



Use of herbal products and pharmaceuticals during pregnancy: Prevalence, motivations, and influencing factors

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Abstract

This study aimed to determine the prevalence, motivations, and influencing factors associated with the use of herbal products and pharmaceuticals among pregnant women in Türkiye. A cross-sectional study was conducted with 1,000 pregnant women attending a tertiary care hospital between October 2020 and April 2021. Data were collected using a Descriptive Information Form, the Herbal Products and Pharmaceuticals Use Questionnaire, and selected items from the Rational Drug Use Scale. Logistic regression analysis was employed to identify factors associated with product use. Overall, 71.3% of participants reported using herbal products and pharmaceuticals during pregnancy. Linden, chamomile, and peppermint were the most frequently used products across all trimesters. Psychological relief, cold symptoms, and sleep regulation were the leading reasons for use. While 75.3% of women believed herbal products were safe alternatives to conventional pharmaceuticals, 58.3% expressed concerns about potential harms. Multivariate analysis identified occupation, non-smoking status, planned pregnancy, and prescribed medication use as significant predictors of herbal products use ($p < 0.05$). The widespread use of herbal products and pharmaceuticals among pregnant women highlights the need for targeted antenatal counseling to address safety misconceptions and support informed decision-making. These findings provide critical insight into maternal health behaviors and have implications for clinical practice, health education, and public health policy in maternal care settings.

Keywords: Pregnancy, herbal products, pharmaceuticals, rational drug use, maternal health, antenatal care

Introduction

Herbal products and pharmaceuticals are preferred by all people at some point in their lives, thanks to their therapeutic benefits [1]. According to the World Health Organization (WHO), herbal pharmaceuticals refer to the “products containing herbal extracts as their active ingredients, manufactured, labeled, and prepared for medicinal use in compliance with good manufacturing practices,” while herbal products are “substances derived from either single or multiple plants, whether using the whole plant or its various parts like leaves, roots, and stems.” WHO has reported that over half of the global population uses herbal products and pharmaceuticals as their first choice when dealing with illness [2].

During pregnancy, women often resort to herbal products and pharmaceuticals to alleviate various symptoms such as nausea, vomiting, constipation, colds, sleep disturbances, headaches, muscle pain, dizziness, vitamin deficiencies, and fatigue [3-5]. While the use of herbal products and pharmaceuticals during pregnancy can offer both maternal and fetal benefits, it also carries potential risks. Various studies report a wide range in the prevalence of herbal products and pharmaceuticals use during pregnancy, varying from 19.2% to 90.2% [6-9]. It is essential to recognize that herbal products and pharmaceuticals can cross the placenta and impact the developing fetus, potentially leading to neurological, cardiac, endocrine, renal, and various systemic anomalies depending on the trimester

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of use [10-11]. As a result, women should act cautiously and make informed decisions when considering herbal products and pharmaceuticals during pregnancy.

Despite the increasing global attention toward herbal pharmaceuticals use during pregnancy, nationally representative and methodologically robust data from Türkiye remain notably limited [3-9]. This study addresses this critical evidence gap by conducting one of the largest population-based investigations to date, thereby informing maternal health strategies within both national policy frameworks and global Sustainable Development Goal (SDG) targets—particularly the promotion of “Healthy Lives and Well-being for All” (SDG 3) [12].

In this context, the following research questions were posed:

1. What are the herbal products and pharmaceuticals preferred by pregnant women?
2. What are the reasons pregnant women use herbal products and pharmaceuticals?
3. How often do pregnant women resort to herbal products and pharmaceuticals, and from whom do they receive recommendations?
4. What are the factors affecting the use of herbal products and pharmaceuticals by pregnant women?

Material and Methods

Study Design and Setting

This cross-sectional study was conducted between October 2020 and April 2021 in the gynecology outpatient clinics of a tertiary-level training and research hospital in Türkiye. The study aimed to investigate the prevalence, motivations, and determinants of herbal products and pharmaceuticals use among pregnant women. The selected tertiary care hospital was chosen for its high antenatal patient load, demographic diversity, and established infrastructure for maternal health research. Its status as a regional referral center ensured access to a broad cross-section of pregnant women, making it a strategically appropriate site to investigate real-world patterns in herbal and pharmaceutical product use during pregnancy. The study adhered to the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines [13].

