



(RESEARCH ARTICLE)



## The use of thistle during the perinatal period: A modern study in Cypriot women

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### Abstract

**Introduction:** The exploration of herbal intake during perinatal period holds significant importance due to potential risks to both the mother and the foetus, along with the potential interactions with other medications. Studies indicate varying percentages of pregnant women using herbs, ranging from 5.8% to 45.8% in different regions. This research aims to contribute to the understanding of herbal practices during pregnancy, emphasizing the need for comprehensive studies, proper counseling, and awareness among healthcare providers.

**Methods:** A questionnaire-based study was conducted among Cypriot women who gave birth at a Private Hospital in Limassol from July to September 2022. Ethical approval was obtained, and the questionnaire covered general information, knowledge, attitudes, emotional states using the Edinburgh Postnatal Depression Scale, lifestyle, and demographics. Data were analyzed using SPSS.

**Results:** Out of 218 approached, 200 women participated (91.74% response rate). Participants were mainly aged 30-35 (42.5%), with postgraduate degrees (36.5%), married (73%), and employed in the private sector (55.5%). Most had one child (57%). Seventy-one percent used herbs during pregnancy, reducing to 51% while pregnant. Sixty percent believed herbs could induce labor. Knowledge about herbs for newborns was limited, and 8% reported thoughts of self-harm.

**Conclusion:** The study highlights widespread herbal use among Cypriot women during pregnancy, emphasizing the need for educational initiatives. Concerns about knowledge gaps and potential emotional distress call for further investigation and targeted interventions. Randomized clinical trials are essential to enhance safety and efficacy knowledge surrounding herbal usage during pregnancy and postpartum.

**Keywords:** Herbs; Thistle; Pregnancy; Labour; Lactation; Breastfeeding; Postpartum; Milk thistle

### 1. Introduction

The exploration of herbal intake during pregnancy holds significant importance due to potential risks to both the mother and the fetus, along with the potential interactions with other medications. Studies indicate varying percentages of pregnant women using herbs, ranging from 5.8% to 45.8% in different regions. This prevalence underscores the need for comprehensive research on the subject.

Research findings from different countries reveal diverse patterns of herbal usage during pregnancy. Noteworthy percentages include 36% in Norway, 36% in Australia, 9.0% in Canada, and 27.8% in Italy. Interestingly, the reasons for herbal use during pregnancy also vary, with common objectives being the treatment of flu, cough, urinary tract

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infections, induction of labour, and relief from gastrointestinal distress. It is essential to note that some herbal uses may lack scientific support or may be unwarranted.

Anise, chamomile, sage, ginger, peppermint, and dates emerge as frequently used herbs, but safety concerns exist for certain herbs like anise, sage, and chamomile during pregnancy. The source of information on herbal medicines primarily stems from family traditions, emphasizing the necessity for proper counseling as not all traditional uses align with scientific evidence [1].

Studies highlight the importance of the route and frequency of herb administration, with oral intake being the most common. While herbal use is generally deemed safe among pregnant women, caution is needed, and unnecessary or unsupported uses should be discouraged.

However, according to several research from throughout the world this rate is greater [1]. For example, in a study conducted in the United States by Louik et al., 282 (5.8%) of 4866 mothers reported using herbal or natural therapy between 1997 and 2005 [2]. A substantial percentage of pregnant women (40% in one study) took herbs, which is like another study where the percentage was 45.8% [3]. According to another study [4], the rate among US Hispanic women was 19%. In Norway, 36% of pregnant women in 2001 reported using herbal remedies, and by 2011 that number had risen to 39.7% [6]. In Australia, 36% of successive pregnant women approached at an antenatal clinic during labour at roughly 36-38 weeks' gestation used at least one herb as a supplement [7], compared to 12% in 2002 [8]. In Canada, the rate of herbal use during pregnancy was 9.0% [9]. 27.8% of pregnant women in Italy reported using one or more herbal products while being pregnant [10].

