Use and Attitude on Herbal Medicine in a Group of Pregnant Women in Tehran

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Abstract

Background: While the use of herbal medicines is common in Tehran, there is scant data regarding various aspects of the use of such medicines during pregnancy.

Objective: The frequency of the use of herbal medicines in a group of pregnant women in Tehran and their attitude to the use of such medicines were evaluated.

Methods: In this cross-sectional study, 600 pregnant women were studied. A researcher-made questionnaire was used to explore the demographic and pregnancy related data, the extent of use of the herbal medicines, the subjects' sources of information and their attitude regarding such medicines. The data were analyzed using student t- and chi-square tests. Logistic regression was used to determine the predicting factors.

Results: 402 (67%) participants had used at least one type of herbal medicine during their current or previous pregnancies, with a mean of 2.71 ± 1.94 herbs per individual. Two commonly used herbs were peppermint (32.8%) and olibanum (26.3%). Maternal and Gestational age, family size, children number, frequency of having medical insurance and positive attitude in users were significantly higher than non-users (P values were 0.02, 0.02, 0.001, <0.001, 0.04 and <0.001 respectively). The score of attitude was the only predictor for taking herbal medicine with the odds ratio 0.89 (95% confidence interval: 0.86-0.92) of logistic regression model for negative attitude.

Conclusions: Considering the high frequency of herbal medicine use during pregnancy, pregnant women need appropriate sources of information about these medicines. Further, health care providers should ask pregnant women about taking herbal medicines.

Keywords: Herbal medicine, Pregnancy, Iran, Attitude, Practice

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Introduction

The prevalence of complementary/ alternative medicine (CAM) use among the general populations of countries varies from 9 to 75 % [1, 2]. Also, 65 - 80% of the world population uses traditional medicine as their primary form of health care [3, 4].

According to one study (by Sedighi GH. et al at 2003), 42% and another study (by Tehrani SA. et al at 2007), 66% of the Tehran population uses at least one of the CAM methods in their life [5, 6]. The studies report that almost 38% and 54% of the population use herbal medicines respectively and herbal medicine is the most commonly used nonconventional method and the most known natural therapy [5, 6]. Studies show that women are the major users of CAM compared with men [7, 8]. A study reported that 68% of women attending health care centers in the shahrekord city of Iran used herbal medicines [9]. Despite the insufficiency of studies evaluating the efficacy and safety of herbal therapies [10], use of herbal medicines during pregnancy has been reported about 7-96% in some countries [4, 11]. This frequency is about 30% in the Kazeroon city of Iran [12].

The safety of herbal therapies is particularly important in some groups of people such as pregnant women who are more vulnerable to the side effects of drugs. The use of herbal supplements increases as pregnancy progresses. Herbal medicine use during pregnancy may be in order to treat disorders related to pregnancy such as nausea, vomiting and gastro-esophageal reflux or conditions like common cold and respiratory illnesses unrelated to pregnancy [4, 13]. The reason is probably less stringent legislation for distribution and purchase of herbal medicines than conventional medicines [13].

In conclusion, Health care professionals should be aware of herbal medicine use and side effects in pregnant women. Further, pregnant women should know the possibility of herbal medicine side effects on the fetus.

There are not any data on the extent of women's use of herbal medicines during pregnancy in Tehran. Thus this study was conducted to determine the prevalence of herbal medicine use in pregnant women attending some Tehran governmental hospitals for prenatal care. Further, the conditions for which herbal medicines were used, the reasons for herbal medicine use and the attitudes to herbal remedy use in the women during pregnancy were evaluated.

Materials and Methods

This cross-sectional study, approved by the ethics committee of the Research Institute for Islamic and Complementary Medicine, was conducted from April to June 2011 in Tehran. To calculate sample size, we conducted a pilot study on 50 pregnant women to explore the frequency of use of herbal medicines during pregnancy. The frequency was about 75 %. Considering the information of the pilot study and α=0.05, d=0.05 and design effect = 2 and the formula: $n = \frac{\left(Z\ 1-\frac{\alpha}{2}\right)^2 . PQ}{d^2}$, the sample size of the study was calculated at 600.

