

Original Article

Use of natural herbal products in Kırıkkale, Turkey

Kırıkkale, Türkiye’de doğal bitkisel ürünlerin kullanımı

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ABSTRACT

Aim: Although herbal products are widely used for different reasons in the community, knowledge on the diversity and side effects are not well known. In this study we evaluated the approaches and practices of adults for natural herbal products.

Material and Methods: The study group of this cross-sectional study was consisted of the mothers/fathers of the children admitted to the Kırıkkale University Pediatrics Department. The data was collected by the self-filled questionnaires consisting of 55 questions.

Results: A total of 409 persons, 108 (26.4%) male and 301 (73.6%) female were attended. The mean age of the participants was 35.35 (min 20, max 82) years and the average number of children they have was 2.29 and 70.7% had schooling for more than 8 years. Among all, 37.3% stated that they know at least one natural herbal product (herbal tea/natural drug). The most well-known among them were sideritis (55.1%) and green tea (29.7%). Over the last year 28.4% (14.3% more than one product) used herbals for themselves and 24% (8.7% more than one product) for their children. Cough was the most common complaint for herbal usage for themselves and their children. The usage of these products showed no difference according to sex, age and literacy levels ($P > 0.05$). Only a few of the participants stated that they had many benefits from these herbal products (21.2% for themselves and 22.4% for their children respectively).

Conclusion: Many of these applications, including the side effects, can change the effectiveness of traditional usage. We want to emphasize the importance of creating an awareness on potential benefits and/or harms of the herbal products not only for community but also among medical personnel.

Keywords: Children, parents, herbal medicine, health benefit

ÖZ

Amaç: Bitkisel ürünler toplumda farklı nedenlerle yaygın olarak kullanılmalarına rağmen, bu ürünlerin çeşitliliği ve yan etkileri bilgisi yeterli değildir. Bu çalışmada, erişkinlerin doğal bitkisel ürünlere yaklaşımları ve bu konudaki pratikleri değerlendirilmiştir.

Gereç ve Yöntemler: Bu kesitsel çalışmada, çalışma grubu, Kırıkkale Üniversitesi Çocuk Sağlığı ve Hastalıkları Bölümü’ne başvuran hastaların anne/babalardan (n=409) oluşmuştur. Veriler, kendilerinin doldurduğu ankette sorulan 55 sorudan elde edilmiştir.

Bulgular: Tümü içinde, %37,3’ü, en az bir bitkisel ürünü (bitkisel çay/doğal ilaç) bildiğini belirtmiştir. En iyi bilinen ürünler adaçayı (%55,1) ve yeşil çaydır (%29,7). Geçen yıl %28,4’ü kendileri için (%14,3’ü birden fazla ürün) ve %24’ü çocukları için (%8,7’si birden fazla ürün) bitkisel ürün kullanmıştır. Kendileri ve çocuklarında bitkisel ürün kullanımı için en yaygın nedenler öksürük idi. Bu ürünlerin kullanımı, cinsiyet, yaş ve okuryazarlık düzeylerine göre farklılık göstermemiştir ($P > 0,05$). Katılımcıların sadece bir kısmı, bu bitkisel ürünlerden çok fayda gördüklerini belirtmişlerdir (sırasıyla kendileri için %21,2 ve çocukları için %22,4).

Sonuçlar: Bu uygulamaların birçoğu, insanlara zarar vermek de dahil olmak üzere, geleneksel tedavinin etkinliğini değiştirebilir. Biz, bitkisel ürünlerin kullanımı, potansiyel yararları ve/veya zararları konusunda, sadece toplumda değil, aynı zamanda sağlık çalışanları arasında farkındalık yaratmanın önemini vurgulamak istiyoruz.

Anahtar kelimeler: Çocuklar, ebeveynler, bitkisel tıp, sağlık yararlılığı.

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Introduction

Herbal natural products are confronted as a part of complementary and alternative medicine (CAM). Herbal product is termed as the whole or components of (leaf, root, stem etc.) one herb or a product that forms from multiple herbs, meanwhile herbal drug is defined as medical product and ready-made drug that comprise of herbal drug extracts as the sovereign and produced via good manufacturing product rules [1].

