

Use of Herbs among Pregnant Women in Saudi Arabia: A Cross Sectional Study.

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Abstract

Objective: Investigating the prevalence, patterns and beliefs toward herbal remedies use during pregnancy among women living in different regions of Saudi Arabia.

Methods: A web-based questionnaire targeting pregnant/postpartum women in Saudi Arabia was designed. It focused on attitudes and beliefs toward herbal remedies use and safety during pregnancy. An extensive search using Scifinder[®], Pubmed[®] and Google scholar[®] was conducted to locate the evidence of safety for the most commonly used herbs among the study participants.

Results: The most commonly used herbs among participants (n=200) were peppermint, ginger, anise, green tea, thyme, coffee (less than 3cups/day), nigella, coffee (more than 3cups/day), myrrh and cinnamon. More than 98% of participants used herbs during pregnancy. The rate of use of 2.9 herbs/participant. Moreover, the rate of use of herbs that lack evidence of safety or have evidence of harm was 2.3 herbs/ participant. About 31.5% of the participant preferred using herbs over synthetic drugs, only 1.5% believed that herbs are more effective than synthetic drugs. About safety, around 80% believed that herbal remedies might interact with each other as well as synthetic drugs. However, 32% still considered herbs safer than synthetic alternatives.

Conclusion: Use of herbs that are potentially harmful or lack evidence of safety is widespread among pregnant women in Saudi Arabia. More efforts are required to increase awareness among the public and health-care professionals in this aspect.

INTRODUCTION:

Worldwide, herbs are commonly used for various therapeutic purposes. A World Health Organization (WHO) survey reported that about 70 -80% of the general world public depends on the non-conventional medicine that comes mainly from herbal sources⁽¹⁾. According to previous findings, herbal remedies are commonly used among pregnant women for self-treatment of many health conditions. Besides, many pregnant women believe that herbs are safer than conventional medicines⁽²⁾. Herbal medicines contain different types of active constituents with minimal data about their safety in pregnancy and possible teratogenic effects. Thus, caution should be exercised before administering herbals by pregnant women. Previous studies investigated the use of herbs during pregnancy; results showed that a significant number of participants used herbal remedies⁽²⁻⁶⁾. In a British study, the majority of participants stated that they rely on their families and friends as information sources for the use of herbal medicines during pregnancy⁽⁷⁾. In another study, one-third of participants did not tell their physicians about the previous use of herbal remedies⁽⁸⁾. Among the reasons for preferring herbal remedies during pregnancy, the safety of herbs was the most believed one. Other reasons included higher efficacy, easier accessibility, tendency to treat or reduce multiple symptoms and illnesses and improvement of energy level^(4, 8).

A recent study estimated the rate of herbal medicines use among pregnant women in Al Taif province of Saudi Arabia to be 4.6%⁽⁹⁾. To our knowledge, there is limited data about herbal medicines use among pregnant women in

Saudi Arabia. As a result, this study aimed at investigating the prevalence, patterns and beliefs toward the use of herbal remedies during pregnancy among women living in different regions of Saudi Arabia.

METHODS:

Ethical approval

Ethical approval was received from the research committee of – King Faisal University, Kingdom of Saudi Arabia.

Data collection

A web-based structured questionnaire targeting pregnant/postpartum women was used to get responses from participants. The questionnaire was distributed through social networks and forums. Responses were received over a 40 days period (from December 31, 2012 to February 8, 2013).

The questionnaire was written in Arabic; it consisted of both open and close-ended questions and divided into four main sections. The first section included demographic data of the participant; the second section determined participant's current pregnancy status and history of pregnancy. The third section investigated the attitudes and beliefs towards herbal remedies use and safety during pregnancy and the most reliable sources of information for herbal medicine. In the case of preferring herbals over conventional medicines, more than one reason to explain this issue was allowed. The last section focused on woman's use of nonprescription herbal remedies during their previous/current pregnancy. This section asked about several herbs which are commonly used in Saudi Arabia

(determined by personal contacts with females from the public). The choices were: ginger, coffee, licorice, ginseng, clove, fenugreek, green tea, salvia, senna, chamomile, Nigella, cinnamon, castor oil, myrrh, thyme, , nise and peppermint. Besides, a blank was added for other herbs use (if any). Multiple answers for this section were allowed.

Searching literature

An extensive search was conducted using Scifinder® Pubmed® and Google scholar® using the keyword (“herb name” AND Pregnancy) to locate the available evidence of safety in pregnancy of the commonly used herbal remedies among the study participants.

