Perception of Pregnant Women on the Use of Medicinal Plants and Herbal Medicines: An Integrative Literature Review

Natália Sales de Carvalho1,2, Alane Nogueira Bezerra3,4, Suelyne Rodrigues de Morais5,6, Ana Carolina Cavalcante Viana7,8

Abstract
This is an integrative review aimed to seek to understand the perception of pregnant women on the use of medicinal plants and herbal medicines. For the selection of the work, they used four databases: Scielo, Medline, PubMed and Google Scholar, making the end of seven publications. The results showed that pregnant women show confidence with the use of plants because they think they are natural, the most cited were to treat themselves symptoms of pregnancy. This practice often is not reported to health professionals who accompany them, they have insecurity in the direction of herbal medicine. In Brazil, policies for the integrative practices in health to stimulate guidance from the professionals to the use of herbal medicines. However, during pregnancy, there are restrictions on its use.

Keywords: Pregnancy; Medicinal plants; Phytotherapy

Introduction
Gestation is marked by deep changes that interfere with the woman’s life, such as changes related to the body, its physiology and its metabolism8. In addition, socioeconomic and demographic influences during gestation also include emotional variables and physical changes in the woman’s life span, which influenced eating habits and choices2-5.

Among these choices is the use of medicinal plants and a phytotherapeutic therapy during pregnancy. Phytotherapy is a type of culture that uses the measurement of the use of medicinal plants in pharmaceutical forms, but without the identification of active substances. The Consolidated General Rules of Analogy and Certification of Certification of Analogic Analog and Health and Clinical Development (English).

However, women can not be used on medicines without the advice of a health professional. Although they have been used, their efficacy has not yet been scientifically proven, and they have been conditioned for the health of the pregnant woman, such as the possible embryotoxic, abortive or teratogenic factors6,7. Thus, a table by Yan-kowitz and Niebyl8 classifies the five categories of risks for the use of medications at certain times, should also be useful for herbal medicines.

The oral use of medicinal plants by pregnant women corresponds to an empirical knowledge, inherited from their sociocultural affiliation9. However, investigate...
the perceptions and meanings of pregnancies on pregnancy-related phenomena\textsuperscript{10,11}, as the concerns and meanings of pregnant women about therapy for the woman as a whole.

From these considerations, it becomes important to look at the use of herbal and medicinal plants during gestation, understanding the vision in the pregnant woman, as well as taking into consideration the psychosocial and physical factors of gestation and how they are can interfere or influence practice. Thus, the present study aimed to understand the perception of pregnant women regarding the use of medicinal and phytotherapeutic plants.

**Methodology**

The present article deals with an integrative review, which is done in six stages, where a first step is a matter of decision or a question of revision. Then select a sample of scientific data to be revisited, followed by the categorization and evaluation of the studies. Interpreting the results of the search or revision of knowledge is an effective process. The dates were deactivated using databases: PubMed, Scientific Eletronic Online Libray (SciELO), Medline and Google academic, through the following keywords: phyotherapy; medicinal plants; gestation; pregnancy; perception; representations.

To guide this review, elaborate a question as follows: “What is the acronym of pregnant women about the use of medicinal plants and / or herbal products?”, Obeving the following inclusion criteria: a reference on the practice of using medicinal plants and herbal medicines by pregnant women. They were recently indexed in the data bases mentioned above, which were exposed to Portuguese and Portuguese between 2006 and 2016, and that the results were available in full.

Articles with restricted access were excluded. In order to obtain the articles, a research of the titles and summaries of the curricula was carried out, in order to as certain an appropriation of the study with a question raised by the investigation. At the end of the research were found the 12 transfers, which is common and exclusive, it fits the pre-established selection criteria. For the extraction of data from a dossier were analyzed as members of the research, we investigated the identification of the article, characteristics of the literature addressed in the studies, evaluation of methodological rigor, direction studied and results of the studies. The presentation of the data and discussion was made in a descriptive way, using an application in the revision of the information on herbal and medicinal plants (TABLE 1).

