



Opinions of Physicians on the Application of Phytotherapy Pediatric Patients: A Survey-Based Cross-Sectional Study

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Abstract

Aim: Complementary medicine has been used with increasing frequency worldwide recently. In our country, phytotherapy, one of the complementary medicine practices among children, is increasing daily among patients and physicians. The study determined the frequency of phytotherapy application by physicians seeing pediatric patients.

Methods: This cross-sectional study was conducted via an online survey. The study was carried out between June 2021 and August 24, 2021. The pediatricians, family physicians, general practitioners, and other specialists who treat children were included in the study. The survey questions were distributed to all of the pediatricians registered on a platform with over 2,000 members.

Results: A total of 547 physicians participated in the study. The participants were divided into three groups, including pediatricians, family physicians, and general practitioners (28%, 33.6%, and 38.2%, respectively). The most common group of physicians practicing phytotherapy was family physicians. The proportion of physicians who applied phytotherapy to their patients was 65.3%. A total of 75.3% of physicians believe that phytotherapy is effective, and 76.1% of participants want to learn more about it. A total of 70.7% of physicians stated that patients requested phytotherapy treatment from them. Phytotherapy is mostly applied to respiratory diseases. Aromatherapy is practiced by 43.3% of physicians and is mainly used for respiratory diseases and inhalation.

Conclusion: More than half of the physicians practiced phytotherapy with pediatric patients. Physicians reported that there is a demand from patients and that they want to receive training in this area. Phytotherapy training should be organized for physicians.

Keywords: Phytotherapy, aromatherapy, pediatrician, family physician

Introduction

Traditional and complementary medicine (TCM) has recently attracted attention among physicians and patients as an integral part of treatment alongside mainstream conventional treatment (1,2). It was reported that the rate of TCM administration was 52% in children, according to the data taken from 20 countries in Europe (3). In a study conducted in our country, the rate was 60% (4). However, the rate of parents who administered herbal treatment for their children without consulting a physician has been found to be high (5). In addition to conventional treatment methods in children, it was observed that the administration of complementary medicine (TCM) was increasing among physicians and parents (5). A meta-analysis study conducted with data from nineteen

countries reported that the prevalence rates of general TCM use in children ranged from 10.9-87.6% for lifetime use and 8-48.85% for current use (6).

Phytotherapy is a plant-based TCM, and aromatherapy is considered a type of phytotherapy in which plant-based essential oils are used. The most commonly used complementary medicine practice in children is phytotherapy (7).

This increasing interest in complementary medicine around the world has also come to the forefront in our country. As a result, on October 27, 2014, the Ministry of Health published the GETAT (TCM) regulation in the official gazette (8). The Ministry of Health has started to provide training on this subject and has introduced a certificate requirement for practicing phytotherapy.

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Despite the increasing practice of complementary medicine among patients and physicians, there are only a few studies on the opinions and attitudes of physicians on this subject (4-12).

This study evaluated the attitudes and opinions of physicians on the application of phytotherapy, a TCM practice, in pediatric patients.

Materials and Methods

Compliance with Ethical Standards

The study was conducted in accordance with the principles of the Helsinki Declaration, with the approval of the local Ethics Committees of the University of Health Sciences Turkey, Basaksehir Cam and Sakura City Hospital (decision no: 79, date: 20.04.2021). Written informed consent was obtained from all participants. The authors report no conflict of interest.

Study Design

The cross-sectional study was conducted via an online survey. The study was carried out between June 2021 and August 24, 2021. The pediatricians, family physicians, general practitioners, and other specialists who treat children were included in the study.

The survey questions were sent to all the physicians registered on a platform of physicians who treat children, which has two thousand members. The physicians were requested to answer the questions without revealing their names within 30 minutes.

The Inclusion Criteria

All physicians who had pediatric patients were included in the study.

The Exclusion Criteria

Answering the survey questions incompletely and not desiring to participate in the study were determined to be exclusion criteria.

Data Collection

As a data collection tool, a questionnaire was used to investigate their phytotherapy application, certification, reasons for not applying phytotherapy, and their aromatherapy applications. The questions were prepared by complying with the current literature review (2,5) and revised by a phytotherapy specialist in the faculty of pharmacy.

