



Prevalance, Knowledge and Attitudes of Primary Care Physicians on Use of Herbal Preparations in Pregnancy

Elif Oğuz¹, Berna Terzioğlu Bebitoğlu, Gökçe Acet

¹ Department of Medical Pharmacology, Faculty of Medicine, Istanbul Medeniyet University, Istanbul, Turkey

ABSTRACT

Aim: The use of herbal preparations (HPs) without considering teratogenicity potential can lead to significant health problems in pregnant women. Knowledge and attitudes of primary care physicians where pregnant women frequently consult are of great importance for patient safety. The aim of this study was to evaluate the knowledge and attitudes of primary care physicians toward HPs used during pregnancy.

Methods: The cross-sectional study was conducted with 107 physicians working in family health centers in Istanbul. A self-administered questionnaire was used after getting ethics committee approval.

Results: The most of physicians emphasized that the pregnant women rarely asked them for consultation of HPs use (68,2%). 29,9 % of the physicians stated that they do not inquire HPs use in pregnant patients before prescribing. Only 6,5% of the physicians preferred to recommend HPs. 21% of the physicians believe that the pregnant women should never use any HPs. Most of the physicians (76,6%) stated that they have insufficient knowledge for advising or prescribing any of HPs. 40,2% of the physicians think that HPs are benefit and 69,2% that the patients prefer these products because they find them harmless. Only one of the participants think there are appropriate conditions for the safe supply of herbal products

Discussion: Our results showed that primary care physicians do not find themselves qualified enough to give consultancy services about the herbal remedies and they are uncertain about the content of herbal preparations.

ARTICLE HISTORY

Received February 24 2020,

Accepted March 18,2020

Published August 25, 2020

KEYWORDS

Primary Care Physicians, HPs, fetal health.

INTRODUCTION

The use of traditional medicine is increasing which includes herbal preparations (HPs), for the management of health. The popularity of HPs is in an unprecedented explosion during the last few decades especially in developed countries since it has been stated that high health literacy level is also an important factor leading to use of HPs [1,2]. Especially, medicinal herbs as botanical drugs, teas, dietary supplements or indigenous formulation containing herbs, are used as HP in pregnant women (3,4,5). Literature documents are relatively poor and the use of HPs is mostly traditionally passed to younger generation. The HPs are popular among pregnant women since it has been believed that they are natural, free of any adverse effect and

therefore are safer alternatives to conventional medicine. The absence of strict regulations also leads to an increase in the HPs especially in pregnant women. Although usage of HPs is very high during pregnancy, there is not enough data about their side effect on maternal and fetal health [6]. Excessive and unnecessary use of HPs or interactions with prescribed medications may cause unknown effects in pregnancy and also serious complications in the fetus. The increasing use of HPs by pregnant women without consulting to their healthcare provider put their own and the unborn child's health at risk due to a lack of knowledge about HPs [7-10]. In a study conducted in Turkey it was found that 41.1% of the pregnant participants used conventional and alternative medicine

Contact Elif Oğuz Istanbul Medeniyet University, Istanbul, Turkey eoguz73@yahoo.com ; elif.oguz@medeniyet.edu.tr Tel: +905074428544

2020 The Authors. This is an open access article under the terms of the Creative Commons Attribution Non Commercial Share Alike 4.0 (<https://creativecommons.org/licenses/by-nc-sa/4.0/>)

methods, primarily HPs (36.5%) for health complaints including nausea, gastralgia, anaemia, sore throat and common cold. About half of them believed that it was safe to use herbal therapies during pregnancy and did not inform healthcare staff [11]. Lack of physician-patient communication regarding use of HPs may have undesirable results, since the patients will not be informed for potential interactions of HPs with pharmaceuticals and also therapeutic benefits or side effects of HPs [12,13]. Knowledge and attitudes of primary care physicians where pregnant women frequently consult are of great importance for patient safety. The aim of this study was to evaluate the knowledge and attitudes of primary care physicians toward herbal medicines used during pregnancy. This first report regarding the knowledge and attitudes of physicians working in family health centers about the use of HPs in pregnant women is important in terms of giving an idea what to do about this field in Turkey.

METHOD

The cross-sectional study was conducted with physicians working in family health centers in Istanbul. A self-administered questionnaire including 27 questions was made to physicians working in family health centers in İstanbul after getting ethics committee approval. In the case of physicians, demographic information such as age, sex, working year, were obtained. Multichoice questions regarding use, safety, knowledge and training of the physicians in the area of HP use were also included. The questionnaire was prepared by making use of the studies on this subject and was pre-tested among five physicians before distribution to the responders.