### Table 1: Information of the articles included in the integrative review according to the guiding question.

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<td>Pires &amp; Araújo,</td>
<td>9 pregnant women, aged from</td>
<td>To analyze the risk perceptions related to the use of herbal medicines,</td>
<td>Qualitative approach. The techniques used were: focus group and semi-structured interview.</td>
<td>The definitions of allopathic medicine and medicinal plants, the pregnant women who participated in the research, are associated with three aspects: naturechemistry of the drug, the best effect and the experience of use with respect to such therapeutic agents. In the first case, the interviewees gave confidence to the plants because they understood that they have less aggressive or harmless natural substances when compared to allopathic drugs. It is essential that this concept be restructured in the understanding of pregnant women, sensitizing them to recognize the plants as therapeutic agents and, for this reason, should be used under appropriate indication, dosage and preparation.</td>
<td>The deepening of the concept of subjective experience with use of drugs is essential because it influences the way the subject relates to drugs, besides the fact that the experiences with medications that the patient accumulated during his life will influence his future decisions and, therefore, should be considered as aspects of subjective experience with the use of medications.</td>
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<td>et al., 2011</td>
<td>15 to 30 years old / Salvador - BA, Brazil.</td>
<td>medicinal plants and allopathic medicines in pregnant women attended at a basic health unit.</td>
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<td>Pontes et al.,</td>
<td>64 pregnant women, aged between 14 and 40 years old / Cuité-PB.</td>
<td>Investigate which medicinal plants are used by pregnant women in the municipality of Cuité-PB and correlate its use with the possibility of abortion.</td>
<td>Qualitative approach. We used questionnaires with semi-structured interview script.</td>
<td>25% of pregnant women used some type of medicinal plant. All nine plants mentioned were included in the list of contraindications during gestation according to Resolution SES / RJ no. 1757. All the plants mentioned were used in the form of teas, namely: Peumus boldus (boldo), Melissa officinalis (lemon balm), Cinnamomum cassia (cinnamon), Sambucus nigra (elderberry), Cymbopogon citratus (holy grass), Syzygium aromaticum (clove), Punica granatum (pomegranate), Foeniculum vulgare (sweet herb) and Allium sativum (garlic). Of the pregnant women who had a miscarriage, three used boldo, although they did not associate this use as a causal agent. The main motivations for using them were: controlling constipation, feeding, relieving fever, soothing, reducing pain and anxiety.</td>
<td>It is observed that campaigns or programs are necessary to seek and take information to pregnant women about the risks of using medicinal plants during pregnancy, reducing the chances of abortions and increasing the probability of the birth of a healthy baby.</td>
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<th>Author(s)</th>
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<td>Macena et al. (2012)</td>
<td>36 pregnant women interviewed, age ranged from 15-40 years old / Tangará da Serra, MG, Brazil.</td>
<td>Qualitative approach, with application of a questionnaire involving open and closed questions, which addressed the socioeconomic profile of pregnant women and the use of plants for medical purposes. Discourse issues were analyzed using the Bardin content analysis method.</td>
<td>55.5% of pregnant women reported using medicinal plants. These words and phrases are used to describe the meaning of the word. Regarding the form of use, all said to make use of in the form of “teas”. Regarding the mode of preparation, 49% reported the decoction form, 16% infusion and 35% described the maceration. 66.6% said they did not inform the doctor about this practice because they said they were “known plants” and “they do not like it to be used”, and only 33.4% reported on their use. The medicinal plants mentioned by the pregnant women were: boldo, lemon grass, spearmint, camomile, rosemary, fennel and poojo. All plants cited were included in the contraindicated list during pregnancy according to Resolution SES / RJ no. 1757.</td>
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<td>Rangel &amp; Bragança (2009)</td>
<td>Two groups, being one with 79 pregnant women and another one with 60 pregnant women not using medicinal plants / Niterói, RJ, Brazil.</td>
<td>Qualitative approach, with research instrument composed of open questions. The use of content analysis in the Bardinian perspective was used.</td>
<td>In all, 39 vegetables were cited, and the most used species were: lemon balm, boldo, fennel and camomile. The attitude dimension, or value judgment of the subject on the object of representation, was predominantly positive in this group of pregnant women. As for the information dimension, it can be seen that the category of plant design includes the reasons for its use, such as: natural remedy, traditional (homemade), effective, healthy, free, reliable, without chemistry, “comes from God”, simple and easy to use: Ethnopharmacological knowledge points out for, for example, that the more “bitter” the plant, the greater the risk for the concept. Most of the pregnant women reported using it in the form of tea. The main source of knowledge about the medicinal use of plants was the family, whereas only one pregnant woman used phytopharmaceuticals for medical advice; 34% of pregnant plant users during pregnancy showed insecurity.</td>
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<td>Towns &amp; Andel (2014)</td>
<td>87 individuals, 46 in Benin and 41 in Gabon. Benin’s informants were 42 women and 4 men. In Gabon: 40 women and 1 man.</td>
<td>Examine the health perspectives of women, knowledge of medicinal plants and the use of medicinal plants on causes of maternal mortality.</td>
<td>As for the pregnancy-related aspects, Beninese women were the most well-informed about medicinal plants for pregnancy-related concerns such as anemia, high blood pressure, and stimulation of breast milk. Plant treatments used were: to strengthen and protect the fetus (26%), to be consumed nutritious foods (17%) (herbal), to prepare the body for childbirth (15%), to promote health in (12%), to treat malaria (6%), and others (fatigue, stomach ache, antibiotics, etc.) (11%). As for delivery, they were mainly reported to facilitate labor, but also to assist in the removal of placenta. In Benin, a total of 248 species were cited for the reproductive health of women, of which 36% were for pregnancy. In Gabon, 189 species were mentioned for the health of women, of these 22% for pregnancy. As for health professionals, they brought positive and negative claims for women’s health, the information clearly showed that national policies do not authorize this practice in hospitals. It was mentioned situations that the patients used plants to accelerate uterine contractions, which led to uterine rupture. Professionals in Gabon express concern about the lack of scientific information on the effects of medicinal plants and the lack of standard dosage for use.</td>
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Regarding the use of herbal medicines during pregnancy, 12% of women used medicinal plants during their pregnancy. The use of herbs was associated with a lower level of schooling. Only 12.5% of users reported this practice to health professionals, and about 20% used phytotherapy concurrently with other medications. The main reasons for use were: back pain, toothache, indigestion and infectious diseases such as respiratory infections and malaria. Most users took herbal medicine just to increase or maintain health. There were high rates of self-prescription as well as indication of family and friends. Beliefs about safety and efficacy were consistent with patterns of use or non-use, although both users and nonusers were not sure about the safety and contraindications of this practice during pregnancy.