Usage of phytotherapy was confronted as a part of medicine in ancient history, especially in shamanism. In reports, it was realized that the first western-style herbal products were being used in 3000 BC (Bronze age) and also bay leaf, cumin and thyme were used as a treatment material in Sumerians. First known medical herbs book was published in Chinese at 2700 BC and it could also be seen as early as 300 BC, on Hippocrates's suggestions about the necessity of the protection of health which was based on relaxation, proper diet and simple herbs [2,3]. Nowadays, herbal products help million people on protection and promotion of health all around the world. Moreover, in some countries they are the only source of the health system. Reports of World Health Organization (WHO) show that 70-80% of the world population, where developing countries and native societies (Africa) are especially included, use or benefit from this products of the primary health care applications [4-6]. Hospital-based studies conducted in Turkey showed that a considerable amount of these products were being used. For instance, a study held in Uludağ University revealed that 42.2% of the mothers whose kids were suffering from a kind of chronic diseases, used at least one CAM method and herbal products were on the first line [7]. Another study which is conducted in South-East Anatolia, showed that the rate of CAM usage was 58.6% (among all methods herbal product usage was 82.7%) [8].

Utilization of herbal products that have uncorroborated health effect/risks, may result in unsolicited status. In terms of pharmacognosy, proper collection of the herb, detection of an active substance, surveillance of heavy metal and microbes and proper information about to use are so important and if a failure to comply these procedure occurs, there will be loads of health risks, as notified. Because of having phytochemical substances, direct damage of herbal products are hypertension, prolonged bleeding time and potential drug/product interactions [9]. However, many families use these products in their children treatments just because they don't want to use medical drugs or they have beliefs that herbal products are useful than the medical drugs.

Utilization of these products are common in population, however population has no sufficient information about diversity, side effects and damages of these products. Therefore, the aim of this study was to evaluate the approaches and practices of adults for natural herbal products.

Material and Methods

This cross-sectional study was conducted between August 2013 and February 2014 according to the rules outlined in the Declaration of Helsinki. Participants of the study were mother/fathers and/or the person whom were accompanied with the children, those applied to the Kirikkale University Hospital, Pediatrics Policlinics. Data were collected by a self-filled questionnaire containing 55 questions. An information about this study was given to the parents, and those who accepted to participate, filled the form with the guidance of researchers. The questionnaire was consisted of 22 questions about the socio-demographic status, 12 questions about the vitamin usage and 21 questions about CAM. Data were evaluated in SPSS 16.0 programme. Descriptive statistics and chi-square tests were used for the analyses and limit of significance was accepted as $P < 0.05$.

Results

Demographic features

Four hundred and nine participants, 108 (26.4%) male and 301 (73.6%) female were attended to this study. Average age of the participants was 35.35 (range: 20-82) and the average number of children they had was 2.29 (Table 1). 82% of the group can satisfy their daily needs. Among all, 49.1% had 8 years and under schooling.

Table 1. Demographic characteristics of the study group

	n	Minimum	Maximum	Mean \pm SD
Age	409	20.00	82.00	35.35 \pm 9.21
Number of children	409	1.00	7.00	2.29 \pm 0.95
House members	409	1.00	13.00	4.11 \pm 1.39

69.2% of the group members indicate that they don't have any health problems, moreover, 68.2% of the group members also indicate that their children don't have any health problems.

Status of herbal products usage and influencing factors

62.5% of the group members were accepting themselves as normal weighted, 9.7% as thin and 27% as overweight/obese. Among all, 53.7% were satisfied with their body image. 6.2% of the members were using herbal products to lose weight. There was no significant difference between the parent's acceptance of their body image.



In the recent year, 28.4% of the research group members (14.3% for >1 product) used a herbal product for themselves and %24 (%8.7 for >1 product) for their children. Cough was the main cause for using herbal products both for themselves and their children (Table 2). There were no significant differences between the usage of herbal products and variables such as age group, sex and education level ($P > 0.05$). Mothers and/or mother in laws were the group who advised to use these products mostly (23.8% and 32.1% respectively). These products were recommended by the doctors in 16.4% of participants for their children and in 14.7% for themselves. Among those who used the herbal products for themselves only 29.3% mentioned this to their doctors. When only the health workers taken into account, 26.2 % of them used herbal products once or twice for themselves and 15.5% for their children. There was no significant relationship between the usages of herbal products and being a health worker or not (Table 3). Only a few of the participants stated that they had great benefit from these herbal products (21.2% for themselves and 22.4% for their children respectively) (Table 4).

