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Assessment of the Use of Herbal Supplements and Attitudes of Adults Taking Medication

İlaç Kullanan Yetişkinlerde Bitkisel Destek Ürünleri Kullanımının ve Tutumların Belirlenmesi

Rahime Evra KARAKAYA

Ankara Yıldırım Beyazıt University, Faculty of Health Sciences, Department of Nutrition and Dietetics, Ankara, Turkey

Abstract

Aim: The use of herbal supplements is increasing today, and these products have a significant impact on individuals' health. The aim of this study is to examine the use and reasons for using herbal supplements, as well as to determine individuals' attitudes towards these products.

Material and Method: The study was conducted with individuals aged 19-65 who use medications. A questionnaire containing questions about the participants' demographic characteristics, herbal supplement usage, and attitudes was administered by the researcher through face-to-face interviews.

Results: Of the 274 participants in the study, 10.6% use herbal supplements, with the most preferred products being ginseng, St. John's wort, and garlic (20.7%, 27.6%, and 37.9%, respectively). It was found that individuals who consume alcohol use herbal supplements 3.188 times more, and those who exercise use them 3.470 times more than those who do not (p=0.043, p=0.015, respectively). Most herbal supplement users agreed with the statement, "Herbal supplements can be used immediately when experiencing symptoms related to illness," while most non-users disagreed (p<0.001).

Conclusion: Given that the preferred herbal supplements may lead to potential interactions with medications and that individuals' attitudes towards herbal supplements vary, the importance of healthcare professionals providing individuals with accurate and comprehensive information is emphasized.

Keywords: herbal products, dietary supplements, medication, food-drug interactions

Öz

Amaç: Günümüzde bitkisel destek ürünlerinin kullanımı giderek artmaktadır ve bu ürünler bireylerin sağlık durumları üzerinde önemli bir etkiye sahiptir. Bu çalışmanın amacı, bitkisel destek ürünlerinin kullanımını ve kullanım nedenlerini inceleyerek, bireylerin bu ürünlere yönelik tutumlarını belirlemektir.

Gereç ve Yöntem: Çalışma 19-65 yaş aralığındaki ilaç kullanan bireyler ile yürütülmüştür. Bireylerin demografik özellikleri, bitkisel destek ürünü kullanım durumları ve tutumlarına yönelik sorular içeren anket formu araştırmacı tarafından yüz yüze görüşme yöntemi ile uygulanmıştır.

Bulgular: Çalışmaya katılan 274 bireyin %10,6'sı bitkisel destek ürünü kullanmaktadır ve bu ürünlerden en çok ginseng, sarı kantaron ve sarımsak ürünlerinin tercih edildiği görülmüştür (sırasıyla; %20.7, %27,6 ve %37,9). Alkol tüketenlerin tüketmeyenlere göre 3,188 kat, egzersiz yapanların yapmayanlara göre 3,470 kat daha fazla bitkisel destek ürünü kullandığı saptanmıştır (sırasıyla p=0,043, p=0,015). Bitkisel destek ürünü kullananların çoğu 'Hastalık ile ilgili bir belirti hissedildiğinde hemen bitkisel destek ürünleri kullanılabilir.' ifadesine katıldıklarını belirtirken, bitkisel destek ürünü kullanmayanların çoğu katılmadıklarını ifade etmişlerdir (p<0,001).

Sonuç: Tercih edilen bitkisel destek ürünlerinin ilaçlarla potansiyel etkileşimlere yol açabileceği ve bireylerin bitkisel ürünlere yönelik tutumlarının farklılık gösterdiği dikkate alındığında, sağlık profesyonellerinin bireyleri doğru ve kapsamlı bir şekilde bilgilendirmesinin önemi vurgulanmaktadır.