Table 1 shows the authors of the articles, besides the sample and location, objectives, methodology, results and conclusion.

The articles included in the present review were carried out in the following countries: Brazil, Guatemala, Kenya, Benin and Gabon. Table 1 shows the authors of the articles, besides the sample and location, objectives, methodology, results and conclusion.

Regarding the form of use, most of the women referred to the use of medicinal plants in the form of "teas". Determining the pattern of use of herbal medicine in an urban population, where women have high access to public health.

The following techniques were used: participant observation, open and semi-structured interviews, and also a focus group. Participants were asked to discuss specific health conditions for women, sharing their beliefs about the permitted and prohibited activities surrounding pregnancy, childbirth, menstruation and menopause. It was also asked to name the species of plants they used to treat these conditions. An ethnobotanical field study was carried out at the site. At each interview, the plants collected by the participants were collected and analyzed. For each species, detailed documentation of the location, use, preparation and administration and cure were recorded.

Q’eqchis have a number of cultural perceptions about health and well-being that differ from the Western biomedical model of disease etiology and affect health. Livingston’s Q’eqchi Maya perceive man as consisting of the following elements: body (T’xejale), spirit (Musiq’), heart (Ch’olej) and shadow (Muhel). An imbalance in any of these elements can cause unhappiness and/or physical or psychological illness. They further believe that ceremonies are essential to the effectiveness of a medicinal plant. Overall, the Q’eqchis considered that women have a weaker constitution than men due to the debilitating effects of menstruation, pregnancy, and postpartum recovery.

The results of this work provide a scientific basis for supporting traditional plant use, but further research is needed to access the safety and toxicity profile of plants. Due to the popularity of herbal therapies used worldwide for the treatment of women’s health related complaints along with the lack of scientifically proven studies, safe and effective treatment options to treat menstrual and menopausal symptoms. Results from the qualitative field have contributed to a better understanding of medical beliefs and cultural concepts around women’s health, while experimental laboratory results support their use, emphasizing the need to further investigate these and other herbal treatments and emphasize the need and value of government programs and initiatives that support these efforts.

Results and Discussion

The articles included in the present review were carried out in the following countries: Brazil, Guatemala, Kenya, Benin and Gabon. Table 1 shows the authors of the articles, besides the sample and location, objectives, methodology, results and conclusion.

Regarding the form of use, most of the women referred to the use of medicinal plants in the form of “teas”[12,13]. In the article by Pires and Araújo[14], pregnant women demonstrate confidence in medicinal plants because they understand that they have natural substances and are therefore less aggressive or harmless than medications. The data corroborate with the results of Macena et al.[12] in which the majority of pregnant women believe that, because it is natural, plants do not have side effects. Rangel & Bragança[13] found characteristics indicated by pregnant women as a natural, traditional (homemade), effective, healthy, free, reliable, chemical-free, “come from God”, simple and easy to use remedy.