Table 2. Reasons for using the herbal product in research group for

Reasons for using the product	For themselves n%	For their children n%
Cough	52.0	60.6
Constipation	13.2	11.5
Headache	6.2	0.6
Gas pains	1.8	6.1
Diarrhea	4.0	6.1
Stomachache	2.6	3.6
Dental problems	0.2	2.4
For reducing fever	0.0	2.4
For decreasing blood pressure	4.8	0.0

Table 3. Relationship between sex and profession with reason for using herbal products in the research group

	Treatment of health problem		Stress reliever / relaxant		Loss of weight / care		P
	n	%	n	%	n	%	
Sex							
Male	46	97.9	0	0.0	1	2.1	$\chi^2 = 5.282$ $P = 0.071$
Female	145	85.8	4	2.4	20	11.8	
Profession							
Doctor/nurse	42	93.3	0	0.0	3	6.7	$\chi^2 = 1.755$ $P = 0.416$
Other	155	87.1	4	2.2	19	10.7	

Table 4. Rates for using herbal products in research group and statement of benefit*

	For themselves		For children	
	n	%	n	%
I used herbal products	105	28.4	80	24.0
Not even beneficial	41	17.4	26	15.8
Yes, but limited benefit	134	56.8	97	58.8
Yes, very useful	50	21.2	37	22.4

*The missing values were not included

37.3% of research group indicated that there was a natural/herbal drug/product/tea that would be beneficial for health. The most known herbal products were sage (55.1%) and green tea (29.7%). However, majority of the study group answered the questions related to the knowledge as "I do not know" or mentioned the unexpected answers (Table 5). Among all, 53% stated that these products might have side-effects, whereas only 8.5% apprise that these products would have no side effects.

Table 5. Ideas about herbal products in the research group

	Yes		I don't know		No	
	n	%	n	%	n	%
Do the herbal products interfere with medical drugs?	101	26.1	225	58.1	59	15.8
Because of having a natural trait, it won't be a problem using these products	103	26.8	163	42.3	117	30.9
These herbal products may be harmful to health	205	53.0	149	38.5	33	8.5

Majority of the group (58.1%) answered the question "Do the herbal products interfere with medical drugs?" as "I don't know" 26.1% as yes and 15.8% as no.

Discussion

It has been thought that there is an increased tendency in using herbal products in recent years. Individual factors such as tendency in "individual problem solving" [10], increase in the perception that "the herbal products would not give harm to health as they are natural" [11] are the factors effecting the usage to these products. However, within the changing world the increase of investing in CAM area including herbal products, may have influence the growing use of these yields [12]. United States of America (USA) spends 60 billion dollars for this sector every year [13]. Herbal products are used as medicament (drug) and they are offered to the society by people and/or foundations which have no well-described "competence". As the mass-media found this topic very attractive and separate huge place for it, the interest of the community increases. Promotion and sale campaigning on the radios, exaggerated natural/harmless expression on the TVs and nearly "prescribed", articles which are published on the newspaper supplements may help people to use these products.

Frequencies of usage for these products may vary across populations. A study from Malaysia with 1601 subjects, showed that 33.9% of the participants were using these products [14]. In a research in Turkey among 120 cancer patient under-18 years of age, the rate of using a method of CAM at least once was 73.3% [15]. According to the WHO 2013-2014 strategy plan, there was no significant difference in utilization of traditional methods between the countries, where the reason for the usage differed [6]. For instance, traditional methods were the only health system option for African countries, whereas, countries like Singapore and South Korea that the western approach is well-established, 76-86% of the population were still using traditional methods [6].

Heuschkel, et al [16] showed that, 41% of the children and adolescents in USA and United Kingdom (UK) were using supplementary and alternative products which are mostly megavitamins, diet supplementary and herbal products. In Saudi Arabia, it was shown that, 65% of the women participants were using these products for themselves and 42% for their children [17]. Unlike from the others, consumption of herbal products in our study group was lower 28.4% (14.3% more than one product) for themselves and %24 (%8.7 more than one product) for their children, respectively.