Study Population and Sample Size

The study population comprised 6,047 pregnant women who were admitted to the hospital in 2018. The required sample size was calculated using G*Power (version 3.1.9.7) with an effect size of 0.95, a power ($1-\beta$) of 1.0, and an alpha level of 0.05, yielding a minimum required sample of 362 participants. To increase the statistical power and generalizability of findings, 1,000 eligible pregnant women were recruited for the study. The study was conducted in a single phase, as illustrated in Figure 1.

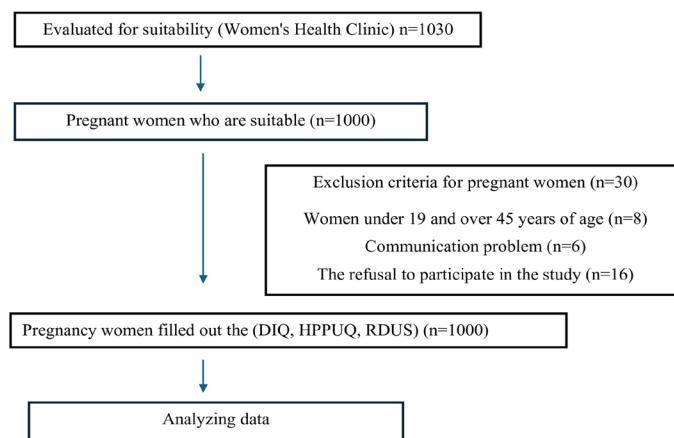


Figure 1. Flowchart of the study

Inclusion Criteria

Pregnant women were eligible for inclusion in the study if they met the following criteria: aged 18 years or older, currently pregnant and attending antenatal follow-up at the obstetrics outpatient clinic of a tertiary care hospital between October 2020 and April 2021, able to speak and understand Turkish, provided informed written consent for participation, willing and able to complete the study questionnaires independently or with minimal assistance.

Exclusion Criteria

Participants were excluded from the study if they: had a diagnosed psychiatric condition that could impair judgment or affect reliable self-reporting (e.g., major depression, psychosis), had a high-risk pregnancy status requiring hospitalization or intensive medical monitoring (e.g., severe preeclampsia, placenta previa), were under 18 years of age, refused to participate or withdrew consent during data collection, were unable to comprehend the purpose of the study or complete the questionnaires due to cognitive or language barriers.

Data Collection Instruments

In this study, quantitative data were collected through face-to-face interviews with the participants. All the respondents were briefed on the definition of herbal medicine by the research assistants. In the data collection process, three different questionnaire forms developed and validated in accordance with the objectives of the study were used:

Descriptive Information Questionnaire (DIQ) (18 items): This questionnaire consists of 18 items covering the participants' socio-demographic characteristics (age, educational status, marital status, income level, etc.) and obstetric history (gravida, parity, gestational week, previous pregnancy experiences, etc.). This section was used to determine the basic characteristics of the study group and to analyse possible demographic effects.

Herbal Products and Pharmaceuticals Use Questionnaire (HPPUQ) (7 items): This questionnaire consists of 7 items

designed to analyse in depth pregnant women's habits of using herbal products and traditional/modern pharmaceuticals during pregnancy. The questionnaire aimed to determine the types of products used, frequency of use (e.g., daily, weekly, occasionally), duration of use, and the motivations (e.g., symptom relief, health protection, cultural beliefs) leading to such use.

Rational Drug Use Scale (RDUS) (21 items): Although this scale consists of 21 items assessing attitudes towards rational drug use in general, this study focused on three specific items related to herbal products use. These items aimed to measure participants' perceptions about the efficacy and safety of herbal products and their relationship with traditional medical treatments:

- “Herbal products can be used as a substitute for traditional medicines.”
- “Consuming herbal products in any amount does not harm one's health.”
- “Herbal products are completely harmless.”

Participants' responses to these items were scored as “true” (2 points), “don't know” (1 point) and “false” (0 points). A total mean score was calculated for each participant by summing the scores for these three items, and this score was used in subsequent statistical analyses (e.g., as an independent or dependent variable). In the original version of the scale, Cronbach's alpha coefficient was 0.789, whereas in this study, Cronbach's alpha coefficient of the scale was found to be 0.734. This approach allowed for a quantitative assessment of pregnant women's knowledge and attitudes towards herbal products.