Survey Questions Content

The questionnaire was comprised of two parts. The first section concerned the participant's demographic data, namely, age, gender, specialty, and duration of physician practice. The second section of the questionnaire focused on physicians' knowledge of phytotherapy and their practice with pediatric patients.

The first part of the survey questions included the physicians' demographic information, such as gender, age, professional experience, the institution they work for, and the branch.

The second section of the survey questions covered whether the phytotherapeutic treatment was administered to pediatric patients for phytotherapeutic treatment or not; if it was applied, which diseases it was administered more frequently; whether the patients requested this treatment or not; level of knowledge of the subject of phytotherapy; whether they had a phytotherapy certificate or not; resource for information on the topic of phytotherapy; and whether the patients requested this treatment or not.

Statistical Analysis

The SPSS 23.0 software (SPSS Inc., Chicago, IL) was used for the statistical analysis. The chi-square relationship test was used to compare categorical variables with the physicians' phytotherapy administration and recommendation status. The Epi-info 7.2.4.0 version package program was used to determine the sample size. The number of samples determined by the simple random sampling system in the universe was included in the study. In the literature review conducted to determine the use of phytotherapy by physicians, it was determined that the rates varied between 50 and 60% (1,2). In determining the sample, this rate was accepted as 50%. Using the sample formula for the unknown universe in the Epi-info package program, the sample number was determined as 471 people, with a confidence interval of 97% (α : 0.05), a deviation of 5%, and a frequency of 50%. A p-value less than 0.05 (typically $p < 0.05$) was statistically significant.

Results

In total, 547 (2.7%) physicians participated in the study. The physicians who participated in the study were divided into three groups, including 154 pediatricians (28.2%), 184 family physicians (33.6%), 209 general practitioners, and other branches (38%), including 198 general practitioners, eight otorhinolaryngology specialists, and three dermatologists.

The demographic information belonging to the physicians is shown in Table 1.

There was no statistically significant relationship between physicians' use of phytotherapy on pediatric patients and their gender or age ($p=0.32$ and 0.08 , respectively).

The rate of physicians administering phytotherapy to their patients was 65.3% (357). The number of physicians practicing phytotherapy was higher in public institutions than those working in the private sector ($p=0.00$).

When the relationship between the specialization of the participants and the applications of phytotherapy to their

patients is examined, whereas the use of phytotherapy is 70.6% in family physicians, and 70.3% in pediatricians, it is seen that it is 56.4% in general practitioners and physicians from other branches ($p=0.00$).

A total of 70.7% of the physicians stated that the patients requested phytotherapy treatment from them. A total of 78.1% (427) of them stated that they applied phytotherapy to themselves or their relatives. When the phytotherapy application of the physicians to themselves and their relatives is evaluated, it is seen that this rate is the highest among family physicians, with a rate of 86.4% (159) ($p=0.00$).

Those thinking that phytotherapy must be integrated with classical medicine were 75.3% (412); however, there is no significant difference between the groups ($p=0.46$).

The general opinions of the participants about phytotherapy are presented in Table 2.

The physicians who owned a certificate were 19.2% (105). A statistically significant difference was obtained between the physicians' phytotherapy certificate status and phytotherapy applications to their patients. A total of 88.9% of those who had a certificate and 11.1% who did not have a certificate applied for phytotherapy ($p=0.00$).

The source of information on phytotherapy for 61.1% of physicians was the internet. They most frequently applied phytotherapy to respiratory diseases, with a rate of 57.9% (Figures 1 and 2).

Table 1. Socio-demographic features of physicians		
Descriptive features (n=547)	Number	%
Gender		
Female	374	68.4
Male	173	31.6
Age		
25-34 years	144	26.3
35-44 years	207	37.8
45 years and above	196	35.8
Working year		
Less than 5 years	63	11.5
5-14 years	189	34.6
15-24 years	204	37.3
More than 25 years	91	16.6
Title		
Family Physician	184	33.6
Pediatrician	154	28.2
General Practitioner	198	36.2
ENT	8	1.5
Dermatology	3	0.5
Institution they are working at		
Public Hospital	371	67.8
Private Hospital/Clinic	176	32.2

A total of 29.7% (190) of the participants said that they did not apply phytotherapy. A total of 55.1% of the physicians indicated that they did not have enough information.