In the United States, 45.2% of women from a West Virginia University rural clinic and medical center used herbs during pregnancy [11]. Comparison between studies may not be fully accurate because different studies may use different definitions of the term "herb" [1].

In a study conducted among Palestinian women, 90% of users of herbal products used more than one herb during pregnancy, also the percentage of women who used herbs increased during pregnancy with a peak in the third trimester (35.8%) and this can be explained by the concerns about the safety of the use of conventional drugs during the organogenetic period and related to the problems of pregnancy.[3]

Most herbal product users favored herbs because they thought they were safer than medicines (82%), which could be true considering 91.7% of them reported no negative effects from any herb. On the other hand, 99.2% claimed that utilizing herbs had been advantageous. According to many of the women (65.8%), they told their doctor they used herbal products [1]. Physician awareness varied from 24% to 52% in different nations [12], [13]. There is, nevertheless, opportunity for improvement in this area because all women should inform their doctors if they use herbs. This may have been improved by urging clinicians to ask women about it, as some women may forget to do so.

The most important source of information about herbal medicines was found to be family which is similar to other studies [5], [7], [14]. This confirms the need for proper counseling because some traditional uses may not be supported by scientific evidence for their use in pregnant women.

In numerous studies it differs which herb is the most frequently used. In the study by Al-Ramahi et al. the most used herbs were anise, chamomile, sage, mixed herbs, thyme, and dates [1]. In another study sage was the most common after anise, chamomile, thyme, and fenugreek [3]. In other studies ginger [12], [16], peppermint [11], blackberry leaves [7], floradex [15], and chamomile [9] were the most common. This was to be expected because common herbs differ between different cultures and countries.

Anise was used by a high percentage of women (61.7%), although there are no studies on its safety and effectiveness in pregnancy and some books can be found that consider it not recommended for therapeutic use during pregnancy. Anise increases the effect of warfarin, so women taking warfarin should be cautious [17]. Chamomile was among the herbs widely used during pregnancy, although no studies were found regarding its safety and efficacy as well [16]. Excessive use of chamomile should be considered potentially harmful in pregnancy due to its astringent properties [18]. Sage was commonly taken during pregnancy by women in one study [1], although sage was reported to have abortifacient properties so its use in pregnancy is therefore not recommended [19]. Due to its astringent qualities, chamomile should be used in moderation during pregnancy [18]. In one study, women routinely took sage throughout pregnancy [1], despite the fact that sage has been documented to have abortifacient characteristics and so its use in pregnancy is not suggested [19].

In the same study, 33.3% of women utilized an over-the-counter herbal combination. There is an urgent need for pregnant women to avoid using any herbal concoction that may endanger their health due to their lack of understanding of the issues they may cause. Many of the pregnant women employed dates in the third trimester of pregnancy, peaking at the ninth month, to induce labour [1]. Another study in a small sample of women found that eating dates in the last four weeks before birth dramatically reduced the need for induction and increased labour [20]. Dates can contribute to a healthy pregnancy by preventing anemia, reducing nausea, controlling blood pressure, regulating blood sugar levels, helping to restore calcium depletion, eliminating toxins, and increasing strength and energy and immune resistance [21]. The most common reasons for using herbs during pregnancy in another study were to treat the flu, cough, urinary tract infections, to facilitate and induce labor, and for gastrointestinal distress. These were similar to findings in other studies [12], however in some cases the use of herbs was unwarranted or not supported by scientific clinical evidence, examples include sage for vomiting and heartburn, peppermint for labour and cough, cinnamon for anemia, to facilitate labor, laxative and abdominal pain, fenugreek for cough, cumin for labour because cumin facilitates labour [22].

Obviously, the safety of herbs depends on the route of administration and the frequency of administration, the most common route of administration of herbs among pregnant women is oral, and herbs used mainly on as-needed basis reflecting infrequent use. This reduces the possibility of side effects and complications and explains that almost all women reported that the herbs were useful to them and did not cause any side effects [1].