The obtained responses were evaluated by using descriptive statistics.

RESULTS

The survey was sent by mail or made face to face to 107 family physicians who agreed to participate the study.

The demographic features of responders are listed in table 1. The majority of respondents were over the age of 30, most had been in practice for over 20 years and 57,9% were male (Table 1).

The most of physicians emphasized that the pregnant women rarely asked them for consultation of HPs use (68,2%) and 10 of them (9,3%) said that they never requested, whereas 24 (22,4%) of them responded as it was often. A 29,9% of the physicians stated that they do not ask to pregnant women use of HPs while prescribing medication. Only 6,5% of the physicians preferred to recommend HPs and the majority of them not inform the patient about where they should obtain these products. 21% of the physicians believe that the pregnant women should never use any HPs. (Table 2). The content, form and

price of the preparations they recommended are also presented on Table 2.

When asked about their current knowledge for consultation of HPs of 76,6% of respondents were The majority of the physicians (85%) think that they did not have sufficient medical education regarding HPs. They mostly use the internet to have information about HPs. They stated that they respond the patients' consults for the HPs according to their medical education (32,7%) and scientific articles (%31,8) (Table 3).

The majority of physicians think that medicinal or traditional HPs are benefit (40,2%) whereas a considerable majority (31,8%) thinks they have placebo effect. Most of the physicians (69,2%) think that the patients prefer these products because they find them harmless. Only 4,7% of the physicians stated that they experienced the side effects related on the HPs they recommended but higher (17,8%). in patients' own use. An important finding in this study is that only one of the participants think there are appropriate conditions for the safe supply of herbal products (Table 4).

DISCUSSION

Pregnant women usually think that herbal products are more safe and natural alternative to conventional drugs and often use them to improve their wellbeing or for the treatment of non-life threatening conditions (1,14). In this study most of the physicians think that HPs are benefit (40.2%) , however, think of placebo effect was the second highest rate (30.8%).

HPs may be any plant-derived product (ie, leaves, roots, flowers), in any form for internal or external use [15]. A few of the physicians had comment (24.3) on what kind of herbal product they prefer for pregnant women and the most of responders (7.5) stated that they prefer external preparations. The number of those who responded the range of the cost of HPs they preferred was also low (16.8%) and high cost product was not preferred. For a controlled use, HPs need to be marketed as herbal drugs under regulatory surveillance [16]. In Turkey, herbal remedy is freely available to all residents through herbal shops or internet, besides pharmacies. Therefore, the majority of the patients may prefer herbal shops to get HPs those do not have suitable conditions for storage and have the possibility of misinformation about HPs. In this study, it is an important result that the physicians who suggested where to get HPs mostly directed the pregnant women to pharmacies.

The experience of side effect was only 4.7% related to HPs those the physicians recommended HPs whereas it was 17.8% in self used. Only one of the responders (0.9%) thinks there are appropriate conditions for the safe supply of herbal products, they recommend to pregnant women or that they

use themselves, however, 41.2% had no idea. Moreover, physicians should not forget to ask pregnant women if they use HPs before prescribing any drug. In this study the rate of physicians reported that they always ask whether the pregnant patients the use of any herbal product while prescribing medication was with a low rate (29 %) compared to the study of Clement et. Al (55.7 %) [17] whereas similar compared to the study of Lisk J [18] that 28% of the responders routinely asked patients about HPs. In a recent study although the majority of physicians acknowledged (56% agreed and 31% strongly agreed) that physicians should routinely ask their patients about HPs use, the highest percentage of physicians (42%) responded that they directly ask patients about their use of HPs.

The proper communication between the physicians and their patients is important to ensure their health and safety. The pregnant women will use HPs with less risk if they get information from the physicians. So, the physicians should have sufficient knowledge regarding HPs and know how to access correct and updated information when it is necessary. The results of the current survey indicate that the vast majority of responders lack knowledge regarding HPs. It was seen that 76.6% of the responders do not feel confident for consultation of HPs and a larger (81.3) do not feel confident for advice and prescribing HPs to pregnant women regarding their current knowledge. Only 6.5% of them said that they recommend HPs to pregnant patients and stated that they preferred chamomile tea, linden tea fennel tea and rosehip tea. This first report regarding the use of HPs by physicians working in family health centers in Istanbul in pregnant women shows that they are reluctant to refer for HPs. Similarly in recent studies conducted in physicians dealing with allergic diseases in Turkey (10.3) (19) and also in surgeons and anaesthesiologists in Hungary (10.1) recommendation of HPs was low [20]. The physicians lack confidence and have significant concerns regarding the use of HPs for pregnant women. In this study, 65.4% of the responders said that unknown the quality and content of the products, and insufficient scientific literature prevent them from recommending herbal products. Similar to our study, Clement et al also stated that the lack of scientific information of the physicians was the most proposed reason (39.1%) for rejecting HPs. But it was presented that the medico-legal issues of prescribing this modality in the public healthcare delivery system prevented them much lesser, whereas it was almost the same rate as lack of information (64.5%) in our study.