Anahtar Kelimeler: bitkisel ürün, besin destekleri, ilaç, etkileşim, besin-ilaç etkileşimleri

Corresponding *(İletişim)*: Rahime Evra Karakaya, Ankara Yıldırım Beyazıt University, Faculty of Health Sciences, Department of Nutrition and Dietetics, Ankara, Turkey
E-mail *(E-posta)*: rekarakaya@aybu.edu.tr
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INTRODUCTION

Dietary supplements are products prepared in forms such as capsules, tablets, or liquid ampoules, containing various nutrients or plant, animal, and bioactive substances, intended to support normal nutrition, with a defined daily intake dosage.[1] Herbal supplements, on the other hand, are products derived from plants and containing various components, typically used to improve health. The nomenclature surrounding herbal supplements can vary, with terms such as "botanicals," "herbal products," "herbal medicines," "herbal treatments," and "phytotherapy" being commonly used to describe these supplements.[2-3]

In contemporary society, the integration of complementary and alternative medicine into conventional healthcare practices has become increasingly prevalent. Herbal supplements, a significant component of this domain, have gained considerable attention. A recent study conducted on individuals living with chronic diseases revealed that the most prevalent (%34.9) traditional medicine method was the use of herbal products.[4] The utilization of herbal supplements is influenced by various factors, including media exposure, political climate, social environment, the nature of the disease, and educational level.[5] While many patients believe that herbal supplements are beneficial and are used as dietary supplements, some individuals express concerns that they may interact with medications and cause harm.[6] Notably, there is a growing interest in herbal supplements among individuals suffering from long-term health conditions, such as hypertension, diabetes, and chronic pain.[7]

However, the concomitant use of herbal supplements and medications has the potential to result in adverse outcomes. Herbal products may interact with medications, either enhancing or reducing their effects, or causing undesirable side effects. Specifically, the use of herbal supplements in conjunction with medications such as anticoagulants, antihypertensives, and antidepressants can lead to significant health complications.[8] Notable herbal products of common usage, such as St. John's wort, ginkgo, ginseng, kava, garlic, and echinacea, have been documented to interact with medications.[9] The absence of substantial scientific evidence regarding the efficacy and safety of numerous herbal products fosters uncertainty among users.[10] Consequently, it is essential to educate patients about the potential interactions between herbal products and medications, and to offer guidance on their proper use. The objective of this study is to assess the usage patterns of herbal supplements and to ascertain the attitudes of adults who use medications towards these products.

MATERIAL AND METHOD

The study was conducted in accordance with the ethical standards of the Declaration of Helsinki, and approval for its conduct was obtained from the Ankara Yıldırım Beyazıt University Health Sciences Ethics Committee (Date: 01.07.2024, Decision No: 06/798). Informed consent was obtained from all participants.

Study population

This descriptive and cross-sectional study was conducted with individuals aged 19-65 in Ankara. Using a convenience sampling method, subjects who regularly used any medication were included in the study, while those diagnosed with neurological diseases (e.g. Alzheimer's disease, dementia) and those in pregnancy or lactation periods were excluded. The sample size of the study was determined to be at least 128 individuals with a 5% margin of error and 80% power using the GPower 3.1 program.

Study design

The data were collected through face-to-face interviews using a questionnaire developed by the researcher. The questionnaire included questions about the subjects' general information, their use of herbal supplements (e.g., reasons for using or not using them, where they obtained the products, and the sources recommending the product, etc.), and statements regarding attitudes toward the use of herbal supplements. The statements towards attitudes included topics such as consulting a medical professional when using herbal supplements, the perception of herbal supplements as being safer than conventional treatments, and associated concerns and were adapted from previous studies.[11,12]

Statistical analyses

The analysis of the obtained data was performed using SPSS (Statistical Package for the Social Sciences) software. Categorical variables were summarized with frequency (number) and percentage (%) values. The Chi-square test was used to evaluate relationships and differences between groups. For continuous variables, the mean ± standard deviation (SD) values were used. Binary logistic regression analysis was used to examine the factors affecting the use of herbal supplements. A significance level of $p<0.05$ was considered in all statistical analyses.

RESULTS

A total of 274 individuals participated in the study. The mean age of the participants was 47.28±15.22 years, with 64.2% being female and 35.8% being male. Most of the participants were married (71.5%) and did not smoke or consume alcohol (63.5% and 84.3%, respectively). A large majority of sample had chronic diseases (82.5%), with cardiovascular diseases (43.8%) and endocrine and metabolic disorders (34.7%) being the most common (**Table 1**).