Statistical Analysis

Data analysis was performed using SPSS for Windows (version 22.0). Descriptive statistics included frequencies, percentages, and medians with minimum and maximum values. Logistic regression analysis was employed to identify predictors of herbal product and pharmaceuticals use. All statistical tests were two-tailed, and a p-value of <0.05 with a 95% confidence interval (CI) was considered statistically significant.

Pilot study

A pilot study involving 10 pregnant women was conducted to assess the clarity and feasibility of the instruments. No revisions were deemed necessary based on participant feedback.

Ethical Considerations

In order for the research to be conducted in terms of purpose, content, and method; the Farabi Hospital Non-Interventional Clinical Research Ethics Committee approval (dated 19 October 2020 and numbered 24237859-635), the approval of the Management Board of the Institute of Health Sciences at Karadeniz Technical University, and institutional permission from the Chief Medical Officer of Farabi Hospital (No. 48814514-501.07.01-E.9767 dated 20 August 2020) were obtained.

The study was conducted in accordance with the principles of the Declaration of Helsinki (1945) and the International Declaration on Human Rights (1951).

Results

Herbal Products Usage Characteristics

Among the 1.000 surveyed pregnant women, 71.3% reported using herbal products and pharmaceuticals during pregnancy, while 28.7% did not. This distribution is illustrated in Figure 2, which presents the overall prevalence of herbal products use among participants. These products were most frequently consumed as a single cup per day and were used across all three trimesters. Notably, the majority of usage was based on physician recommendations, with 92% of users reporting that a doctor had advised the product. Detailed usage characteristics, including type, trimester of use, frequency, and source of recommendation, are presented in Table 1.

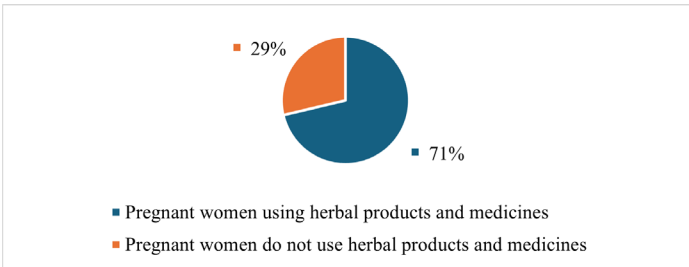


Figure 2. The use of herbal products and pharmaceuticals among pregnant women

Most Frequently Used Herbal Products

The most commonly used herbal products were linden (59.4%), chamomile (19.2%), and peppermint (14.3%). Other herbal remedies included fennel, ginger, sage, spinach, cabbage, lavender, and cinnamon. A trimester-specific breakdown of herbal product use is presented in Figure 3, demonstrating consistency in usage across all pregnancy periods.

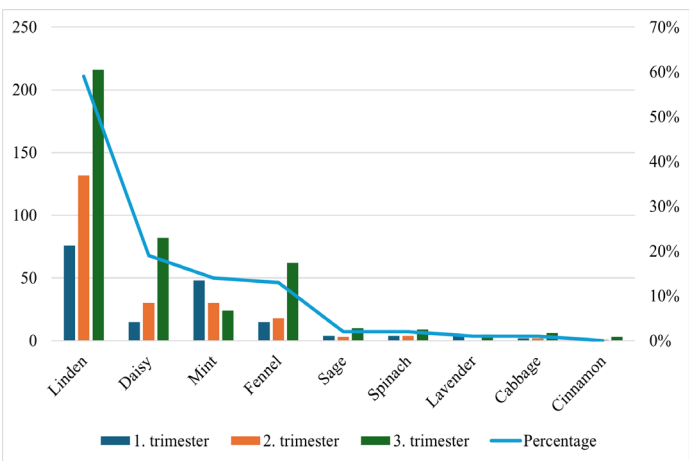


Figure 3. Herbal products and pharmaceuticals used during pregnancy according to trimesters

Reasons for Use

The primary reasons reported for using herbal products and pharmaceuticals during pregnancy were psychological relief (41.6%), treatment of common cold symptoms (34.7%), and sleep regulation (13.6%). A detailed graphical representation of these motivations is provided in Figure 4.