When the physicians' working years and phytotherapy administrations to their patients were evaluated, 38.9% were working between 15 and 25 years and administered phytotherapy more frequently ($p=0.01$).

It was seen that the physicians working in public hospitals used phytotherapy more than the physicians working in private hospitals and clinics. A total of 60.5% (216) of the physicians were working in public hospitals, and 39.5% (141) of those were working in private hospitals or clinics ($p=0.00$).

The participants were asked for their opinions on aromatherapy. When the administration of aromatherapy was questioned, it was seen that the family physicians were the group who applied aromatherapy the most ($p=0.01$).

The opinions of the physicians on aromatherapy are given in Table 3.

Discussion

This is the first study on the physicians who administered phytotherapy to pediatric patients in our country. The rates in various countries, such as Israel, Spain, Colombia, Switzerland, Bulgaria, Russia, Germany, and the Netherlands, were found to be 6.8%, 7.8%, 8.6%, 17%, 17.3%, 20.2%, and 22.8%, respectively (9-11). In our study, the rate of physicians administering phytotherapy to their patients was 65.3%. This rate was consistent with the rate of 64% given in the study conducted in the Netherlands (12).

The family physicians were seen as a group of physicians who administered phytotherapy the most, with a rate of 70.6% among the participants. The pediatricians administered phytotherapy at 70.3% and the general practitioners at 56.4%.

Patients' interest in phytotherapy is growing today. In our study, 70.7% of the physicians stated that the patients requested phytotherapy treatment from them. This was given as 70%, 87%, and 97% in the literature with the studies conducted, and the result we found was compatible with the literature (2,9,13). A reason for the families' interest in phytotherapy treatment may be that this issue is constantly on the agenda in visual and written media. More than half of the physicians (65.3%) applied phytotherapy, which may indicate an increase in the interest of patients' relatives in phytotherapy and the organization of phytotherapy training by the Ministry of Health.

In order to practice phytotherapy in our country, it is mandatory to attend the training organized by the Ministry of Health and obtain a certificate. In our study, the rate of physicians with a phytotherapy certificate approved by the Ministry of Health was 19.4%. Among physicians with a certificate, 88.9% practiced phytotherapy. When this rate was evaluated, it was seen that physicians practiced phytotherapy after receiving training on this subject. Family physicians had the highest number of certificates, with 89.1%. In the study by Orhan et al. (12), the rate of having a certificate from the family physician was higher than that of pediatricians, similar to our study. The interest and participation rate of family physicians and general practitioners in TCM

training organized by the Ministry of Health were higher than those of the branch physicians.

Phytotherapy is a complementary medicine administration and is often applied as a supportive treatment of classical medicine by relieving symptoms and strengthening immunity. The products used in phytotherapy must be licensed and standardized. Indiscriminate use of herbal products, particularly in children under four years of age, may cause hormonal changes. Therefore, the patient's age and any special conditions should be considered when using phytotherapy products. Phytotherapy is not an alternative to conventional therapy but a complement.

In our study, the rate of physicians who thought that conventional treatment had to be integrated with

Table 2. Comparison of opinions and attitudes of physicians about phytotherapy

Do you recommend/apply phytotherapeutic treatment to your pediatric patients?		Family physician	Pediatrician	Other	Test value	
Yes/Sometimes	n=357	130	109	118	χ^2 : 11,570 p=0.00*	
	65.3%	36.4%	30.5%	33.1%		
No	n=190	54	45	91		
	34.7%	28.4%	23.7%	47.9%		
Would your patients ask you for a phytotherapeutic treatment?		Family physician	Pediatrician	Other		Test value
Yes/Sometimes	n=387	134	111	142		χ^2 : 7,175 p=0.08
	70.7%	34.6%	28.7%	36.7%		
No	n=160	50	43	67		
	29.3%	31.3%	26.9%	41.9%		
Do you think phytotherapy is effective?		Family physician	Pediatrician	Other	Test value	
Yes	n=345	132	82	131	χ^2 : 5,954 p=0.01*	
	63.1%	38.3%	23.8%	38.0%		
No	n=59	8	31	20		
	10.8 %	13.6%	52.5%	33.9%		
No idea	n=143	44	41	58		
	26.1%	30.8%	28.7%	40.6%		
Do you have a phytotherapy certificate?		Family physician	Pediatrician	Other	Test value	
Yes	n=441	164	99	178	χ^2 : 37,596 p=0.00*	
	80.6%	37.2%	22.4%	40.4%		
No	n=106	20	55	31		
	19.4%	18.9%	51.9%	29.2%		
Would you like to receive phytotherapy training?		Family physician	Pediatrician	Other	Test value	
Yes	n= 411	411	123	152	χ^2 : 2,644 p=0.267	
	75.1%	33.1%	29.9%	37.0%		
No	n=136	136	31	57		
	24.9%	35.3%	22.8%	41.9%		
Do you apply aromatherapy to your patients?		Family physician	Pediatrician	Other	Test value	
Yes/Sometimes	n=415	179	136	200	χ^2 : 5,954 p=0.01*	
	94.1%	34.8%	26.4%	38.8%		
No	n=32	5	18	9		
	5.9%	15.6%	56.3%	28.1%		