In a study performed in USA, with 45,748 participants aged 50-75 years, found out that, most of the herbal product users were women in old ages, with higher state of education and with normal body mass index (BMI) compared to the others [18]. In our study, there was no significant differences between usage of herbal products and confounders like age group, sex and education level ($P > 0,05$).

A considerable amount of herbal products are being used in communities. The most common reasons to use these products in children were as follows; teething and colic problems of babies, menstrual and behavioral disorders in puberty, nutrition disorders such as obesity/anorexia, respiratory tract disorders, sleeping disorders, mood disorders such as depression and hyperactivity and allergic problems such as eczema and asthma [1]. A study from Italy conducted among 4 to 16 years old children demonstrated that for 76% of the children with head-ache alternative methods were used, especially herbal products (64%) [19]. Our results revealed that, 29.6% (%10.3 more than one product) of the group members used natural products for their children, where cough and constipation were the main causes both for adults and children (Table 2). Headache compromised only 0.6% of the reasons in our study. Unlikely our results, another study from Turkey revealed that 87% of the families from low socioeconomic areas use CAM for healing and the main cause for usage was constipation like our results [20].

Utilization of herbal products that have uncorroborated health effect/risks, may result in unsolicited status. Herbal products

can lead to toxicity, if it would interfere with the drugs used. It is declared that, approximately 100,000 deaths/year are caused because of this reason [21,22]. Clinical trials which is related with a well-known herbal product, St. John's Wort (*Hypericum perforatum* in Latin, named as tutsan, blood root, klammathweed in populations), emphasized the interference of this product with many drugs, such as alprazolam, amitriptyline, atorvastatine, chlorzoxazone, cyclosporine, debrisoquine, digoxin and erythromycin (could decrease the plasma concentration and/or increase the clearance). In accordance with this statement, a Taiwan study conducted with 424 patients who had renal disease showed the increased risk by chronic usage of herbal products [23].

Although side effects of herbal products are proven in various studies, people have no sufficient information about this topic. When the answers of the question "Do the herbal products interfere with medical drugs?" were analyzed, overwhelming majority of the research group (58.1%) gave the response of "I don't know"; where 15.8% answered as "No". These results led us to emphasize the importance of consulting an expert before using any of the herbal products to be protected its potentially harmful effects, and to raise awareness among community (health workers included) to restrain auto-treatment. Moreover, modern medicine performers should also take into consideration this situation while assessing their patient.

Although there are some reports about the herbal drugs' negative effect on health, there was no difference between health workers and the other study attendants in using these product (Table 2). 26.2 % of the health workers used them once or twice for themselves and 15.5% for their children in their life time. In accordance with our result a study in USA among doctors and nurses (HCP Impact Study), demonstrated the chronic usage of these products in 72% of the doctors and 59% of the nurses [24].

The increased usage of the herbal products that are believed to be therapeutic traditionally in the western world and putting them into the market as a drug preparation, has led the attention of professionals working in the field of preventive health care on this issue. Despite the potential benefits and toxic effects of these products, as a rapidly developing sector, their widely usage was highlighted by different authors not only in our country but also other parts of the world [25]. People from every walk of society use these products for their children or themselves, however, when they apply to a health center for any reason, they usually do not mention using them and moreover, health workers do not question it.

Limitations of the Study: Our study was performed in one of the cities of Turkey and a question may arise that just one city could not to reflect the whole Turkey. However, Kırıkkale city has the biggest oil refinery in Turkey, many factories and industrial centers so has receiving many immigrants from other cities in Anatolia for years, which might be an homogenous sample.



As consequences, majority of CAM practices are not investigated sufficiently and the amount of herbal products used for children are generally unknown. While the options of CAM increase, we have to know more information about these treatment methods for guiding properly both families and health workers.