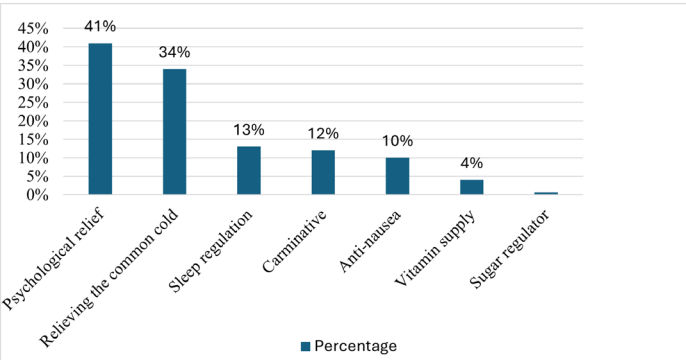


Figure 4. Reasons for the use of herbal products and pharmaceuticals during pregnancy

Attitudes Toward Herbal Product Safety

Despite high usage rates, 58.3% of the pregnant women expressed concerns about the potential risks associated with herbal products. Nonetheless, 75.3% believed that herbal products could serve as

safe alternatives to conventional pharmaceuticals and that their unrestricted use would not pose any health risks. These attitudinal findings are also summarized in Figure 2.

Sociodemographic and Clinical Factors

Descriptive analysis of the participants indicated that most were over the age of 25 (79.7%), had a high school diploma or higher (74.4%), were not employed (64.8%), had health insurance (94.2%), and had income levels equal to their expenses (79.7%). Additionally, the majority were non-smokers (92.8%), lived within 1 km of a healthcare facility (50.6%), received regular prenatal care (74.4%), were multiparous (62.1%), and reported planned pregnancies (63.3%). In contrast, only 10.2% reported having a chronic disease, and 19.4% experienced a health problem during pregnancy. These findings are detailed in Table 2.

Logistic Regression Analysis

Multivariate logistic regression analysis revealed that several factors had a statistically significant association with the use of herbal products and pharmaceuticals during pregnancy ($p<0.05$). These included occupation, employment status, non-smoking, having a planned pregnancy, and use of prescribed medications. The odds ratios and confidence intervals for all variables included in the analysis are presented in Table 2. The sampling flow and participant inclusion process are illustrated in Figure 1.

Table 1. Herbal products and pharmaceuticals used during pregnancy: types, usage patterns, and recommendation

Herbal products and pharmaceuticals used	n* (%)	Reason for use	Time of use	Season of use	Frequency of use	Recommended by
Linden	424 (59.4)	Relieving the common cold	1st, 2nd, and 3rd trimester	Winter	1-2 cups a day	Doctor, Friends
Daisy	137 (19.2)	Psychological relief Sleep regulator	1st, 2nd, and 3rd trimester	Winter	1 cup a day	Herbalist, Friends
Mint	102 (14.3)	Psychological relief Anti-nausea	1st, 2nd, and 3rd trimester	Winter	1 cup a day	Doctor, Herbalist, Friends
Fennel	95 (13.3)	Carminative	1st, 2nd, and 3rd trimester	Winter	1 cup a day	Herbalist, Friends
Ginger	24 (3.3)	Relieving the common cold	1st, 2nd, and 3rd trimester	Winter	1 cup a day	Herbalist, Friends
Sage	17 (23.8)	Psychological relief	1st, 2nd, and 3rd trimester	Winter	1 cup a day	Doctor, Herbalist, Friends
Spinach	17 (23.8)	Vitamin supply	1st, 2nd, and 3rd trimester	Winter	1 cup a week	Doctor, Friends
Cabbage	10 (14)	Vitamin supply	1st, 2nd, and 3rd trimester	Winter	1 cup a week	Friends
Lavender	10 (14)	Sleep regulation	1st, 2nd, and 3rd trimester	Winter	1 cup a day	Doctor, Herbalist, Friends
Cinnamon	5 (7)	Sugar regulator	1st, 2nd, and 3rd trimester	Winter	1 cup a day	Herbalist, Friends

Multiple responses from 713 people who used herbal products were included

Table 2. Associated with the use of herbal products and pharmaceuticals during pregnancy: Results of univariate and multivariate logistic regression analyses