In this multistage sampling, all governmental hospitals of Tehran that have perinatal care clinics were listed and categorized to 5 geographical areas (north, south, west, east, center). Ten hospitals were selected randomly (2 hospitals from each area). From each hospital, 60 pregnant women

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attending perinatal care facilities were recruited consecutively after receiving oral information about the study and signing an informed consent. Only women from Tehran and the surrounding country with more than 32 weeks gestational age were included in the study.

Data were collected through a semi-structured questionnaire that was administered by a trained investigator using a face-to-face interview of about 15 min.

The final version of questionnaire was composed of 4 sections. The first section included 11 questions about socio-demographic data (age, education, job, place of living, medical insurance) and some pregnancy related information (gestational age, number of pregnancies and children, history of abortion and stillbirth).

The second section was related to the use of herbal medicines for treatment or prevention of pregnancy related or other disorders during the current or previous pregnancies. This part of questionnaire included a 38-item list of commonly used herbal medicines and 2 open-ended questions about using herbal medicines. The list of herbs was prepared according to similar published studies in other countries and also the pilot study conducted by our group prior to the main study [4, 5, 8-11]. In addition, the names and dosage forms of the herbal medicines used and the time of herbal medicine use were recorded.

The third section had 6 multiple choice questions that evaluated the women's information sources on herbs, reasons for herbal medicine use, indications of herbal medicine use, persons recommending herbal medicine use, incentives for using herbal medicines and awareness of health care providers of the herbal medicine use.

Finally, the last section assessed the attitude of sample population regarding use of herbal medicine during pregnancy with thirteen likert-scale questions. Four questions (questions 1-4) were about efficacy, two questions were about safety (questions 5-6), three questions (questions 7-9) were about accessibility and affordability of herbal therapies, two questions (questions 10-11) assessed women's preference for taking herbal therapies against conventional synthetic therapies and two (questions 12-13) questions were about their desire to use them. Each question had five choices (ranging from complete agreement to complete disagreement). The answer scores for each question choice and question in both groups were added up and their means and standard deviations calculated. The question scores ranged from 13 to 65 representing the most positive and the most negative attitude respectively. The higher the question score, the more negative the attitude is.

The questionnaire was designed and developed by our research group (comprising pharmacognosists, clinicians and community medicine specialists) and using some published articles (4, 5, 8-11). Further, it was piloted to ensure face and content validity and clarity. The reliability of the last section of questionnaire (attitude) was evaluated by internal consistency method and was analyzed with Chronbach's alpha which was 0.78.

For data analyses, continuous variables were reported as means and standard deviations and analyzed using the t-test to compare two groups of users and nonusers.

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Categorical variables were reported as percentages of frequencies. Chi-square and fisher exact tests were used to compare two groups. A P-value smaller than 0.05 was considered statistically significant.

The statistical analyses were performed using statistical package for social sciences (SPSS), version17.

Results

Sample characteristics

Six hundred and eighteen women in third trimester of pregnancy or one week after delivery were enrolled for the study and six hundred of them completed the questionnaire. Characteristics of the sample are given in detail in table 1.

On the whole, 402 (67%) of women had used at least one type of herbal medicine during their current or previous pregnancies, with a mean (standard deviation) of 2.71 (1.94) herbs per woman (Median: 2; range: 1-17).

In general, 48 different herbs were used. Oral forms (including decoction, infusion and distillation) were the most common forms of use (91.7%). Other forms of use were skin preparations and fumigation. The most commonly used herbal medicines and their indications are presented in table 2.

As detailed in table 1, maternal and Gestational age, family size, children number and frequency of having medical insurance in users were significantly higher than non-users (P values were 0.02, 0.02, 0.001, <0.001, 0.04 respectively).