Most of the responders indicated that they have not received adequate training on the use of HPs in the medical education process and a majority of them

(85%) were lack of knowledge about HPs. A previously study in Turkey, also showed that most of the physicians feel insufficient their knowledge and education in medical schools on HPs (21). So, there has not been much progress in the training on the use of HPs in Turkey yet. The studies in other countries shows similar results. A study conducted in Lisbon 61.5% of the physicians working in National Health System expressed that they were unaware of traditional herbal medicinal products [22]. A survey study included attending physicians, resident physicians, and medical students showed that the trainings is not enough for herbal toxicities and drug interactions [23].

Recently a lot of research has been done about the effects and toxicities of HPs and to access updated information is important as well as education process. In this study 69.2 of the responders think that there is not enough resource to learn about the safety of using HPs for pregnant women. Only 9.3% of the responders stated that the source of their information about HPs was training after graduation and much lesser (2.8%) of them think that there are enough resources to learn about the safety of using herbal products for pregnant women. This outcome is not surprising and is in line with previously reported data. In a survey study conducted at six public hospitals in Trinidad, it was presented that only 9.4% of responders had access to information on herbal medicine and 15.6% had ever attended conferences or workshops where a paper on herbal medicine was presented or discussed. Additionally most responders (81.3%) believed that continuing education in herbal medicine was important [24]. The knowledge and qualification of practitioners have a direct bearing on patient safety. The ways in which traditional and complementary practitioners obtain their knowledge and skills vary between countries. In some countries, some traditional and complementary practices have become established and practitioners are required to complete an official education/training programme. Some countries have lists of essential traditional andherbal medicines. India and Indonesia contributed the International Regulatory Cooperation for Herbal Medicines (IRCH) [25, 26]. For instance, in many European countries and in North America, chiropractic, naturopathic, herbal and osteopathy practitioners must be educated in university-level programmes. In addition to education/training, many countries have drawn up regulations for traditional and complementary practitioners. However, in many developing countries, and also Turkey the knowledge on traditional and complementary treatment including HPs have been transferred from generation to generation orally, making it difficult to identify qualified practitioners. All the countries should

consider their own situation, and identify their specific needs and we think that a standard treatment guideline for use of HPs and a list of HPs should be published for Turkey.

This study is limited by the relatively low number of responders, although this proportion is similar to previous report. The data was collected from 107 family physicians in İstanbul, therefore it does not represent the entire population of family physicians in İstanbul and also the findings cannot be extrapolated to whole country. The strength of this study lies in the implementation of a comprehensive survey that prepared by examining previous studies. This is the first report regarding the use of HPs in pregnant women by physicians working in family health centers in İstanbul.

CONFLICT OF INTEREST

We declare that there is no conflict of interest.

FUNDING

There is no funding.