Independent risk factors	n (%)	Univariate OR (95% CI)	p	Multivariate OR (95% CI)	p
Age					
19-24 years old	203 (20.3)	Reference category	---	Reference category	---
25-40 years old	797 (79.7)	0.684 (0.518-0.903)	0.131	0.982 (0.947-1.017)	0.302
Education level					
Primary school	256 (25.6)	Reference category	---	Reference category	---
High school	744 (74.4)	1.651 (1.078-2.529)	0.769	1.080 (0.898-1.298)	0.414
Occupation					
Housewife	585 (58.5)	Reference category	---	Reference category	---
Civil servant, Self-employed	415 (41.5)	0.686 (0.520-0.904)	<.001	0.471 (0.388-0.573)	0.001
Employment					
Yes	352 (35.2)	0.957 (0.718-1.227)	<.001	3.090 (0.815-1.326)	0.470
No	648 (64.8)	Reference category	---	Reference category	---
Income					
Income equal to expenses	797 (79.7)	0.920 (0.509-1.661)	0.933	0.892 (0.619-1.284)	0.538
Income more than expenses		Reference category	---	Reference category	---
Health insurance					
Yes	942 (94.2)	0.752 (0.429-1.315)	0.525	0.790 (0.413-1.512)	0.477
No	58 (5.8)	Reference category	--	Reference category	---
Smoking					
Yes	72 (7.2)	Reference category	---	Reference category	---
No	928 (92.8)	1.644 (1.002-2.697)	0.045	1.796 (1.046-3.082)	0.034
Distance from the place of residence to the health institution					
Less than 1 km	596 (59.6)	1.074 (.0816-1.412)	0.907	1.026 (0.757-1.390)	0.869
More than 1 km	404 (40.4)	Reference category	---	Reference category	---
Multipara					
Yes	621 (62.1)	0.850 (0.639-1.130)	0.860	1.061 (0.709-1.587)	0.775
No	379 (37.9)	Reference category	---	Reference category	---
Planned pregnancy					
Yes	633 (63.3)	1.168 (0.877-1.557)	0.033	1.413 (0.994-2.008)	0.054
No	377(37.7)	Reference category	---	Reference category	---
Chronic disease					
Yes	102 (10.2)	1.211 (0.780-1.879)	0.503	1.218 (0.752-1.974)	0.424
No	898 (89.8)	Reference category	---	Reference category	---
Disease during pregnancy					
Yes	194 (19.4)	1.489 (1.068-2.076)	0.299	1.414 (0.962-2.079)	0.078
No	806 (80.6)	Reference category	---	Reference category	---
Regular pregnant follow-up					
Yes	744 (74.4)	1.012 (0.739-1.386)	0.645	0.868 (0.608-1.240)	0.438
No	256 (25.6)	Reference category	---	Reference category	---
Prescribed medication					
Yes	914 (91.4)	2.160 (1.197-3.898)	0.016	2.117 (1.112-4.030)	0.022
No	86 (8.6)	Reference category	---	Reference category	---
Mean scores of the rational drug use scale					
Yes	684 (68.4)	1.321 (0.985-1.771)	0.172	1.033 (0.984-1.085)	0.191
No	316 (31.6)	Reference category	---	Reference category	---

Discussion

This study revealed that 71.3% of pregnant women reported using herbal products or pharmaceuticals during pregnancy, underscoring the widespread nature of such practices in Türkiye. This prevalence aligns with findings from previous studies, which have reported usage rates ranging from 19.2% to 90.2% in different regions [14-21]. The notably high rate observed in this study may be explained by the perception held by 75.3% of participants that herbal products are safe, natural alternatives to conventional pharmaceuticals, regardless of dosage. This perception appears to be reinforced by cultural familiarity with herbal remedies, accessibility, affordability, and distrust or fear of pharmaceutical side effects—particularly concerning fetal development.

The context of the COVID-19 pandemic may have further influenced these patterns. Factors such as quarantine conditions, disruptions in access to formal healthcare services, heightened anxiety during pregnancy, and increased reliance on home-based care likely contributed to greater use of herbal products during the study period. This highlights the importance of situational context in understanding maternal health behaviors.

The most used products were linden, chamomile, and peppermint, which reflects a pattern consistent with previous findings from Türkiye. However, regional disparities in herbal product preferences were also evident in the broader literature. For instance, studies conducted in Saudi Arabia, Ethiopia, and Iran have reported frequent use of olive oil, cumin, borage, ginger, garlic, and sage [16,19,22-25]. These differences are often shaped by sociocultural beliefs, traditional medical knowledge, and the availability of region-specific flora. Such variation emphasizes the need for culturally tailored guidance in antenatal care settings.

