

Patient Use of Complementary and Alternative Medicine for Psoriasis Vulgaris and Factors Believed to Trigger the Disease: a Multicenter Cross-Sectional Study With 1621 Patients

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ABSTRACT Introduction: Due to the chronic recurrent nature of psoriasis vulgaris (PV) and lack of definitive treatment for the disease, patients often resort to alternative treatments. Physicians seem to have low awareness of this issue.

Objectives: To elicit the perceptions of 1,621 PV patients on complementary and alternative medicine (CAM) and examine factors reported to worsen PV.

Methods: The patients sociodemographic characteristics, Psoriasis Area Severity Index (PASI), Dermatology Life Quality Index (DLQI), disease duration, and severity were recorded, and the patients CAM use was questioned in detail. The patients were also asked about factors that worsened PV and their experiences with a gluten-free diet.

Results: Of the patients, 56.51% had used CAM. The mean age, illness duration, PASI scores and DLQI of those using CAM were significantly higher. CAM use was significantly higher in those with facial, genital involvement, and arthralgia/arthritis. The patients mostly referred to CAM when PV became severe (46.4%). Of the CAM users, 45.52% used herbal topicals. The physicians of 67.03% did not inquire whether they used CAM. Of the participants, 37.73% considered that stress worsened their disease. Gluten-free diet did not affect PV symptoms in 52.22%.

Conclusions: Patients CAM use is often overlooked by dermatologists. Our results showed that more than half the patients used CAM and did not share this information with their physicians. Therefore, the awareness of physicians should be increased and patients should be asked about the use of CAM and directed to the appropriate medical treatment options by physicians.

Introduction

Complementary and alternative medicine (CAM) is defined as various medical and healthcare systems, practices, and products that are currently outside the scope of standard medical therapy [1,2]. This definition includes treatment methods used instead of conventional treatments, as well as those used as accessory or complementary to conventional treatments [3].

Interest in CAM methods, which date back centuries, is increasing day by day. One of the reasons for this is easy access information about these methods with the introduction of the internet into daily life. Another reason is that modern treatments are expensive since they enter the market after extensive research and experiments, and substantial information is available concerning possible serious side effects [4]. The use of CAM for any reason is seen in almost one in two people, and this rate further increases in individuals with chronic diseases [4,5].

Although the frequency of CAM use due to dermatological diseases varies from one country to another, it is reported globally to range from 28.9% to 69% [6,7]. The most commonly used CAM methods in dermatological diseases worldwide have been reported as homeopathy, herbal treatments, and other food supplements [5]. However, these preferences can also differ according to the geographical area. It has been reported that the patient groups that most resort to

CAM are those suffering from psoriasis, acne, alopecia, and verruca [8].

Psoriasis vulgaris (PV) impairs the quality of life (QoL) and psychological state of patients due to its repetitive nature, ability to settle in specific parts of the body such as the face and genitals, accompanying comorbidities, and persistence for many years if left untreated. Patients sometimes refer to CAM methods because they are tired of conventional treatments and/or disease recurrence or they experience side effects related to medical treatments.

In the current study, we aimed to determine the frequency of CAM use in PV patients, preferred CAM methods, their reasons to refer to these methods, whether they would recommend CAM to other patients, and factors that they thought worsened their disease. To our knowledge, this study was conducted with the largest sample to investigate this topic and represents the whole society with a holistic approach with the participation of PV patients from all regions of Turkey.

Methods

Study Population

The study included voluntary literate at least 18-years-old PV patients who were followed-up in 18 different dermatology outpatient clinics in different regions of Turkey between January 1, 2020 and July 1, 2020. The patients signed a statement of written informed consent about the study.

Procedure

The study approval was obtained from the university ethical committee (18.12.2019/0528). The study protocol was registered at <https://www.clinicaltrials.gov> with the number NCT04207216. The survey items were prepared by the researchers that planned the study. The Psoriasis Area Severity Index (PASI) and clinical data concerning the disease were noted by the physicians. Then, the patients were asked to complete the survey and the Dermatology Life Quality Index (DLQI) without time limitation [9,10]. The survey questions are shown in Supplementary Table.