Herb use is higher among pregnant women who lived outdoors and aged 31–40 years [7], [10], [12]. Another study found that young and older women used herbal medicines less often compared to women in the middle age groups [5]. Al-Ramahi et al. [1] found no statistically significant differences between herbal users and non-users in pregnancy and neonatal outcomes, which is consistent with the findings of another study [15], whereas Cuzzolin et al. [10] found a higher incidence of small-for-gestational-age neonates in herbal product users.

### 1.1. Milk Thistle

The natural and herbal literature contains numerous references to the use of milk thistle during pregnancy for liver dysfunction and to increase milk production [23]. There are also various concerns and warnings concerning potential serious side effects, as well as a lack of well-documented studies on the use of milk thistle during pregnancy. However, the limited evidence-based research shows that utilizing this herb for the specific ailments indicated above is safe and effective. There was no evidence of detrimental effects in women or their kids in four trials [23], [24], [25]. There have been no reports of estrogenic effects on the foetus, which could be a worry given that milk thistle's components include flavonolignans. Many theories have been proposed as to the method of action, however silybin has been found to increase RNA polymerase A and DNA synthesis, enhancing the liver's regenerative ability. The active ingredient, silymarin, is expected to completely bind some poisons and act as a free radical scavenger. Regular ingestion of milk thistle has been demonstrated in clinical studies to reduce elevated liver enzymes [23].

This study touches upon the usage of milk thistle during pregnancy, an herb associated with liver dysfunction and increased milk production. Existing concerns and warnings are acknowledged, but evidence-based research suggests its safety and efficacy for specific ailments. Clinical studies demonstrate its potential benefits, including reducing elevated liver enzymes.

In conclusion, this research aims to contribute to the understanding of herbal practices during pregnancy and after birth, emphasizing the need for comprehensive studies, proper counseling, and awareness among healthcare providers

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## 2. Material and methods

This study was conducted using a questionnaire which was completed electronically so that the mothers could complete it before they had gone home via face-to-face interview. In that way, information from the mothers about their experiences in relation to pregnancy, childbirth, and puerperium as well as breastfeeding could be received. Main goal of the questionnaire was to access woman's knowledge, attitudes, and beliefs about the use of herbs, specifically thistle as a complementary and reinforcing during pregnancy, labour, puerperium, and breastfeeding. The target group was Cypriot women who gave birth at Polyclinic Ygia Private Hospital in Limassol during July 2022 until September 2022. Ethical approval for contacting this study was obtained from Cyprus National Bioethics Committee in June 2022.

Convenience sampling was used as the research participants were selected based on their willingness to participate. Also, important reasons that determined the choice of the specific method for the collection of the data were because of the ease of access to the sample, the low economic cost during the process of gathering the information and the reduced time duration resulting from this type of sampling.

This specific research tool for data collection consisted of six parts. The first part asked general information regarding the use of herbs. In the second and third part it collected information about knowledge, attitudes, and opinions of the participants on the use of herbs. The fourth part asked for the emotional state of women who gave birth, using the Edinburgh Postnatal Depression Scale, EPDS [26]. The fifth part explored the eating habits and lifestyle of these women [27]. Finally, the sixth part asked for demographic information of the survey participants such as age, marital status, occupation, education etc.

Descriptive and inductive statistical analysis was used to analyze and interpret the data. The survey responses were de-identified and analyzed using the Statistical Package for Social Sciences (SPSS). Upon completion of data entry, all categories were reviewed and reclassified if necessary to ensure consistency in coding and that there was no duplication. Only the first researcher had access to the online storage area of the questionnaires as well as to the electronic data which was protected with security codes.

### **2.1. Purpose and sub- objectives**

This research is designed to explore the significance of thistle as a supplementary agent, particularly during crucial stages such as pregnancy, childbirth, postpartum, and breastfeeding, where many women express preferences for alternatives to conventional medicines. The underlying belief is that empowering women with information can contribute to a reduction in the reliance on pharmaceutical interventions.