Table 1- Characteristics of sample

Variables		Total	Users	Nonusers	P value
Number	N (%)	600 (100%)	402 (67%)	190 (31.7%)	
Age	Mean (sd)	27.03 (4.8)	27.03 (4.8)	26.54 (4.7)	0.02
Education (year)	N (%)				
Uneducated (ref)		15 (2.5)	13 (3.2)	2 (1.1)	0.1
<12		140 (23.3)	84 (20.9)	53 (27.9)	0.06
12		313 (51.8)	211 (52.5)	96 (50.5)	0.14
>12		134 (22.4)	94 (23.4)	39 (20.5)	0.19
Living place	N (%)				
Tehran		490 (81.7)	322 (80.1)	168 (84.8)	0.15
Suburbs		110 (18.3)	80 (19.9)	30 (15.2)	
Job	N (%)				
Housekeeper		523 (87.2)	349 (86.8)	167 (87.9)	
Others		77 (12.8)	53 (13.1)	23 (12.1)	0.6
Income (/10000R)	Mean (sd)	540.8 (263.4)	544.1 (266.06)	535.5 (262.8)	0.7
Family size	N (%)				
2 (ref)		318 (53)	193 (48)	125 (63.1)	0.001
>2		282 (47)	209 (52)	73(36.9)	
Income/family Size	Mean (sd)	216.4 (115.1)	212.4 (112.1)	224.8 (123)	0.2
Child number	N (%)				
0 (ref)		328 (54.7)	197 (49)	125 (65.8)	<0.001
≥1		272 (45.3)	205 (51)	65 (34.2)	

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Table 1 Continued - Characteristics of sample

Variables		Total	Users	Nonusers	P value
Medical insurance					
Yes	N (%)				
No (ref)		534 (91)	370 (92.7)	164 (87.2)	0.04
		53 (9)	29 (7.3)	24 (12.8)	
Gestational age	Mean (sd)	36.4 (3.2)	36.64 (3.2)	35.9 (3.1)	0.02
Pregnancy number	Mean (sd)	1.6 (0.8)	1.61 (0.81)	1.6 (0.83)	0.8
Abortion	N (%)				
0(ref)		0 (0.7)	3 (0.7)	1 (0.5)	0.59
≥1		596 (99.3)	399 (99.3)	197 (99.5)	
Stillbirth	N (%)				
0(ref)		584 (97.3)	390 (97)	194 (98)	0.34
≥1		16 (2.7)	12 (3)	4 (2)	
Attitude	Mean (sd)	30.87 (6.2)	29.52 (5.9)	33.73 (6.1)	<0.001

*P value of comparison between users and non-users of herbal medicines<0.05 =significant; (ref) =reference category

Table 2 - The most commonly used herbs and indications in pregnant women

Name of herbs (Persian name)	Number of women reporting use it during pregnancy (% of total users)	Time of use (trimester of pregnancy)	Indication
Peppermint (naana)	197 (32.8)	1, 2, 3	Bloating, stomachache
Olibanum (kondor)	158 (26.3)	1	Increasing neonate's IQ
Flix-weed seeds (khakeshir)	148 (24.7)	3	Constipation, getting cool
European pennyroyal (pooneh)	78 (13)	1, 2, 3	Respiratory infections
Ginger (zanjebil)	58 (9.7)	1	Nausea
Borage (golgavzaban)	58 (9.7)	1, 2, 3	Sedative, Tranquilizer
Chicory (kasny)	47 (7.8)	3	Prevention of jaundice in neonates
Quince + allysum + greate plantain + basil seeds (chahar tokhmeh)	41 (6.8)	1, 2, 3	Respiratory infections
Cinnamon (darchin)	37 (6.2)	1, 2, 3	Bloating, stomachache
Aegyptian willow (bidmeshk)	32 (5.3)	3	Sedative
Green tea (chay sabz)	31 (5.2)	1, 2, 3	Sedative
Kotschyam thyme (avishan)	27 (4.5)	1, 2, 3	cough
Zyzyphus (annab)	23 (3.8)	1	nausea
Aloe vera	18 (3)	3	Skin cracks
Licorice (shirinbayan)	15 (2.5)	1, 2, 3	Bloating, stomachache
eucalyptus	12 (2)	1, 2, 3	Respiratory infections

Indications and reasons

More than 43 indications for use were reported. The most commonly reported indications were: bloating and stomach ache [181 (30.2%)], respiratory infections [112 (18.7%)], nausea and vomiting [69 (11.5%)], heart burn [52 (8.7%)], anxiety [28 (4.7%)], sleep disorders [28 (4.7%)] and skin problems [17 (2.9%)]. Other indications were constipation, hypertension, anemia, foot edema and varicose vein, genitourinary tract infection, muscle cramps, low back pain, prevention of jaundice and increase in the neonate IQ.

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Table 3 presents the reasons of users for using herbal medicine during pregnancy. Some of the respondents selected more than one answer.