The current study found that pregnant women predominantly used herbal products in all three trimesters, rather than exclusively during the first trimester, which differs from previous meta-analyses that highlight early pregnancy as the primary window for use due to symptoms such as nausea and vomiting [19,22]. In this study, products were often used to address symptoms such as sleep disturbances, psychological discomfort, or common colds—particularly in the second and third trimesters, and frequently under physician recommendation. This suggests a shift toward more structured or supervised herbal use, possibly influenced by changing attitudes among healthcare providers and patients during the pandemic.

The motivations for herbal product use were diverse and included psychological relief (41.6%), management of common cold symptoms (34.7%), and sleep regulation (13.6%). These findings are in line with other studies reporting motivations such as boosting immunity, managing pain, reducing stress, treating constipation, and enhancing fetal health [6,15,18,25-27]. However, the belief that herbal products are entirely harmless is problematic. The literature documents potential teratogenic

and adverse maternal effects associated with the excessive or inappropriate use of certain herbs. For instance, chamomile, peppermint, garlic, and echinacea have been linked to uterine contractions, miscarriage, bleeding, and fetal anomalies [26-29]. These risks underscore the need for evidence-based antenatal counseling and the integration of safe herbal use education into routine maternal care.

This study also examined factors associated with herbal product use. Multivariate analysis showed that occupation, employment status, non-smoking habits, planned pregnancy, and concurrent use of prescribed medications were significantly associated with increased likelihood of herbal product use. These findings partly confirm earlier research linking herbal pharmaceuticals use to education level, income, chronic disease, and access to care [6,8,22]. However, this study contributes novel insights by identifying variables such as non-smoking and planned pregnancies as significant yet underexplored predictors. These findings suggest that the decision to use herbal remedies may reflect more proactive health behaviors, rather than purely cultural or socioeconomic determinants.

Taken together, the findings of this study highlight the multifactorial nature of herbal product use during pregnancy. While rooted in traditional practices, such use is also shaped by health beliefs, structural barriers, and emerging public health challenges. Therefore, antenatal education programs should address both the potential benefits and risks of herbal products, incorporating culturally appropriate, evidence-informed guidance to support safe maternal health practices.

Strengths and Limitations of the Study

This study has several limitations that should be considered when interpreting the findings. First, the herbal product usage rate reported may be underestimated, as multivitamin supplements commonly used by pregnant women were excluded from the definition of herbal products and pharmaceuticals in this study. Second, data collection was conducted during the COVID-19 pandemic, a period in which restrictions and disruptions in supply chains may have affected participants' ability to access herbal products, potentially influencing usage patterns. Third, recall bias is a concern, particularly among women in their third trimester who may have had difficulty accurately remembering the types and frequencies of herbal products and pharmaceuticals used during the early stages of pregnancy. Furthermore, the single-centre design and inclusion of participants from the same region may have affected the completeness and accuracy of self-reported data, as it reduced cultural variability.

Conclusion

This study demonstrated a high prevalence of herbal products and pharmaceuticals use among pregnant women, particularly among those with specific sociodemographic and obstetric characteristics such as employment status, non-smoking habits, planned pregnancies, and concurrent use of prescribed

medications. While many women reported using herbal products based on physician recommendations, the widespread perception that these products are inherently safe raises significant public health concerns. Given the potential for adverse maternal and fetal outcomes, especially when consumed without medical supervision there is a pressing need for evidence-based guidance and targeted educational interventions.

These findings underscore the importance of incorporating herbal products safety into routine antenatal counseling and public health strategies. Additionally, the study contributes to the growing body of literature on complementary and alternative pharmaceuticals use during pregnancy in middle-income countries, providing context-specific evidence that can inform clinical practice, regulatory policies, and future research on maternal health behaviors.

Ethical Approval

Approved by the Farabi Hospital Non-Interventional Clinical Research Ethics Committee approval (No: 24237859-635; Date: 19 October 2020).

Patient Consent

Informed consent was obtained from all participants.

Conflict of Interest

The authors declare no conflict of interest.