Corroborating with the results found in this review, Almeida et al.[15] in a study investigating how residents of the Federal District use medicines, herbal medicines and vitamins and how they perceive the risk of this use for health, the researchers found that the analgesic was considered one of the safer medicines by the study population, along with vitamins, herbal medicines and syrups. Thus, this perception of safety can lead to inappropriate and often abusive use, increasing the risk of adverse effects associated with these compounds.
The idea that medicinal plants and herbal medicines are innocuous, and that they do not present any toxicity potential because they are common in nature. This fact can lead to serious consequences for the health of the population, such as: side effects, interactions with other medications and even intoxications. It is necessary to implement effective education and information measures that contribute to the rational use of medicinal plants and herbal medicines10.

As therapeutic agents, however, medicinal plants should be used under appropriate indication, dosage and preparation forms and directed by a health professional. These should address this practice with women through the discussion of contraindications and the possible interaction of these herbs with other medications that the woman is already using during pregnancy17. Therefore, government campaigns or programs are necessary to inform pregnant women about the use of medicinal plants during pregnancy18,19.

In the study by Towns and Andel20, when referring to the view of health professionals, they brought positive and negative claims to women’s health regarding the use of herbal medicines, the information clearly showed that the national policies of the African countries of the study do not authorize this practice in the Cheers. They were cited situations by these professionals in which the patients used plants to accelerate uterine contractions, which led to uterine rupture. Professionals also expressed concern about the lack of scientific information on the effects of medicinal plants and the lack of standard dosage for use.

Based on the vision of health professionals, highlighted in the article of the current review, Oliveira21 points out that the lack of knowledge of health professionals in the field of herbal medicine and medicinal plants is another factor that deserves attention, so, as they know little, be lower and population orientation will be weaker. In addition, the low investment in research in this area is another aspect that deserves to be considered, further aggravating the knowledge on the part of professionals and scholars in the area.

It is worth mentioning that phytotherapy, together with other Integrative and Complementary Practices (PICs), were incorporated into the Unified Health System (SUS) in Brazil, through Administrative Rule 971, dated May 3, 2006, thus, in addition to the use of medicinal plants, other practices are included, such as: Traditional Chinese Medicine, Acupuncture, Homeopathy, Social Therapy, Chronotherapy and Anthroposophic Medicine22,23.

The World Health Organization (WHO), through the document “WHO Strategy on Traditional Medicine 2002-2005”, also supports and encourages the incorporation of PICs into national health systems, providing standards and technical guidance in order to promote the exchange information and good use of traditional medicine24.

Thus, the Ministry of Health in its 2009 publication, by publishing the Core Guidelines for Family Health Care (NASF) encourages them to support family health teams (FHS) in valuing other treatment options natural medicine and PICs. However, for the implementation of such practices, it is emphasized the need of the professionals to know what they exist in their territory, respecting the popular knowledge; besides understanding the health-disease process, from the perspective of homeopathy, and to know the productive chain of medicinal and phytotherapeutic plants. Although such practice is encouraged in Brazil, for specific groups, such as pregnant women, care should be taken to guide these women25,26.

In the study by Macena et al.27 66.6% of the women said they did not inform the doctor about the practice of phytotherapy because, according to them, “they are known plants” and “they do not like to use it”, and only 33.4% reported on use. Mothupi 17 also found a low percentage of users (12.5%) who had reported this practice to health professionals, and about 20% used phytotherapy concomitantly with other medications.

The article by Pontes et al.18 points out the main medicinal plants used by pregnant women, which were: boldo, lemon balm, cinnamon, elderberry, clover, clove, pomegranate, sweet herb and garlic. Macena et al.12 also sought to verify the use of medicinal plants by pregnant women, the ones mentioned by the women were: boldo, cidreira grass, mint, camomile, rosemary, fennel and poejo. Rangel and Bragança28 pointed out as the most used, plants cited in the two previous studies: lemon balm, boldo, fennel and chamomile. However, all plants cited in all three studies were included in the list of herbs contraindicated during gestation according to Resolution SES / RJ No. 175726.

On the basis of this same Resolution, found in the articles included in this review, Freitas et al.9 found in their study, five of the plants mentioned in this list of contraindicated plants during gestation were: sweet grass, holy grass, camomile, boldo. It is worth noting that the contraindication is due to its toxic potential, teratogenic and abortive. Still in relation to this study, more than half of the pregnant women reported using phytotherapy in pregnancy, other plants, in addition to the five mentioned, and were also mentioned by the women in the study.