Doctors' awareness

All users were asked if they had any encouragers for their practice or not. Two hundred and eighty eight (71.6%) of users had some encouragers that frequently were their families and friends [in 311 (77.5%) of them]. Other encouragers were herbalists, pharmacists and other pregnant women. In 152 (37.8%) of users, the physicians were aware of their practice. Reasons of women for not informing their physicians are presented in table 4. The women using herbal medicine in pregnancy, reported to have been recommended to use most frequently by their families and friends [268 (66.7%)]. Gynecologists and general physicians had recommended to use in only 39 (9.7%) and 21 (5.2%) of women respectively.

Sources of information

Table 5 presents the most common sources of information about herbal medicines in pregnant women.

Table 3 - Reasons for herbal medicine use

Reasons	Number (%) of users selected this reason for use
Herbal medicine has less side effects than conventional medicine	237 (59)
In all I prefer Herbal medicine to conventional medicine in pregnancy	115 (28.6)
Herbal medicine is used as routine in my family	106 (26.4)
Herbal medicine is more effective than conventional medicine	83 (20.6)
Herbal medicine is more accessible than conventional medicine	42 (10.5)
I don't know why I used that	37 (9.2)
Herbal medicine effects faster than conventional medicine	36 (9)
Herbal medicine is cheaper than conventional medicine	30 (7.5)
I used Herbal medicine because conventional medicine did not treat me	20 (5)

Table 4 - Answers to the question "Why physician was not aware of your herbal medicine use?"

Questions	Number of women selected this answer (% of users)
Doctor did not ask me	173 (43)
I thought it is not important to tell him/her	69 (17.2)
Because I use that as routines	40 (10)
I was treated before visiting my doctor	17 (14.2)
I was afraid to be rejected by doctor	9 (2.2)
There was not any important reason	3 (0.7)

Table 5 - The most commonly source of information

Source of information	Number of women reported this source of information (% of 600 women)
Family and friends	361 (60.2)
Book, newspaper, magazin, internet	288 (49.7)
Herbal store, pharmacy	160 (26.7)
Television	93 (15.5)
physician	77 (12.8)

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Attitude

The attitude of total sample population and users and nonusers and comparison in two groups are presented in table 6.

In total, 108 (27.1%) of users had positive attitude and 17 (4.3%) had negative attitude of herbal therapies and 274 (68.7%) were not sure, versus 18 (9.6%), 17 (9.1%) and 152 (81.3%) of non users respectively. As already described in table-1, total scores of attitude were higher (more negative) in non-users than users and these differences were significant according to $p<0.001$. We also explored the predictors for taking herbs during pregnancy by logistic regression. Variables that had a Wald statistic P-value of ≤ 0.2 were retained in model as independent variables. Names and Odds ratios (95% CI) for these variables were age 1.04 (1.005 - 1.08), gestational age1.06 (1.01 - 1.12), family number 1.86 (1.28 - 2.71), child number 2.03 (1.42 - 2.8), having insurance 1.7 (1.006 - 3.1), and the women's attitude on herbal medicine 0.88 (0.85 - 0.91). Then variables were eliminated one at a time and the likelihood ratio test was used to

Table 6- Attitude on using herbal medicine in users and nonusers pregnant women

Questions	Answers in users [N (%)*]					Answers in nonusers [N (%)]					
	1	2	3	4	5	1	2	3	4	5	
In my opinion…..	Completely agree	agree	Not sure	disagree	Completely disagree	Completely agree	agree	Not sure	disagree	Completely disagree	P value
1-Herbal medicine is more effective than conventional medicine	63(15.7)	216(53.7)	104(25.9)	19(4.7)	0	20(10.5)	65(34.2)	90(47.4)	10(5.3)	5(2.6)	<0.001
2-Herbal medicine is more effective than conventional medicine for some medical conditions	60(14.9)	206(51.2)	114(28.4)	22(5.5)	0	17(9)	72(38.3)	81(43.1)	16(8.5)	2(1.1)	<0.001
3-Herbal medicine together with conventional medicine are effective	26(6.5)	109(27.2)	172(42.9)	87(21.7)	7(1.7)	5(2.7)	26(13.8)	110(58.5)	43(22.9)	4(2.1)	<0.001
4- Herbal medicine has less side effects than conventional medicine	94(23.4)	205(51)	91(22.6)	12(3)	0	30(15.9)	82(43.4)	67(35.4)	8(4.2)	2(1.1)	<0.001
5- Herbal medicine has less side effects than conventional medicine during pregnancy	87(21.6)	180(44.8)	113(28.1)	21(5.2)	1(0.2)	21(11.1)	60(31.6)	96(50.5)	9(4.7)	4(2.1)	<0.001

