholifa, N. (2021). Efektivitas Minuman Jahe dalam Mengurangi Emesis Gravidarum pada Ibu Hamil Trimester Pertama. *Jurnal Ilmu Kebidanan*, 11(2), 145-152.
- Lathifah, S., Ramadhan, R., & Pratiwi, D. (2023). Pengaruh Konsumsi Jahe 49 terhadap Kesehatan Pencernaan Ibu Hamil. *Jurnal Kedokteran Herbal*, 8(3), 98-107.
- Lestari, W. (2020). Efektivitas leaflet terhadap peningkatan pengetahuan ibu hamil mengenai penanganan mual muntah. *Jurnal Kebidanan*, 9(2), 67-74.
- Manuaba, I. B. G. (2013). *Ilmu kebidanan, penyakit kandungan dan keluarga berencana untuk pendidikan bidan (EGC)*.
- Marlin, T. (2019). Ginger and Its Benefits for Nausea in Pregnancy. *Herbal Medicine Review*, 7(2), 203-211.
- Muarifah, R., & Ambarwati, R. (2021). Adaptasi Fisiologis pada Kehamilan dan Pengaruhnya terhadap Emesis Gravidarum. Jakarta: Penerbit Kesehatan Ibu dan Anak.
- Mulyani, I., & Pratiwi, D. (2020). Efektivitas Aromaterapi Jahe terhadap Penurunan Emesis Gravidarum pada Ibu Hamil Trimester I. *Jurnal Kebidanan dan Keperawatan Aisyiyah*, 16(2), 99-106.
- Mulyani, T., Setiani, L., & Nugraheni, A. (2023). Kandungan Bioaktif Jahe dan Manfaatnya dalam Pengobatan Tradisional. *Jurnal Farmasi Indonesia*, 12(4), 187-196.
- Morning sickness. (n.d.). Wikipedia. Diakses Agustus 2025, en.wikipedia.org/wiki/Morning_sickness
- National Association for Holistic Aromatherapy (NAHA). (2022). *Introduction to Aromatherapy and Essential Oils*. NAHA Publications.
- Notoatmodjo, S. (2014). *Ilmu perilaku kesehatan*. Jakarta: Rineka Cipta.
- Prawirohardjo, S. (2021). *Ilmu Kebidanan, Obstetri, dan Ginekologi*. Jakarta: PT Bina Pustaka Sarwono Prawirohardjo.
- Putri, R. A., & Anjarwati, D. (2022). Faktor-Faktor yang Mempengaruhi Pengetahuan Ibu Hamil tentang Terapi Non-Farmakologis. *Jurnal Kebidanan Holistik*, 4(1), 21-30.
- Rahayu, M., & Iskandar, S. (2021). Efektivitas Jahe dalam Mengurangi Emesis Gravidarum pada Kehamilan Trimester Pertama. *Jurnal Kedokteran Herbal*, 9(1), 87-94.
- Rahayu, N., & Sugita, A. (2014). *Ilmu perilaku kesehatan*. Rineka Cipta.
- Renityas, N.R. (2019). Pengaruh Titik Nei Guan (P6) Terhadap Pengurangan Keluhan Morning Sickness Pada Ibu Hamil Trimester I Di Puskesmas Sananwetan Blitar. *JuKe*, 3(1).
- Retnowati, D. (2019). Prevalensi dan Faktor Risiko Emesis Gravidarum pada Ibu Hamil Trimester Pertama. *Jurnal Epidemiologi Kesehatan Reproduksi*, 6(2), 67-75
- Rohmayanti, E., Mariza, A., Yuviska, I. A., & Utami, V. W. (2022). Pengaruh akupresur terhadap intensitas mual muntah pada ibu hamil trimester I. *Malahayati Nursing Journal*, 4(10), 2687-2696.
- Sari, P., & Andini, D. (2021). Pengaruh media edukasi terhadap peningkatan pengetahuan

- ibu hamil tentang terapi non-farmakologis. *Jurnal Kesehatan Reproduksi*, 12(1), 45–53.
- Suryati, Y. (2018). Pengaruh Aromaterapi Lemon Terhadap Emesis Gravidarum. *Jurnal Kesehatan*, 1(1), 208-215.
- Tan, A., Lowe, S., & Henry, A. (2017). Nausea and vomiting of pregnancy: Effects on quality of life and day-to-day function. *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 58(3), 278–290. <https://doi.org/10.1111/ajo.12714>
- World Health Organization (WHO). (2023). *No Title*. Maternal Health and Pregnancy Complications. Geneva: World Health Organization. <https://www.who.int>
- Xu, F., Wang, L., & Wang, S. (2020). The effects of nausea, vomiting, and social support on quality of life in early pregnancy: A prospective cohort study. *BMC Pregnancy and Childbirth*, 20, 543. <https://doi.org/10.1186/s12884-020-03226-4>