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References

- Balbontin M, Stewart D, Shetty A, Fitton A, McLay S. Herbal medicinal product use during pregnancy and the postnatal period: a systematic review. *Obstet Gynecol.* 2019;133:920.
- World Health Organization. Traditional complementary and integrative medicine. 2024.
- Adeoye I, Etuk V. Prevalence, predictors and pregnancy outcomes of unprescribed and herbal medicine use in Ibadan, Nigeria. *BMC Complement Med Ther.* 2023;23:17.
- Bouqoufi A, Lahlou L, Ait El Hadj F, et al. Prevalence, motivation, and associated factors of medicinal herbs consumption in pregnant women: a systematic review. *Pharm Biol.* 2023;61:1065-81.
- Vardanjani HM, Steel A, Mofarrahi D, et al. Use of complementary and alternative medicine among pregnant women in Shiraz. *Iran J Nurs Midwifery Res.* 2023;28:53-9.
- Abdollahi F, Chareti J, Abdollahi F, Chareti Y. The relationship between women's characteristics and herbal medicines use during pregnancy. *Women Health.* 2019;59:579-90.
- Acharya B, Chowdhury B, Pattnaik G, et al. Food safety during pregnancy: current consideration. *Int J Pharm Sci Nanotechnol.* 2023;16:6362-80.
- Aljofan M, Alkhamaiseh S. Prevalence and factors influencing use of herbal medicines during pregnancy. *Sultan Qaboos Univ Med J.* 2020;20:71-6.
- Quzmar Y, Istiatieh Z, Nabulsi H, et al. Use of complementary and alternative medicine during pregnancy. *BMC Complement Med Ther.* 2021;21:1-10.
- Kazma M, van den Anker J, Allegaert K, et al. Anatomical and physiological alterations of pregnancy. *J Pharmacokinet Pharmacodyn.* 2020;47:271-85.
- Raoufinejad K, Gholami K, Javadi M, et al. Herbal medicines use during pregnancy: prevalence and outcomes. *Tradit Integr Med.* 2020;5:70-85.
- Manandhar M, Hawkes S, Buse K, et al. Gender, health and the 2030 agenda. *Bull World Health Organ.* 2018;96:644.
- Cuschieri S. The STROBE guidelines. *Saudi J Anaesth.* 2019;13:S31-4.
- Addis T, Workneh D, Kahissay H. Herbal medicine use among pregnant women. *BMC Complement Med Ther.* 2021;21:1-13.
- Al Essa M, Alissa A, Alanizi A, et al. Pregnant women's use of herbal and supplements. *Saudi Pharm J.* 2019;27:138-44.
- Belayneh M, Yoseph T, Ahmed A. Herbal medicine use among pregnant women in Ethiopia. *BMC Complement Med Ther.* 2022;22:1-8.
- Dabirifard M, Maghsoudi Z, Dabirifard S, Salmani N. Use of medicinal herbs during pregnancy. *Iran J Obstet Gynecol Infertil.* 2017;20:66-75.
- Ersanlı C, Bersanlı C, Berktaş A, Tutar O. Herbal product use during pregnancy. *Balikesir J Health Sci.* 2023;12:329-35.
- Heydarpour F, Heydarpour S, Dehghan F, et al. Prevalence of medicinal herbs use during pregnancy. *J Chem Health Risks.* 2022;12:183-96.
- Kıssal A, Güner Ç, Ertürk B. Use of herbal product among pregnant women in Turkey. *Complement Ther Med.* 2017;30:54-60.
- Yazdi N, Salehi A, Vojoud M, et al. Use of complementary medicine in pregnant women. *J Integr Med.* 2019;17:392-5.
- Adane F, Seyoum G, Alamneh M, et al. Herbal medicine use among pregnant women. *BMC Pregnancy Childbirth.* 2020;20:157.
- Brinchmann C, Vist E, Becher R, et al. Use of Swedish smokeless tobacco during pregnancy. *Addiction.* 2023;118:789-803.
- Jahan S, Mozumder M, Shill K. Use of herbal medicines during pregnancy. *Heliyon.* 2022;8:e08854.
- Mekuria B, Erku A, Gebresillassie M, et al. Herbal medicine use among pregnant women. *BMC Complement Altern Med.* 2017;17:1-7.
- Bebitoğlu T. Frequently used herbal teas during pregnancy. *Medeniyet Med J.* 2020;35:55-61.
- Frawley J, Adams J, Steel A, et al. Women's use of herbal medicine during pregnancy. *Womens Health Issues.* 2015;25:396-402.
- Hakli S, Elmas D, Rustemoğlu N, Rathfish G. Complementary medicine in early pregnancy. *Int J Sci Technol Res.* 2019;5:218-31.