### **2.2. Sub- objectives**

**Women's Knowledge:** Assess the depth of knowledge among women concerning the utilization of herbs, with a specific focus on milk thistle.

**Usage Patterns and Reasons:** Examine the instances in which women resort to using herbs, particularly thistle, and delve into the reasons influencing their decision to do so.

**Opinions, Attitudes, and Beliefs:** Evaluate the perspectives, attitudes, and beliefs held by Cypriot women concerning the utilization of herbs throughout the phases of pregnancy, childbirth, postpartum, and breastfeeding.

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## **3. Results**

A total of 200 questionnaires were returned out of 218 women approached to participate in this study with a participation rate at 91.74%. The age range of the women was 19-44 years old, mean age was 31.45 years.

According to the demographic information gathered (table 1), the 13.5% women of the study were under 25 years old, 22.5% were between 26-29 years old, the majority with 42.5% were between 30-35 years old, 15% were between 36-39 years old and over 40 years old was the 6.5%.

As educational status, the majority were women with postgraduate degree 36.5%, while the minority 1.5% had PhD. 36% were women with university degree and the 26% had only completed high school or have other education.

In the survey, 73% of the women were married, 8.5% are single, 5% were divorced and 13.5% are in companionship. Most of the women (86.5%) were in a relationship compared to those who were single parents (13.5%).

Mostly were private employees at 55.5% compared to the 5.5% who were freelancers, 27% were civil servants and the 9% housewives. 16.5% were unemployed or other.

Most women had only one child at 57%, 31% had 2 children, 11% had 3 children and only the 1% had 4 children.

In this study, 71% of women reported using at least one herbal remedy during the antenatal, perinatal, or breastfeeding periods for various medicinal purposes, while 29% did not use any herbal treatments. However, during pregnancy, the proportion of women who used herbal remedies decreased to 51% from the 71%, indicating a reduction in usage during this specific time. Additionally, 49% of the women in the study did not use any herbs during pregnancy. Regarding labor induction, it was observed that even among those who did not use herbs during pregnancy, 60.5% believed that herbal remedies could be effective in inducing labor (Table 2).

**Table 1** Demographic information.

Age (Years)	n (%)
<25	27 (13.5)
26-29	45 (22.5)
30-35	85 (42.5)
36-39	30 (15)
≥40	13 (6.5)
Educational status	n (%)
High school graduate	35 (17.5)
University degree	72 (36)
Master's degree	73 (36.5)
PhD	3 (1.5)
Other	17 (8.5)
Marital status	n (%)
Married	146 (73)
Single	17 (8.5)
Divorced	10 (5)
Companionship	27 (13.5)
Employment situation	n (%)
Civil servant	27 (13.5)
Private Employee	111 (55.5)
Freelancer	11 (5.5)
Housework	18 (9)
Unemployed	19 (9.5)
Other	14 (7.0)
Children	n (%)
1	114 (57)
2	62 (31)
3	22 (11)
4	2 (1)

**Table 2** General questions and beliefs.

Use of herbs	n (%)
Yes	142 (71)
No	58 (29)
Use of herbs during pregnancy	n (%)
Yes	102 (51)

No	98 (49)
Use of herbs to induce labour	n (%)
Agree	121 (60.5)
Disagree	79 (39.5)

The table below presents the participants' knowledge and beliefs regarding the use of herbs in neonate care. Many women reported that they would only use herbal remedies externally on their newborns, in contrast to 39.5% who disagreed with this approach. When asked about the potential benefits of herbal baths for the skin, 65.5% of participants indicated that they lacked knowledge on the subject, while 34% agreed that herbal baths are beneficial, and 0.5% disagreed. Additionally, 43.5% of the women agreed that herbal baths could help newborns relax before bedtime, whereas 56.5% did not believe that herbal baths have a relaxing effect on infants.