In the study by Michel et al.19, which aimed to explore the perceptions of treatment through medicinal plants to treat women’s health (pregnancy, delivery, menstruation and menopause), participants, residents of Guatemala, believe that ceremonies performed are essential for the effectiveness of a medicinal plant. They also considered that women have a weaker constitution than men due to the debilitating effects of menstruation, pregnancy, and postpartum recovery; there are numerous cultural taboos and restrictions on the health of women in this population. This view, in this study, contributes to a better understanding of popular beliefs and cultural concepts about women’s health. Thus, actions in this field require more complex practices than simple guidelines to the population.

Understanding the specificities of how cultural groups identify themselves in certain circumstances or health facts does not prevent their participation in the elaborations on their own health being evaluated, then it is necessary that the health services take on this more complex competence when dealing with health of the population. Thus, the exercise of health promotion and the adaptation to the codes and symbologies existing in the different localities or local groups, intends to attend to the notions of health and well-being of each one of these groups, understanding this function of the diverse health practices and the forms of significance that may arise27,28.

The main motivations of using plants are to treat constipation, to feed (for being nutritious), treat fever, use as a sedative, to combat pain and anxiety. In general, they were cited to treat gestational symptoms29,30. Also, the fight against diseases
such as: anemia, hypertension; in addition to the stimulation of breast milk, to strengthen and protect the fetus, to prepare the body for childbirth, to promote the general health and well-being of the mother. Regarding delivery, they were mainly reported to facilitate labor and to aid in the removal of the placenta 20. Mothupi 17 found that the main reasons for using phytotherapy for women were: back pain, toothache, indigestion and infectious diseases such as respiratory infections, and malaria. In addition, most users practiced herbal medicine only to increase or maintain health. Michel et al. [19] also found the use for menstrual cramps and as abortive and even contraceptive methods.

The article by Pontes et al. [18] also sought to relate the practice of phytotherapy to abortion. Of the women who had a spontaneous abortion, three used boldo, although they did not associate this use as a causal agent. The scarcity of studies relating the practice of phytotherapy with adverse effects during gestation deserves attention and care, many studies reinforce the lack of evidence for the release of its use during pregnancy [28-30].

The literature is still scarce with research relating adverse effects in pregnancy with the use of medicinal plants. Malan and Neubal [30] researched about the use of plants during pregnancy, being a common practice in Africa, as explained earlier, the present review included research in three African countries. In Côte d’Ivoire, despite modern prenatal medical prescriptions, most pregnant women resort to traditional medicine to ensure the development of a healthy fetus and assist in labor. However, there is not enough research on traditional medicine in this country, the plants used by these women need to be better known.

In the study by Rangel and Bragança [13] some pregnant women showed insecurity about the correct use of the plant species, they said that it could harm the fetus because they are dangerous or toxic. Women’s knowledge points, for example, that the more “bitter” the plant, the greater the risk for the concept. In the Mothupi study [17], female users and non-users of herbal medicines were not sure about the safety and contraindications of this practice during pregnancy.

Knowledge about the mode of use and indications of medicinal plants was obtained through popular information and through relatives, related to a popular knowledge that is passed over time, few pregnant women use herbal medicines for medical guidance and many would like their doctors prescribe natural medicines [12,13,17]. Thus, emphasizing these data found in the articles of the present review, Arruda [31] points out that the places of sale of medicinal plants generally do not invest in advertising, the disclosure occurs spontaneously, by word of mouth, among consumers themselves, due to the tradition of its use and the indication by loved ones, like family and acquaintances.

**Conclusion**

Therefore, it is observed that, in general, the pregnant women demonstrate confidence with the use of herbal and herbal products during pregnancy because they think that they are more natural and therefore harmless to the health, although some women show certain insecurity in its use. The most cited plants as used in gestation were to treat symptoms of pregnancy itself. This practice, most of the time, is not informed to the health professionals who accompany them and many pregnant women would like their doctors to prescribe the plants when necessary. Although not investigated in the present review, the positioning of health professionals regarding this use by pregnant women, there is insecurity in the orientation, due to the lack of research in the area aimed at gestation. In addition, the policies of some countries are different regarding the release of herbal medicine for the health of the general population. In Brazil, there are some policies aimed at the integrative practices in health that even stimulate the orientation by the professionals for the use of medicinal plants and herbal medicines. But regarding gestation, there are several restrictions on its use, with published resolutions in the country. In addition, the main plants used by women in the present study were with forbidden herbs in gestation, according to legislation.

**References**


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