Statistics and study outcomes

The rate of herbs used/woman was presented using mean, median and range. Categorical variables (information resources used, preference of herbals over conventional medicines and reasons of preference, beliefs about safety of herbals in pregnancy) were reported as number and percentage.

With a predetermined level of significance = 0.05, Pearson’s Chi-square test was used to compare categorical variables between different levels of education (University graduates versus others) and among different regions of Saudi Arabia. Non-parametric tests were applied to compare the median herbs used/woman among the different Saudi regions and different educational levels. The statistical analysis was carried out using SPSS version 19.

RESULTS:

Participants:

A total of 200 women living in Saudi Arabia completed the questionnaire. Their demographics are summarized in table 1.

Information resources for use of herbals:

Ninety-nine (49.9%) of participants identified physicians as the best source for information, 59 (29.5%) preferred family/friends, 33(16.5%) preferred media/internet while 4 (2%) preferred the pharmacist as their source of information. A comparison of preferred sources of information between university graduates and other participants is shown in table 2. No significant differences were found between university graduates and other participants ($\chi^2 = 2.45$, $df=3$, $p=0.49$) nor participants from different regions of the country ($\chi^2 = 10.78$, $df=12$, $p=0.55$) with regard to their preferences of information resources.

Awareness about herbal remedies use:

Sixty-three of participants (31.5%) preferred using herbs instead of drugs during pregnancy with no significant differences observed in preference among different educational levels ($\chi^2 = 0.24$, $df=1$, $p=0.878$), 60 (30%) think that herbs are safer/less harmful, 12 (6%) use herbs because they are more accessible, 3 (1.5%) think that they are more effective than drugs and 2 (1%) use them due to their lower cost. With regard to safety, 159 (79.5%) believed that herbs may interact with drugs in a pattern that affects their efficacy and safety, of which 42 (21%) still believe in superior safety of herbs.

Table 1: Demographics of study participants.

Age in years (mean ± SD)	28.58 ± 5.59
Educational Level: (n, %)	
University graduate	151, 75.5%
High	43, 21.5%
Primary and intermediate School	6 , 3%
Nationality: (n, %)	
Saudi	170, 85%
Egyptian	21, 10.5%
Others	9, 4.5%
Pregnancy Status: (n, %)	
Pregnant (Primigravida)	54, 27%
Pregnant (Multigravida)	58, 29%
Postpartum	88, 44%
Pregnancy month (mean ± SD)	5 ± 2.4
Geographical Distribution (n, %)	
Eastern Region	78, 39%
Western Region	37, 18.5%
Central Region	57, 28.5%
Southern Region	18, 9%
Northern Region	10, 5%

Table 2. Sources of information for herbal medicine preferred by university graduates and other participants.

Sources of information	University Graduates	Other Participants
Pharmacist	3.33%	0%
Physician	50.67%	53.1%
Family Friends	30.67%	26.5%
Media/Internet	15.33%	20.4%

Table 3: Herbs used by study participants and their safety during pregnancy.

Herb	Number of reported uses	Percentage of use	Safety of therapeutic doses in pregnancy
Peppermint	130	22.38	Potentially Unsafe ^(10, 11)
Ginger	82	14.11	Safe ^(12, 13)
Anise	55	9.47	Lack Evidence
Green tea	54	9.29	Potentially Unsafe ⁽¹⁴⁾
Thyme	46	7.92	Lack Evidence
Coffee (less than 3 cups/day)	41	7.06	Safe ^(15, 16)
Nigella	35	6.02	Lack Evidence
Coffee (more than 3 cups/day)	32	5.51	Potentially Unsafe ^(15, 16)
Myrrh	28	4.82	Potentially Unsafe ⁽¹¹⁾
Clove	15	2.58	Lack Evidence
Sage	13	2.24	Lack Evidence
Fenugreek	13	2.24	Potentially Unsafe ^(17, 18)
Chamomile	13	2.24	Potentially Unsafe ⁽¹⁹⁾
Licorice	4	0.69	Potentially Unsafe ^(20, 21)
Castor	4	0.69	Potentially Unsafe ⁽²²⁻²⁴⁾
Parsley	3	0.52	Potentially Unsafe ⁽¹¹⁾
Vitexagnus-castus	2	0.34	Potentially Unsafe ⁽²⁵⁾
Ginseng	1	0.17	Lack Evidence
Olibanum	1	0.17	Lack Evidence
Fennel	1	0.17	Potentially Unsafe ⁽¹¹⁾
Olive leafs	1	0.17	Lack Evidence
Juniper	1	0.17	Potentially Unsafe ⁽¹¹⁾
Rose Mary	1	0.17	Potentially Unsafe ⁽¹¹⁾
Turmeric	1	0.17	Potentially Unsafe ⁽¹¹⁾
Raisin	1	0.17	Lack Evidence
Caraway	1	0.17	Lack Evidence
Barley	1	0.17	Lack Evidence
Tilia	1	0.17	Lack Evidence