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Table 6- Continued

Questions	Answers in users [N (%)*]					Answers in nonusers [N (%)]					
	1	2	3	4	5	1	2	3	4	5	
In my opinion…..	Completely agree	agree	Not sure	disagree	Completely disagree	Completely agree	agree	Not sure	disagree	Completely disagree	P value
6- Herbal medicine is more accessible than conventional medicine	75(18.7)	197(49)	94(23.4)	35(8.7)	1(0.2)	23(12.2)	87(46)	55(29.1)	24(12.7)	0	0.1
7- Herbal medicine is less expensive than conventional medicine	60(14.9)	142(35.3)	108(26.9)	86(21.4)	6(1.5)	15(7.9)	60(31.6)	75(39.5)	37(19.5)	3(1.6)	0.01
8- Herbal medicine is accessible without doctor' prescription	87(21.6)	208(51.7)	55(13.7)	50(12.4)	2(0.5)	23(12.1)	86(45.3)	49(25.8)	25(13.2)	7(3.7)	<0.001
9- In some conditions, herbal medicine effects faster than conventional medicine	39(9.7)	145(36.1)	165(41)	51(12.7)	2(0.5)	7(3.7)	59(31.1)	100(52.6)	19(10)	5(2.6)	0.002
10-In all ,I ……..with use of herbal medicine during pregnancy	74(18.4)	201(50)	97(24.1)	29(7.2)	1(0.2)	9(4.7)	50(26.3)	96(50.5)	32(16.8)	3(1.6)	<0.001
11-In all I prefer to use herbal medicine for some conditions during pregnancy	80(19.9)	185(46)	105(26.1)	29(7.2)	3(0.7)	10(5.3)	50(26.5)	97(51.3)	31(16.4)	1(0.5)	<0.001
12-If conventional medicine don't effect, I would try herbal medicine	55(13.7)	188(46.8)	123(30.6)	31(7.7)	5(1.2)	8(4.2)	70(36.8)	87(45.8)	22(11.6)	3(1.6)	<0.001
13-If my physician offers, I would try herbal medicine.	191(47.8)	177(44.3)	29(7.3)	3(0.8)	0	56(29.5)	92(48.4)	36(18.9)	3(1.6)	3(1.6)	<0.001

*Number and percentage of participants selected each answer

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evaluate the difference between each model with previous one Variables with Wald statistics P-value of ≤0.05 retained as predictors of use in this study [14). Score of attitude was the only predictor for taking herbal medicine with OR (95%CI) = 0.89 (0.86 - 0.92).

Discussion

In this study 67% of 600 pregnant women had used at least one of the herbal medicines during their current or previous pregnancies. This is higher than the previous studies reporting the frequency as 3-52% [12, 13, 15 - 17]. The discrepancy may be due to characteristics of study population, time of study, inclusion criteria (specially the trimester of pregnancy), sample size, sampling methods, type of questions in the questionnaire and the method of data gathering. For example, in a study in California, the prevalence of dietary supplement use during pregnancy was 13%. But data gathering was done by self - administered questionnaires, the response rate was 24% and the results were not representative [15]. In the study of Kazeroon, the frequency of use of herbal medicines has been underestimated (30%), because only women with healthy children were included in the study and others (that may have had experience of use) were excluded [12].

Also laws regulating the distribution and accessibility of herbal medicines are very different in various countries. Further, the results of the present trial are from pregnant women attending some governmental hospitals which certainly are different socio-demographically from those attending private centers. It is noteworthy that even if herbal medicine use among pregnant women is low, it is a cause of concern because of the lack of safety data.

In the present study peppermint, olibanum, flixweed seeds, european pennyroyal and ginger were some of the most commonly used herbs. In the study of Kazeroon [12], ammi, saatar, sweet basil, peppermint and ginger were the most commonly used herbs. In reported data from Australia, Tuscanya and Norway, some other herbs such as raspberry, fennel, st. john´s wort, Echinaceae and some other indigenous herbs were used frequently [4, 8, 13, 18]. Of course the herbs used depend on the geographical region and traditions of people.