The chi-square test, p<0.05 is significant

phytotherapy was determined as 75.3%, which was consistent with the rates of 64% and 79% given in the previous literature (2,12).

It was seen in the literature review that the physicians mainly administered phytotherapy and complementary medicine for respiratory diseases (2,14,15). Phytotherapy was administered primarily to respiratory tract diseases (57.9%). This could be because children are more susceptible to respiratory diseases.

In our study, the rate of physicians wanting to receive phytotherapy training was 76.1% (416). It was seen in the studies occurring in the literature that the physicians were willing to receive phytotherapy training, and this rate was 64.3% (43.2-88%) on average (16-18). The rate determined in our study was higher than the literature

average. The pediatricians were those who wanted to receive training the most, with a rate of 79.9%, which was consistent with the rate of 80% given in the literature (13). This interest may be due to meeting the patients' demands and the fact that the training is carried out within the Ministry of Health. Moreover, physicians must have a certificate to administer phytotherapy during TCM regulation.

When the physicians were asked about the source of information on phytotherapy, 61.1% (334) of them answered the internet. It was seen in the literature that the most common reference source was the internet (19). Since the reliability of information obtained on this platform is weak due to information pollution, training physicians on this subject is essential.

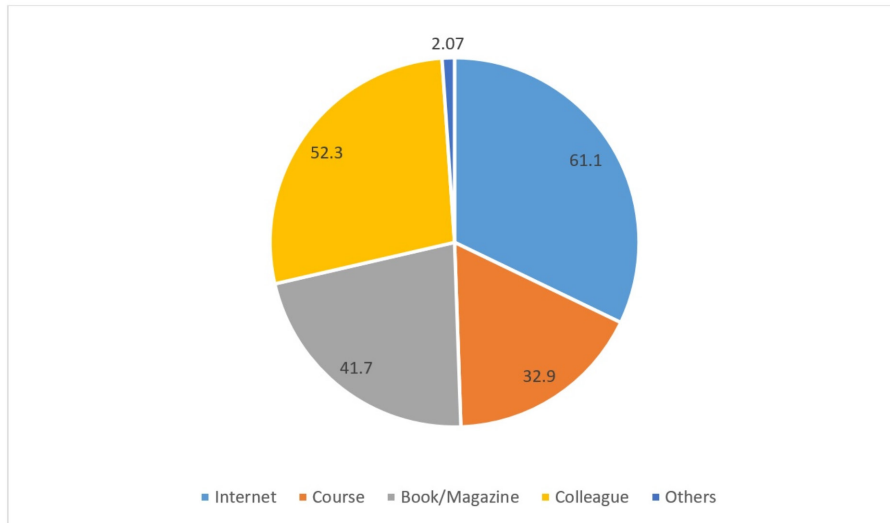


Figure 1. The phytotherapy information sources of the physicians

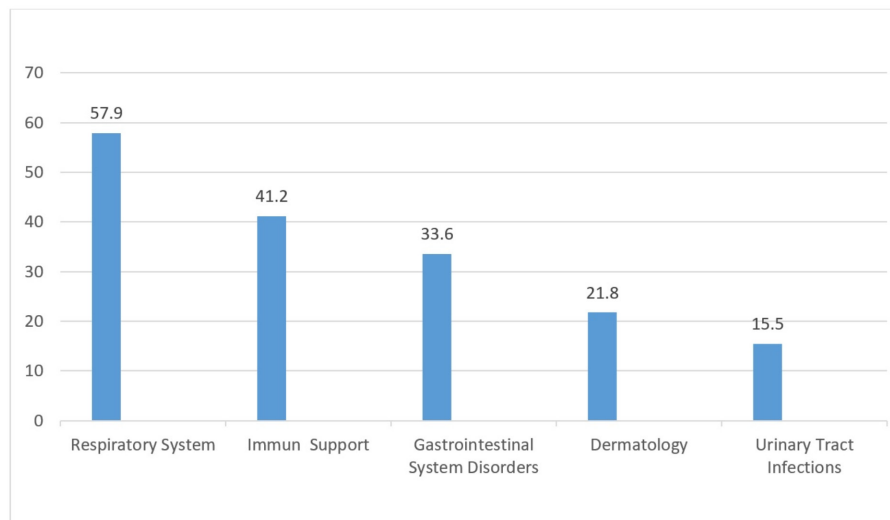


Figure 2. The phytotherapy application situations of the physicians

Table 3. Aromatherapy application status of physicians		
Do you apply aromatherapy to your patients?	N	%
Yes	237	43.3
No	310	56.7
With which way do you apply aromatherapy?		
Inhalation	193	35.3
Air diffuser, spray	156	28.5
Massage	167	30.5
Bath	51	9.3
Which is the most commonly used aromatherapy application area?		
Respiratory tracts	176	32.3
Skin diseases	128	23.5
Insomnia	142	26.1
Attention/Concentration	119	21.8
Other	7	1.3

The rate of physicians who did not prefer phytotherapy in the treatment was 29.7%. When the reason was asked of the physicians who did not choose phytotherapy in the treatment, 55.1% stated that they did not administer it because they did not have enough knowledge about it; however, 76.1% wanted to receive training on this subject. In a study conducted with 640 pediatricians in Switzerland, 66% of the physicians stated that they did not administer phytotherapy because they did not have sufficient knowledge (9). By teaching this treatment method to the physicians with up-to-date scientific data, the demands of patients on this subject will be met correctly by the physicians, and it will be prevented if this treatment method is misused by people who are not health professionals.