**Table 3** Knowledge and beliefs concerning the use of herbs in newborns.

Herbs for newborn use	Agree n (%)	Disagree n (%)	I do not know n (%)
Use for external usage	121 (60.5)	79 (39.5)	-
Herbal bath, beneficial effect on the skin	68 (34)	1 (0.5)	131 (65.5)
Herbal bath can relax newborns before bedtime	87 (43.5)	-	113 (56.5)

One of the most concerning findings in this study is presented in Table 4, which addresses responses from the Edinburgh Postnatal Depression Scale (EPDS), particularly Question 10. The data reveals that 8% of participants reported having considered self-harm during pregnancy and/or the postpartum period.

**Table 4** EPDS scale

The thought for harming myself has occurred to me	n (%)
Never	184 (92)
Hardly ever	13 (6.5)
Sometimes	3 (1.5)
Yes, quite often	-

**Table 5** Breastfeeding

Breastfeeding	n (%)
Yes	140 (70)
No	60 (30)

**Table 6** Cases that participants had use thistle (more than 1 answer).

Thistle use	n (%)
No use	99 (49.5)
I do not know	40 (20)
Culinary	4 (2)

General	18 (9)
Postpartum	31 (15.5)
Breastfeeding	5 (2.5)
Culinary and general	3 (1.5)

**Table 7** Indications-properties that participants had use thistle, before pregnancy, during pregnancy and in postpartum (more than 1 answer).

Thistle use	n (%)
I did not use	130 (65)
Hemostatic	7 (3.5)
Gallbladder problems	2 (1)
Galactagogue	36 (18)
I do not know	21 (10.5)
Other	4 (2)

A comparison of the results in Tables 5, 6, and 7 regarding breastfeeding and the use of thistle reveals that, of the 70% of participants who were breastfeeding, only 2.5% (Table 6) and 18% (Table 7) reported using thistle for breastfeeding or as a galactagogue, respectively. Most women in the study did not use or were unfamiliar with thistle, with 69.5% reporting no use (49.5% did not know about it, 20% had no experience with it). Thistle was used for culinary purposes by only 2%, and for general use by 9%, with 1.5% using it for both reasons. During the postpartum and breastfeeding periods, thistle usage was reported by 15.5% and 2.5%, respectively (Table 6). Table 7 further indicates that 65% of women did not use thistle, and 10.5% were unaware of its potential uses. Among those who used thistle, 18% employed it as a galactagogue, 3.5% for its hemostatic properties, 1% for gallbladder issues, and 2% for other reasons.

**Table 8** If you use herbs, where do you get the information from?

Information source	n (%)
Midwife	6 (3)
Pharmacist	43 (21.5)
Newspaper/Magazines	3 (1.5)
Botanist	12 (6)
Relative/Friendly person	12 (6)
Internet	49 (24.5)
Doctor	29 (14.5)
Books	18 (9)
Anyone	1 (0.5)
I do not use herbs	27 (13.5)

Table 8 reveals that the most preferred source of information on herbal use among Cypriot women is the internet with 24.5%. This is followed by pharmacists at 21.5%. Healthcare professionals, such as doctors and midwives, were less frequently consulted, with 14.5% and 3% of women, respectively, seeking information from them. Other sources, including newspapers/magazines with 1.5%, books with 9%, botanist and relative/friendly person with 6% each, and

miscellaneous outlets with 0.5% of respondents. A notable concern emerging from this survey is that women tended to rely more on information from botanists, relatives or friends, and books than from midwives.

In terms of the forms in which herbs are used, Table 9 illustrates that 19.9% of participants used herbs in ointment form, 13.4% in decoction form, and 7.5% in extract form. Only 0.5% used herbs in tincture form. Additionally, 34.8% of women used herbs as an infusion, 5.5% in herbal baths, 3.5% as oils, 3.5% in capsule form, and 2.5% in syrup form. Notably, 9% of participants either did not respond or were unaware of the forms in which herbs could be used. Most of the sample (34.8%) preferred using herbs in infusion form, while tincture form was the least commonly used (0.5%).