Use of herbal remedies during pregnancy:

The herbs used by the study participant and their evidence of safety in pregnancy are summarized in table 3. Surprisingly, 98.5% of the sample reported using herbals for therapeutic purposes. The mean of herbs used/participant was 2.9 with amedian of 2 herbs/participant and a range of 0-11 herbs, about 77% of the sample used more than one herb during their pregnancy. There were no statistically significant difference in median herbs used among women from different regions of Saudi Arabia (Kruskal-Wallis adjusted $H=5.33$, $df=4$ $p=0.26$) or different educational levels (Mann-Whitney $Z=1.7$ $p=0.089$). For the herbs with evidence of harm or lack evidence of safety, the mean was 2.3 herb/participant with a median of 2 herbs/woman and a range of 0-8 herbs, There were no statistically significant difference in median herbs used among women from different region (Kruskal-Wallis adjusted $H=5.32$, $df=4$ $p=0.26$) or educational levels (Mann-Whitney $Z=1.68$ $p=0.1$).

DISCUSSION:

This is the first study to investigate the prevalence, patterns, and beliefs toward the use of herbal remedies during pregnancy in Saudi Arabia, In this study the percentage of women who used herbs (98.5%) was much higher than the previous study conducted in Al-Taif

province of Saudi Arabia ⁽⁹⁾. This may be attributed to the use of open-ended question in the previous study while asking about specific herbs in this study besides using an open-ended question. The percentage was also higher than the studies conducted in other countries which reported percentages ranging from 19-67.5% ^(2-4, 6). The reported rate of herbals use (2.9 herbs per woman) was also higher than the previously reported rates 1.2, 1.6 and 1.7 herbs per participant respectively observed in the United Kingdom and Norway ⁽³⁻⁵⁾.

Concerning to awareness about herbal medicines use, 79.5% of the participants believed that herbs may interact with conventional medicines while only 8.3% had the same belief in the Nigerian study which could be considered as a high level of awareness about this issue in Saudi Arabia ⁽²⁾. Thirty percent of the participants believed that herbs are safer than conventional medicines, a percentage which is higher than the reported in a previous study on Hispanic population (22%) but much lower than a recently published Palestinian study (82%) ⁽⁶⁾. For efficacy, the percentage of participants who believe in the superiority of herbs were much lower than the reported in the Hispanic study (1.5%,20% respectively) ⁽⁸⁾. About information sources, the majority of the study participants recognized Physicians (49.9%) and Family/friends (29.5%) as the most reliable information source of herbal medicine. Only 2% believed

that Pharmacists are reliable in this aspect, while in similar Norwegian and British studies 52.3% and 38.3% of the participants respectively believed in them^(3,4). Thus, our results reflect the underestimation of Pharmacist' role as herbals information providers in Saudi Arabia.

Interestingly, the majority of herbs used by study participants were either with evidence of harm in pregnancy or lacking evidence of safety. Peppermint was the most commonly used herb among study participants, it was previously reported peppermint do not increase the risk of low birth weight⁽¹⁰⁾. However, it was previously recommended to be avoided in pregnancy due to its documented emmenagogue effect⁽¹¹⁾.

This study is not free of limitations; larger sample size may be needed to accurately represent the whole Saudi population, a limited number of participants was from the northern and southern regions. The majority of the participants were university graduates due to internet-based recruitment strategy, a hospital or health centers-based recruitment in future studies may result in better representation of the non-educated or illiterate women. However, no statistically significant differences in study outcomes were found among different regions or educational levels which may reflect a public health issue. Besides, there was no data about the quality, doses, frequency and indications of the herbs used by participants.

CONCLUSION:

Use of herbs that are potentially harmful or lack evidence of safety is very common among pregnant in Saudi Arabia with underestimation of Pharmacists' role as information providers. More efforts are required to increase the awareness among the public and health-care professionals in this aspect.

Conflict of interest:

There are no conflicts of interest

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