Table 1. General characteristics of participants

	n	%
Age (years) (Mean±SD)	47.28±15.22	
Sex		
Female	176	64.2
Male	98	35.8
Educational level		
Primary School	48	17.5
Middle school	49	17.9
High school	73	26.7
Bachelor's Degree	85	31.0
Postgraduate	19	6.9
Marital status		
Single	78	28.5
Married	196	71.5
Employment status		
Unemployed	26	9.5
Employed	248	90.5
Smoking		
No	174	63.5
Yes	100	26.5
Alcohol consumption		
No	231	84.3
Yes	43	15.7
Regular exercise		
No	233	85.0
Yes	41	15.0
Presence of chronic diseases		
No	48	17.5
Yes	226	82.5
Diseases*		
Endocrinology and metabolic diseases	95	34.7
Cardiovascular diseases	120	43.8
Gastrointestinal tract diseases	24	8.8
Bone and joint diseases	29	10.6
Classification of medications used*		
Alimentary tract and metabolism	97	35.4
Cardiovascular system	143	52.1
Musculo-skeletal system	38	13.9
Nervous system	16	5.8
Respiratory system	21	7.6

* More than one answer was given.

Table 2. Data on the use of medicines and herbal supplements

	n	%
Taking the medicine with a drink other than water		
No	228	83.2
Yes	46	16.8
The type of drink the medicine is taken with		
Juice	10	21.7
Tea	28	60.9
Coffee	1	2.2
Milk and products	7	15.2
Use of herbal supplements		
No	245	89.4
Yes	29	10.6
Reason for not using herbal supplements		
Never thought about it	95	38.8
I have no information	41	16.6
Satisfied with conventional medical treatment	47	19.2
I don't believe in its effectiveness	19	7.8
It is not safe	43	17.6
Herbal supplements used*		
Aloe vera	3	10.3
Ginseng	6	20.7
St. John's Wort	8	27.6
Garlic	11	37.9
Hawthorn vinegar	1	3.4
Cinnamon	3	10.3
Black cumin	1	3.4
Purpose of use of herbal supplements		
Treating/healing the disease	2	6.9
To improve health	14	48.3
Complementary to conventional treatment	13	44.8
Source of the herbal supplement recommended		
Physician	2	6.9
Dietitian	5	17.3
Pharmacist	1	3.4
Family/friends	16	55.2
Media (social media, TV etc.)	5	17.2
Place where herbal supplements are supplied		
Herbalist	8	27.6
Pharmacy	18	62.1
Internet	3	10.3

More than one answer was given

In **Table 2**, it is shown that the majority of participants (83.2%) take their medications with water, while 60.9% of those who do not use water take their medications with tea. 10.6% of individuals use herbal supplements, with the most commonly preferred products being ginseng, St. John's wort, and garlic (20.7%, 27.6%, and 37.9%, respectively). These products are generally recommended through family/friends (55.2%) and are obtained from pharmacy (62.1%).

When examining the factors influencing the use of herbal supplements, no effect was observed for age, sex, education level, marital status, employment status, smoking status, and the presence of chronic diseases ($p>0.05$). It was found that those who consume alcohol use herbal supplements 3.188 times more than those who do not, and those who exercise use herbal supplements 3.470 times more than those who do not ($p=0.043$, $p=0.015$, respectively) (**Table 3**).

Table 3. Regression analysis of factors affecting the use of herbal supplements

	β	S.E.	p	O.R.	95% C.I.	
					Lower	Upper
Alcohol consumption	1.159	0.574	0.043	3.188	1.035	9.819
Regular exercise	1.244	0.509	0.015	3.470	1.278	9.417

β: Regression coefficient, SE: standard error, p: significance level, OR: odds ratio, CI: confidence interval

When examining participants' attitudes towards herbal supplements, a significant relationship was found between the statement " Herbal supplements can be used as soon as there is a symptom of the disease." and the use of herbal supplements ($p<0.001$). It was observed that individuals who use herbal supplements more frequently agreed with this statement, while those who do not use herbal supplements disagreed (**Table 4**).