**Table 9** In which form herbs are being used?

The form of herbs used	n (%)
Ointment	40 (19.9)
Decoction	27 (13.4)
Extract	15 (7.5)
Tincture	1 (0.5)
Infusion	70 (34.8)
Herbal Bath	11 (5.5)
Oil	7 (3.5)
I do not know / I do not answer	18 (9.0)
Capsule	7 (3.5)
Syrup	5 (2.5)

#### 4. Discussion

The results of this study align with existing global research, which highlights the growing use of herbal remedies during pregnancy, labor, and breastfeeding. The widespread use of medicinal plants among pregnant women is a common practice aimed at alleviating pregnancy-related discomforts, facilitating childbirth, and promoting postpartum recovery. The perception that herbal products are natural and harmless has contributed to their acceptance among the population, leading to a potential risk of self-medication. However, it is essential to recognize that certain widely used plants during pregnancy may pose health risks, with embryotoxic, abortifacient, and teratogenic effects. There is not enough information on the toxicological potential of many of the plants used [28].

Despite the prevalent use of herbs, there is a dearth of toxicological information on many of these plants. Some plants utilized during pregnancy may address specific health concerns related to pregnancy, such as nausea, vomiting, and ease of childbirth, while others may be employed for unrelated issues like respiratory or skin problems. Pregnant women's exposure to various substances, including herbs, supplements, and drugs, could have implications for foetal health.

A significant 71% of Cypriot women in this study reported using herbal remedies at some point during pregnancy or postpartum, with 51% specifically using herbs during pregnancy. These numbers are consistent with similar studies conducted in other countries, emphasizing the widespread use of herbal products among pregnant women. For instance, a study in Norway [6] found that 36% of pregnant women used herbal remedies, and this figure increased to 39.7% by 2011. Similarly, in Italy, 27.8% of women used herbal products during pregnancy [10]. These figures are slightly lower than the 51% usage rate reported by women in Cyprus, suggesting a somewhat higher prevalence of herbal use among Cypriot women compared to these countries.

In other regions, Australia reported a 36% herbal usage rate [7], and Canada saw a lower percentage, with 9% of women using herbal remedies during pregnancy [9]. The United States shows a mixed picture; a study by Louik et al. (2010) [2] found that only 5.8% of 4866 mothers used herbal therapies between 1997 and 2005. However, other studies within the U.S. found higher rates, such as 19% among Hispanic women [4]. This indicates that, while herbal use is common in many countries, rates can vary significantly depending on cultural and regional factors.



The Palestinian study by Al-Ramahi et al. [1] found a particularly high herbal usage rate, with 90% of women using multiple herbs during pregnancy, with a peak in the third trimester. This finding is strikingly higher than the rates observed in this study, where 51% of Cypriot women used herbs during pregnancy. The Palestinian study also revealed that many women used herbs because they believed them to be safer than conventional medications. This belief was echoed in our study, where many participants reported using herbs as a "natural" alternative, with 82% of women in the Palestinian study claiming they perceived herbs as safer than pharmaceutical drugs [3]. Similar attitudes were found in our sample, with 60.5% of women agreeing that herbal remedies could be effective in inducing labor, despite the lack of scientific support for some of these practices.

Interestingly, while herbal remedies are often seen as a safer, more natural alternative to conventional medications, this belief does not always align with scientific evidence. In this study, sage and chamomile were frequently mentioned, despite concerns about their safety during pregnancy. As noted in the introduction, sage has been associated with abortifacient properties [19], and excessive use of chamomile is also cautioned against due to its astringent effects [18]. These herbs are also commonly cited in international studies, with sage appearing frequently in the Palestinian study [1] and chamomile being a popular herb among U.S. pregnant women [9]

The present study found that most women in Cyprus preferred using herbs in the form of infusions (34.8%) or ointments (19.9%), which aligns with the common routes of administration reported in other countries. For instance, oral intake is the most common method for administering herbs among pregnant women globally [12], and infusions were also a common method in studies from Norway and Australia [6], [7]. The forms of herbal use can have significant implications for both efficacy and safety, as different forms may have varying absorption rates and potencies.