Of the physicians participating in our study, 67.8% (208) served in public hospitals. In the study by Orhan et al. (12), the rate of employees working in public hospitals was 50%. The rates we found were close to this value. The reason it is administered more frequently in public hospitals may be because that is where the family physicians work most often.

Aromatherapy is considered a part of phytotherapy. Aromatherapy is a frequently used treatment in complementary medicine (20). The essential oils obtained from these plants are commonly used in children due to their antiviral, anti-inflammatory, and sedative effects (21). The participants were also asked for their views on aromatherapy. The rate of physicians administering aromatherapy was 43.3%, and family physicians administer it most frequently. Aromatherapy is mainly administered in respiratory tract diseases (32.3%) and by inhalation (35.3%). The reason for increasing scientific studies and training on aromatherapy recently is that rate. However, it is a treatment that has been administered for thousands

of years, is newly recognized in our country, and maybe has the effect of being popular in the media.

Study Limitations

This study has some limitations. First, because there was no validated inventory, the survey questions were prepared by complying with the current literature. Second, the number of pediatricians among the participants was relatively small, and the data did not reflect the views of a broad population of pediatricians. The majority of the participants were family physicians and general practitioners, and they were working in public hospitals. The number of participants working in private medical centers was low. On the other hand, to the best knowledge of the authors, this is the first comprehensive study on this subject in the country.

Conclusion

In the current study, the majority of the physicians stated that they applied phytotherapy to themselves and their relatives. Most physicians consider it appropriate to integrate phytotherapy applications with medical treatment. An important part of the physicians recommendations is the dissemination of phytotherapy applications for patients in the pediatric age group. It has been determined that physicians trained in phytotherapy use phytotherapy treatments more. Physicians generally expressed their interest in receiving training on phytotherapy. Therefore, phytotherapy training should be organized for physicians.

Ethics

Ethics Committee Approval: Approval was obtained from the Local Ethics Committees of the University of Health Sciences Turkey, Basaksehir Cam and Sakura City Hospital (decision no: 79, date: 20.04.2021).

Informed Consent: Written informed consent was obtained from all participants.

Peer-review: Externally and internally peer-reviewed.

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