DISCUSSION

According to the results of this study, 10.6% of adults using medication also use herbal supplements, with the most commonly preferred products being ginseng, St. John's wort, and garlic. Additionally, alcohol consumption and exercise habits have been identified as factors that increase the use of herbal supplements. It was observed that individuals who use herbal supplements are more likely to use them immediately when they experience symptoms related to diseases.

The use of herbal supplements has been steadily increasing, with a notable rise in their use for health purposes, particularly after the COVID-19 pandemic.[13] According to a report from the United States, herbal product sales, which accounted for 8.6% in 2019, surged to 17.3% in 2020, reflecting a significant growth. Among the popular herbal products are

Table 4. Attitudes of the participants according to the use of herbal supplements

Statements	1	2	3	4	5	p
	n (%)	n (%)	n (%)	n (%)	n (%)	
Herbal supplements can be used as soon as there is a symptom of the disease.						
Using herbal supplements	7 (24.1)	10 (34.5)	9 (31.0)	2 (6.9)	1 (3.4)	<0.001
Not using herbal supplements	14 (5.7)	39 (15.9)	55 (22.4)	80 (32.7)	57 (23.3)	
Total	21 (7.7)	49 (17.9)	64 (23.4)	82 (29.9)	58 (21.2)	
It is important to consult a physician before using herbal supplements.						
Using herbal supplements	6 (20.7)	16 (55.2)	4 (13.8)	3 (10.3)	-	0.176
Not using herbal supplements	100 (40.8)	96 (39.2)	23 (9.4)	17 (6.9)	9 (3.7)	
Total	106 (38.7)	112 (40.9)	27 (9.9)	20 (7.3)	9 (3.3)	
Using herbal supplements is safer than conventional treatment.						
Using herbal supplements	1 (3.4)	9 (31.0)	5 (17.2)	9 (31.0)	5 (17.2)	0.058
Not using herbal supplements	14 (5.7)	28 (11.4)	72 (29.4)	84 (34.3)	47 (19.2)	
Total	15 (5.5)	37 (13.5)	77 (28.1)	93 (33.9)	52 (19.0)	
Using herbal supplements is cheaper than conventional treatment.						
Using herbal supplements	1 (3.4)	6 (20.7)	10 (34.5)	11 (37.9)	1 (3.4)	0.655
Not using herbal supplements	18 (7.3)	45 (18.4)	75 (30.6)	80 (32.7)	27 (11.0)	
Total	19 (6.9)	51 (18.6)	85 (31.0)	91 (33.2)	28 (10.2)	
Herbal supplements are easier to use than conventional treatment.						
Using herbal supplements	5 (17.2)	12 (41.4)	5 (17.2)	6 (20.7)	1 (3.4)	0.105
Not using herbal supplements	31 (12.7)	53 (21.6)	70 (28.6)	64 (26.1)	27 (11.0)	
Total	36 (13.1)	65 (23.7)	75 (27.4)	70 (25.5)	28 (10.2)	
Herbal supplements interact with some drugs.						
Using herbal supplements	5 (17.2)	9 (31.0)	12 (41.4)	3 (10.3)	-	0.395
Not using herbal supplements	71 (29.0)	77 (31.4)	71 (29.0)	17 (6.9)	9 (3.7)	
Total	76 (27.7)	86 (31.4)	83 (30.3)	20 (7.3)	9 (3.3)	
Treatment with herbal supplements is better than conventional treatment.						
Using herbal supplements	-	8 (27.6)	9 (31.0)	8 (27.6)	4 (13.8)	0.117
Not using herbal supplements	12 (4.9)	30 (12.2)	63 (25.7)	85 (34.7)	55 (22.4)	
Total	12 (4.4)	38 (13.9)	72 (26.3)	93 (33.9)	59 (21.5)	