One of the findings in this study was that 60.5% of women believed that herbs could effectively induce labour. While some herbs, like dates, have shown positive effects on labor induction [20], many of the commonly used herbs for labour induction, such as peppermint and sage, lack strong clinical evidence supporting their efficacy [22]. Similarly, herbs used for gastrointestinal distress or flu treatment are often employed without adequate scientific backing. For instance, the use of fenugreek for treating cough or cumin for facilitating labour is common in multiple studies, including those from Palestine [1] and Norway [6], but their therapeutic claims remain largely unsubstantiated.

This study also found that a significant proportion of participants (60.5%) sought information about herbal use primarily from pharmacists (21.5%) and the internet (24.5%). These findings mirror global trends, where women often turn to non-medical sources for information about herbal remedies. In the study by Holst et al. [12], women in Norway also reported relying on family members or friends for herbal advice. The dependence on pharmacists and the internet for information raises concerns about the accuracy of the information being shared. In many cases, the lack of professional guidance may contribute to the widespread use of potentially unsafe herbs or inappropriate combinations.

Moreover, the reliance on family and friends for herbal knowledge highlights the importance of culturally informed counseling and healthcare communication. It is clear that while herbal remedies are widely accepted and used, many women may be unaware of potential risks or adverse effects, especially when used in combination with other medications. As seen in international studies, doctor-patient communication regarding herbal use is often insufficient [12] which underscores the need for better clinician awareness and patient education.

In terms of breastfeeding, the majority of women (70%) reported breastfeeding their infants, with 2.5% of those using thistle as a galactagogue. Interestingly, although milk thistle is often cited in the literature for its liver protective and galactagogue properties [23], it was used by only a small minority of participants in this study. This reflects a broader trend seen in international research, where the use of milk thistle during pregnancy or breastfeeding is often limited due to a lack of evidence-based guidelines.

The limited use of milk thistle in this study is consistent with findings from global research on the use of herbs during breastfeeding, where safety concerns often outweigh potential benefits [23]. While silymarin, the active compound in milk thistle, has been shown to have protective effects on the liver and promote milk production [24], there remains a notable gap in the scientific literature regarding its safety profile during breastfeeding. This highlights the need for further research to clarify the safety and efficacy of commonly used herbs like milk thistle.

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## 5. Conclusion

The widespread use of herbal medicines during pregnancy, childbirth, the postpartum period, and breastfeeding, coupled with a significant gap in comprehensive safety and efficacy data, warrants urgent attention. The limitations of existing literature make it difficult to offer clear, evidence-based guidance on the safety of herbal products during these critical stages. Considering this, the study strongly advocates for the implementation of randomized clinical trials to expand the knowledge base surrounding the use of herbal remedies during pregnancy and lactation.

The study's findings underscore the urgent need for targeted educational initiatives aimed at healthcare professionals, pregnant and lactating women, and the broader community. These initiatives should focus on promoting a deeper understanding of the appropriate use of herbal medicines during the antenatal and perinatal periods, as well as during breastfeeding and infant care. By equipping healthcare providers with accurate information on the therapeutic potential and risks associated with herbal products, such efforts will help guide clinical practice. Additionally, these initiatives will empower reproductive-age women with the knowledge needed to make informed decisions, while also highlighting the potential health risks and dangers of self-medication.

A particularly concerning discovery from the study was the emotional state of the participants, as indicated by responses to the Edinburgh Postnatal Depression Scale (EPDS), with 8% of women expressing thoughts of self-harm. This alarming statistic highlights the need for further investigation into mental health issues within the Cypriot population, emphasizing the importance of addressing emotional well-being as part of comprehensive maternal care.

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## Compliance with ethical standards

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