REFERENCES

- Allaire AD. Complementary and alternative medicine in the labor and delivery suite. *Clin Obstet Gynecol.* 2001; 44: 681–91.
- Barnes LAJ, Barclay L, McCaffery K, Aslani P. Factors influencing women's decision-making regarding complementary medicine product use in pregnancy and lactation. *BMC Pregnancy Childbirth.* 2019;19(1):280.
- Sammons HM, Gubarev MI, Krepkova LV, Bortnikova VV, Corrick F, Job KM, et al. Herbal medicines: challenges in the modern world. Part 2. European Union and Russia. *Expert Rev. Clin. Pharmacol.* 2016;9 (8):1117–27.
- Teng L, Zu Q, Li G, Yu T, Job KM, Yang X, Di L et al. Herbal medicines: challenges in the modern world. Part 3. China and Japan. *Expert Rev. Clin. Pharmacol.* 2016;9 (9), 1225–33.
- Enioutina EY, Salis ER, Job KM, Gubarev MI, Krepkova LV, Sherwin CM. Herbal Medicines: challenges in the modern world. Part 5. status and current directions of complementary and alternative herbal medicine worldwide. *Expert Rev. Clin. Pharmacol.* 2017;10 (3):327–38.
- Boltman-Binkowski H. A systematic review: Are herbal and homeopathic remedies used during pregnancy safe? *Curationis.* 2016;39(1):1514.
- Mabina MH, Pitsoe SB, Moodley J. The effect of traditional herbal medicines on pregnancy outcome. *The King Edward VIII Hospital experience. S. Afr. Med. J.* 1997;87 (8): 1008–10
- Zafar S, Najam Y, Arif Z, Hafeez A. A randomized controlled trial comparing Pentazocine and Chamomilla recutita for labor pain relief. *Homeopathy* 2016;105 (1): 66–70. 10.
- Chan LY, Chiu PY, Lau TK. An in-vitro study of ginsenoside Rb1-induced teratogenicity using a whole rat embryo culture model. *Hum. Reprod.* 2003;18 (10):2166–68.
- Joulaeerad N, Ozgoli G, Hajimehdipoor H, Ghasemi, E, Salehimoghaddam F. Effect of aromatherapy with peppermint oil on the severity of nausea and vomiting in pregnancy: a single-blind, randomized, placebo-controlled trial. *J. Reprod. Infertil.* 2018;19 (1):32–8.
- Koç Z, Sağlam Z, Topatan S. Determination of the usage of complementary and alternativemedicine among pregnant women in the Northern Region of Turkey *Collegian* 2017;24: 533–39.
- McCune JS, Hatfield AJ, Blackburn AA, Leith PO, Livingston RB, Ellis GK. Potential of chemotherapy-herb interactions in adult cancer patients. *Support Care Cancer.* 2004;12(6):454–62.
- Davis EL, Oh B, Butow PN, Mullan BA, Clarke S. Cancer patient disclosure and patient-doctor communication of complementary and alternative medicine use: a systematic review. *Oncologist.* 2012;17(11): 1475–81.
- Frawley J, Adams J, Steel A, Broom A, Gallois C, Sibbritt, D. Women's use and self-prescription of herbal medicine during pregnancy: an examination of 1,835 Pregnant Women. *Women's Health Issues.* 2015; 25 (4):396–402.
- Muñoz Balbontín Y, Stewart D, Shetty A, Fitton CA, McLay JS. Herbal Medicinal Product Use During Pregnancy and the Postnatal Period: A Systematic Review. *Obstet Gynecol.* 2019;133(5):920-32.
- Teschke R, Eickhoff A. Herbal hepatotoxicity in traditional and modern medicine: actual key issues and new encouraging steps. *Front Pharmacol.* 2015; 2:6:72.
- Clement YN, Williams AF, Khan K, Bernard T, Bholra S, Fortuné M, Medupe O, Nagee K, Seaforth CE. A gap between acceptance and knowledge of herbal remedies by physicians: the need for educational intervention. *BMC Complement Altern Med.* 2005;18:5:2.
- Lisk C. Food for thought in an doctors' knowledge of herbal medicines needs to be better. *Acute Med.* 2012;11(3):134-7.
- Argüder E, Yilmaz I, Ateş C, Misirligil Z, Baybek S. Self-reported knowledge and approaches toward complementary and alternative medicine among physicians dealing with allergic diseases. *Am J Chin Med.* 2012;40(4):671-83.
- Soós SÁ, Jeszenői N, Darvas K Harsányi L. Complementary and alternative medicine: attitudes, knowledge and use among surgeons and anaesthesiologists in Hungary *BMC Complement Altern Med.* 2016; 8;16(1):443

21. Ozcakir A, Sadikoglu G, Bayram N, Mazicioglu MM, Bilgel N, Beyhan I. Turkish general practitioners and complementary/alternative medicine. *J Altern Complement Med.* 2007;13(9):1007-10.
22. Suchard JR, Suchard MA, Steinfeldt JL. Physician knowledge of herbal toxicities and adverse herb-drug interactions. *Eur J Emerg Med.* 2004;11(4):193-7.
23. Lisk C. Food for thought in an doctors' knowledge of herbal medicines needs to be better. *Acute Med.* 2012;11(3):134-7.
24. Patel SJ, Kemper KJ, Kitzmiller JP. Physician perspectives on education, training, and implementation of complementary and alternative medicine. *Adv Med Educ Pract.* 2017;25(8):499-503.
25. World Health Organization. Progress report on decade of traditional medicine in the Africa region. Brazzaville, WHO African Region (AFRO), AFR/RC61/PR/2, 5 July 2011.
26. World Health Organization. Development of traditional medicine in the South-East Asia Region (communication with WHO). New Delhi, WHO South-East Asia Regional Office (SEARO), progress report, 2012.