Declaration of conflicting interests

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References

1. Mosihuzzaman M. Herbal medicine in healthcare an overview. *Nat Prod Commun* 2012; 7: 807-12.
2. Wilt TJ, Ishani A, Stark G, et al. Saw palmetto extracts for treatment of benign prostatic hyperplasia: a systematic review. *JAMA* 1998; 280: 1604-9.
3. The ABC Clinical Guide to Herbs, Blumenthal M (Ed), American Botanical Council / Thieme, New York, 2003. pp: 9 <http://abc.herbalgram.org/site/DocServer/LookInsideTheGuide.pdf?docID=341> (Accessed date: 5.4.2016)
4. WHO traditional medicine strategy 2002-2005. Geneva: WHO; 2002. pp: 23 http://www.wpro.who.int/health_technology/book_who_traditional_medicine_strategy_2002_2005.pdf (Accessed date: 5.4.2016)
5. Willcox ML, Bodeker G. Traditional herbal medicines for malaria. *BMJ* 2004; 329: 11569.
6. WHO traditional medicine strategy: 2014-2023. pp:26-30. http://apps.who.int/iris/bitstream/10665/92455/1/9789241506090_eng.pdf?ua=1 (Accessed at March 19, 2015).
7. Özyazicioğlu N, Ogur P, Tanriverdi G, Vural P. Use of complementary and alternative medicine and the anxiety levels of mothers of children with chronic diseases. *Jpn J Nurs Sci* 2012; 9: 19-27.
8. Araz N, Bulbul S. Use of complementary and alternative medicine in a pediatric population in southern Turkey. *Clin Invest Med* 2011; 34: E21-9.
9. Messina BA. Herbal supplements: Facts and myths-talking to your patients about herbal supplements. *J Perianesth Nurs* 2006; 21: 268-78; quiz 279-81.
10. Stasio MJ, Curry K, Sutton KM, Glassman DM. Over-the-counter medication and herbal or dietary supplement use in college: Dose frequency and relationship to self-reported distress. *J Am Coll Health*. 2008; 56: 535-47.
11. Ruparel P, Lockwood B. The quality of commercially available herbal products. *Nat Prod Commun* 2011; 6: 733-44.
12. Traditional Medicine. WHO web site. <http://www.who.int/mediacentre/factsheets/fs134/en/index.html>. (Accessed September 2, 2015).
13. De Smet PA. Herbal medicine in Europe-relaxing regulatory standards. *N Engl J Med* 2005; 352: 1176-8.
14. Aziz Z, Tey NP. Herbal medicines: prevalence and predictors of use among Malaysian adults *Complement Ther Med* 2009; 17: 44-50.
15. Karalı Y, Demirkaya M, Sevinir B. Use of complementary and alternative medicine in children with cancer: effect on survival. *Pediatr Hematol Oncol* 2012; 29: 335-44.
16. Heuschkel R, Afzal N, Wuerth A, et al. Complementary medicine use in children and young adults with inflammatory bowel disease. *Am J Gastroenterol* 2002; 97: 382-8.
17. Allam S, Moharam M, Alarfaj G. Assessing patients' preference for integrating herbal medicine within primary care services in Saudi Arabia. *J Evid Based Complementary Altern Med* 2014; 19: 205-10.
18. Satia-Abouta J, Kristal AR, Patterson RE, Littman AJ, Stratton KL, White E. Dietary supplement and medical conditions the VITAL study. *Am J Prev Med* 2003; 24: 43-51.
19. Taşar A, Potur D, Kara N, Bostancı İ, Dallar Y. Düşük gelir düzeyine sahip ailelerin çocuklarına tamamlayıcı veya alternatif tıp uygulamaları: Ankara Hastanesi verileri. *Türkiye Çocuk Hast Derg* 2011; 5: 81-8.
20. Dalla Libera D, Colombo B, Pavan G, Comi G. Complementary and alternative medicine (CAM) use in an Italian cohort of pediatric headache patients: the tip of the iceberg. *Neurol Sci* 2014; 35: 145-8.
21. Ohnishi N, Yokoyama T. Interactions between medicines and functional foods or dietary supplements. *Keio J Med*. 2004; 53: 137-50.
22. Sparreboom A, Cox MC, Acharya MR, Figg WD. Herbal remedies in the United States: Potential adverse interactions with anticancer agents. *J Clin Oncol* 2004; 22: 2489-503.
23. Hsieh CF, Huang SL, Chen CL, et al. Increased risk of chronic kidney disease among users of non-prescribed Chinese herbal medicine in Taiwan. *Prev Med* 2012; 55: 155-9.
24. Dickinson A, Boyonand N, Shao A. Physicians and nurses use and recommend dietary supplements: Report of a survey. *Nutr J* 2009; 8: 29.
25. Lee MY, Benn R, Wimsatt L, et al. Integrating complementary and alternative medicine instruction into health professions education: organizational and instructional strategies. *Acad Med* 2007; 82: 939-45.