Pregnant women use these herbs for treatment of some pregnancy complications, diseases unrelated to pregnancy, prevention of diseases and increasing health status of themselves or their infants. Some of herbal medicine uses by the pregnant women were unapproved, for example Olibanum for increasing the baby's intelligence quotient (IQ) or chicory for preventing jaundice in neonates.

The first trimester of pregnancy is a critical period because of organogenesis in the fetus. Also most of the pregnancy related problems happen in this period. As it was mentioned before, use of herbal medicine is more common in the first trimester of pregnancy compared to other trimesters. Thus it can increase the risk of adverse effects to the fetus.

As described in table 3, the belief that herbal therapies are safer than synthetic drugs, alone or with other reasons, is the major reason for taking herbs during pregnancy. More than 20% of respondents who had used herbal medicines believed that herbs were more effective than synthetic drugs. More than

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25% of them used herbs as a routine in their families. This confirms the findings from previous studies where the major reasons cited by patients for using herbal medicine were its cost-effectiveness and perceived absence of side effects [10, 19].

Although the commonly used herbs in this study seem to be safe, there are not enough valid evidences to show their safety during pregnancy. A meta-analysis demonstrated safety of ginger in pregnancy [20]. Most of the herbs are safe in limited use but has unknown effects in excess use. It is recommended that pregnant women avoid consumption of green tea (especially large quantities) due to its caffeine content. Licorice and borage must not be used during pregnancy. Excess use of peppermint is contraindicated in early pregnancy due to its emmenagogue effect [21]. These are examples of evidences for safety of herbs during pregnancy which are not enough for making decision about using all of them safely. In addition, each country needs investigations on the safety of its own herbal species.

Families and friends were the most common sources of information in the present study and doctors were the source of information only in 12.8 % of pregnant women. Also families and friends were the most common encouragers of pregnant women for taking herbal medicine. Certainly they don't have enough information about efficacy and specially safety of herbal therapies during pregnancy.

The results of the present study are similar to the Kazeroon study [12]. In the study of Norway, the common sources of information were herbal stores and pharmacies, but it also reported that herbal medicine use was recommended most frequently by families and friends [18].

In only 37.8% of users in our study, the physicians were aware of the practice. The pregnant women didn't report the practice to their doctors because they thought it was not important or they didn't want to be rejected by doctors. There are some reports that more than 50% of CAM users didn't report their practice to doctors prescribing conventional medicines [11, 22, 23].

As described in results, the non-user pregnant women had significantly more negative attitude on herbal medicines and total scores of attitude were higher (more negative) in non-users than users.

In our study, the means of gestational age, family size, frequency of nulliparity and having medical insurance in users were higher than non-users. Also total score of attitude and its all subdivisions were higher in non-users than users, suggesting the higher frequency of negative attitude on herbal medicine in non-users and positive attitude among users. Of course, in logistic regression model, attitude was the only predictor for taking herbal medicine.

In other studies, reported characteristics of women more likely to take herbal supplements include being older [24], married [10], primiparous [25] and being less educated [26], but results of studies are different and predictors of use of herbal medicine are not exactly defined.

In our country, access to herbal medicines is largely unrestricted. On the other hand, side effects and teratogenic potentials of most herbal products are poorly understood. The results of the present study demonstrate that health care providers were not the major

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consultants or encouragers of pregnant women to use herbal medicine. Considering the high prevalence of herbal medicine use and lack of knowledge of their efficacy and safety, it is important that health care providers ask pregnant women about their practice of non-conventional therapies. Also they should be open to discuss the use of non-conventional therapies during pregnancy and be able to give information.

A limitation of this study was non-random sampling procedure for the questionnaire phase. Moreover the item that investigated the use of herbs during previous pregnancies could be affected by recall bias.

Some edible herbs are taken as routine additives in our foods. These may also have side effects during pregnancy if used in large and unrestricted amounts. We didn't mention them in our study because there are long lists of these herbs with unknown effects. We only mentioned herbs that were used for therapy or prevention of common complaints during pregnancy.

Because of the high prevalence of herb use during pregnancy, pregnant women (especially those with positive attitude on natural product use) need an appropriate source of information. Further it is necessary for health care providers to ask pregnant women about use of non-conventional therapies. The present study also indicates an increased need for documentation about the safety of herbal medicine use during pregnancy.

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