TABLES

Table 1: Demographic Characteristics of Family Physicians Completing the Survey Study

Characteristics		N (%)
Gender	Male	62 (57,9)
	Female	45 (42,1)
Age	<30	13 (12,1)
	30-40	34 (31,8)
	40-50	35 (32,7)
	>50	25 (23,4)
Years in Practice	1-5	15 (14,0)
	6-10	23 (21,5)
	11-15	24 (22,4)
	16-20	11 (10,3)
	>20	34 (31,8)

Table 2: The responses of physicians regarding their attitudes about use and providing HPs.

Survey Question and response	N	%
Do you ask whether your patients use any herbal product while prescribing medication?		
Yes	31	29.0
No	32	29.9
Sometimes	44	41.1
What is your opinion about the use of herbal products of pregnant patients?		
They should never use	21	19.6
If the doctor suggested, they can use	45	42.1
Sometimes I recommend too	11	10.3
I have no information on the subject	30	28.0
Did you ever recommend any medicinal herbal product to your pregnant patients?		
Yes	7	6.5
No	94	87.9
No comment	6	5.6
*What are the conditions that prevent you from recommending herbal products?		
Unknown the quality and content of the products	70	65.4
No Ministry of Health approval	69	64.5
Insufficient scientific literature	70	65.4
Insufficient knowledge about the subject	70	65.4

Inadequate therapeutic effectiveness	10	5.4
Other	4	3.7
Which product do you prefer if you suggested HPs? (We asked to response this question if they signed yes for previous question)		
Chamomile tea	3	21,4
Linden tea	3	21,4
Fennel tea	3	21,4
Rosehip tea	3	21,4
Mixed herbal tea	2	14,2
What kind of herbal products do you prefer in pregnant women?		
Externally used products	8	7.5
Oral products	5	4.7
Medicinal teas	5	4.7
Other	5	8
No comment	81	75.7
What is the monthly cost of the herbal product that you recommend?		
<50 TL	11	10.3
50-250	6	5.6
>250	1	0.9
No comment	89	83.2
*Where do you suggest to get herbal preparations that you recommend to pregnant women?		
Pharmacy	35	32.7
Herbal shops	11	10.3
Private workplaces selling herbal products	6	5.6
I dont suggest	65	60.7

*Multiple choice is allowed

TL: Turkish lira

Table 3: The responses of physicians about their knowledge, training and access to required knowledge of HPs.

Survey Question and response	N	%
Do you feel confident (sufficient) regarding your current knowledge for consultation of herbal products?		
Confident	6	5.6
Somewhat confident	19	17.8
Not confident	82	76.6
Do you feel confident (sufficient) regarding your current knowledge for advice and prescribing herbal products?		
Confident	3	2.8
Somewhat confident	17	15.9
Not confident.	87	81.3
Do you think that the medical education you received about herbal products is sufficient?		
Yes	3	2.5
Partially	7	6.5
No	91	85
No idea	6	6
*What is the source of your information about herbal products?		
Medical School	23	21.5
Media, Internet	68	63.6
Traditional use	33	30.8

Training after graduation	10	9.3
*When a pregnant patient consults you about herbal products, based on which sources do you respond?		
Internet sites	26	24.3
Medical education	35	32.7
Scientific articles	34	31.8
Evidence-based information systems	17	15.9
I'm referring to another specialist	22	20.6
I do not answer, I do not know about the subject	37	34.6
Other	2	1.9
Is there enough resources to learn about the safety of using herbal products for pregnant women?		
Yes	3	2.8
Yes, but access is restricted	7	6.5
No	74	69.2
No idea	23	21.5

*Multiple choice is allowed

Table 4: The responses of physicians regarding their opinion about the efficacy and safety of HPs.

Survey Question and response		
What do you think about the curative effect of medicinal or traditional herbal products?		
Benefit	43	40.2
Ineffective	14	13.1
Harmful	8	7.5
Placebo effect	34	31.8
Other	16	15
What do you think the patients prefer the use of herbal products?		
They find synthetic products harmful	55	51,4
When modern medicine is desperate	40	37,4
Because they think they are harmless	74	69,2
Religionial belief	20	18,7
Trust in nature	50	
Have you experienced the side effects of any herbal product you recommend in pregnant women?		
Yes	5	4.7
No	89	83.2
No comment	13	12.1
Have you experniced the side effects of herbal products used by pregnant women?		
Yes	19	17.8
No	80	74.8
No comment	7	6.5
Do you think there are appropriate conditions for the safe supply of herbal products that you recommend to pregnant women or that they use themselves?		
Yes	1	0.9
No	62	57.9
No idea	44	41.2