1:Strongly agree, 2:Agree, 3:Not sure, 4:Disagree, 5:Strongly disagree

mulberry, echinacea, ginger, mushrooms, garlic, ginkgo, and aloe vera.[14] These supplements are widely used due to their diverse health benefits. For example, ginger is known for its anti-nausea properties, garlic is effective in lowering blood pressure, and bitter melon is used to regulate blood sugar levels.[15]

Herbal supplement use is common among individuals with chronic diseases.[16,17] A study found 26.8% of hospitalized patients used herbal products, with factors like income, smoking, and disease progression influencing usage.[18] Another study showed that 63% of individuals with chronic conditions used herbal supplements, with ginger, mint, and cumin being most preferred.[19] In hemodialysis patients, 28.1% used herbal products, and married individuals were more likely to use them.[20] Similarly, in this study, 10.6% of participants used herbal supplements, with ginseng, garlic, and St. John's wort being the most common. While demographic factors had no significant impact, alcohol consumption and exercise habits were key influences on herbal product use, highlighting the role of lifestyle factors.

A study found that among cancer patients, the main reasons for using herbal products were symptom relief (35.1%) and recommendations from family/friends (64.9%).[17] Another study cited dissatisfaction with conventional treatment, past positive experiences, and family traditions as key reasons for use.[21] Similarly, this study found health improvement and use alongside conventional treatments as common reasons. Most herbal products are recommended by family and friends and purchased from pharmacies, indicating high public trust and growing popularity of herbal products as alternatives to conventional treatments.

Herbal products can interact with medications, potentially causing harmful effects. Plants like St. John's wort, ginkgo, ginseng, garlic, kava, and echinacea can alter medication effectiveness. For instance, St. John's wort can interfere with antidepressants and blood thinners, while ginkgo, ginseng, and garlic may increase bleeding risks. Kava can reduce the effectiveness of levodopa.[9] Additionally, herbal products can be hepatotoxic.[22,23] Studies show common herbal-medication interactions, like chamomile tea with cyclosporine,[18] and ginseng interacting with blood thinners.[16] In Turkey, 24.5% of preoperative patients use herbal products, highlighting the need for awareness of their potential effects.[24] This study observed similar trends, with the majority of participants using medications related to the alimentary tract, metabolism, and cardiovascular system, making them vulnerable to potential food-drug interactions. The products used in this study may have potential interactions with drugs, highlighting the importance of educating patients about the risks. Also, our study found that alcohol consumption influences the use of herbal products. Alcohol may enhance or weaken the effects of herbal products and increase medication side effects.[25] Therefore, herbal product use and drug interactions should be carefully monitored in alcohol consumers.

Individuals' attitudes towards herbal products vary. In a study with herbal users, 88.9% felt it wasn't important to inform doctors or pharmacists about their use, 73.3% considered them harmless, and 40.3% believed combining them with regular medications was unsafe.[26] In a study with the older adults, 66% felt herbal products were not risky for the general population.[27] A study with adults found 45% thought they were safe, 37.4% believed they could be used with medications, and 49.9% used them as their first choice when sick.[28] In our study, herbal product users were more likely to agree that " Herbal supplements can be used as soon as there is a symptom of the disease" while non-users disagreed. The majority of participants agreed that it is important to consult a physician before using these products and that they may interact with drugs, while they did not agree that these products are safer, cheaper, and more effective than conventional treatments. These findings suggest that herbal products are often preferred by individuals seeking quick solutions, but, unlike other studies, concerns and uncertainties about their safety and efficacy still exist.

CONCLUSION

It has been determined that preferred herbal supplements may interact with medications, leading to potential health risks. There is still uncertainty and concern among participants regarding the safety and interactions of these products. These findings highlight the need for further scientific research to ensure the safer and more effective use of herbal products and emphasize the importance of healthcare professionals providing accurate information to individuals..

ETHICAL DECLARATIONS

Ethics Committee Approval: The study was carried out with the permission of Ankara Yıldırım Beyazıt University Health Sciences Ethics Committee (Date: 01.07.2024, Decision No: 06/798).
Informed Consent: Signed written informed consent was taken from all participants..
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