Statistical Analysis

The study data were analyzed using the SPSS IBM software package (IBM Corp. Released 2013. IBM SPSS Statistics for Windows, Version 22.0.). The results were obtained at the 95% confidence level. Demographic data and other measurements were expressed using descriptive statistics,

average, and percentage values. Among the patients with a history of CAM use, age, PASI, DLQI, duration of illness, and amount of smoking were tested with the independent samples t-test, and the remaining variables were evaluated with the chi-square test.

Results

A total of 1,621 patients, 741 women, and 880 men, were included in the study. The demographic characteristics of the patients are summarized in Table 1. 916 patients (56.51%) had used CAM for PV at some time in their lives.

Considering the seven regions of Turkey, CAM use was high in the Marmara region (29.1%), in which the population is more educated and has higher income, and this was followed by the central Anatolia region (13.9%) where the capital, Ankara, is located. Considering the treatments that had been used or were currently used by the patients, CAM

Table 1. CAM use of the patients according to their demographic characteristics and disease involvement.

		CAM use present		CAM use absent		P	Overall	
		N	%	N	%		N	%
Age	Mean	42.54 ± 15		45.71 ± 12		0.000	44 ± 15	
Gender	Female	415	56.01	326	43.99	0.725	741	45.71
	Male	501	56.93	379	43.07		880	54.29
Marital status	Married	654	55.52	524	44.48	0.102	1178	72.90
	Single	218	59.89	146	40.11		365	22.60
	Divorced	42	57.53	31	42.47		73	4.50
Education level	Literate, primary or middle school	359	53.03	318	46.97	0.047	677	42.30
	High school, college	340	56.86	258	43.14		598	37.30
	University or higher	200	61.16	127	38.84		327	20.40
Monthly income level ^a	Below \$300	207	53.63	179	46.37	0.374	386	23.90
	\$300-650	483	57.78	353	42.22		836	51.70
	\$650-1300	177	54.97	145	45.03		322	19.90
	Above \$1300	46	62.16	28	37.84		74	4.60
PASI	Mean	6.5 ± 6.1		5.8 ± 6.2		0.029	6.2 ± 6.15	
DLQI	Mean	10.2 ± 13.4		8.3 ± 9.3		0.001	9.3 ± 11.8	
Disease duration (years)	Mean	16 ± 11		14 ± 11		0.007	15 ± 11.3	
Smoking status	Non-smoker	530	59.42	362	40.58	0.129	892	55.03
	Smoker	386	52.95	343	47.05		729	44.97
Alcohol consumption	None	760	56.51	584	43.42	0.986	1345	82.97
	Regular	19	57.58	14	42.42		33	2.04
	Social	137	55.92	107	43.67		245	15.11
Family history of psoriasis	Absent	355	58.58	251	41.42	0.102	606	37.40
	Present	557	54.88	452	44.53		1009	62.20

Table 1 continues

Table 1. CAM use of the patients according to their demographic characteristics and disease involvement. (continued)

		CAM use present		CAM use absent		P	Overall	
		N	%	N	%		N	%
Joint pain	Pain present, no arthritis	238	62.30	144	37.70	0.003	382	23.60
	Pain and arthritis present	115	62.16	70	37.84		185	11.40
	Absent	561	58.68	488	51.05		1049	65
Nail involvement	Absent	525	54.63	436	45.37	0.067	961	59.30
	Present	391	59.24	269	40.76		660	40.70
Scalp involvement	Absent	393	55.20	319	44.80	0.364	712	43.90
	Present	523	57.54	386	42.46		909	56.10
Facial involvement	Absent	720	54.71	596	45.29	0.002	1316	81.20
	Present	196	64.26	109	35.74		305	18.80
Hand involvement	Absent	569	56.06	446	43.94	0.642	1015	62.60
	Present	347	57.26	259	42.74		606	37.40
Genital involvement	Absent	677	54.55	564	45.45%	0.004	1241	76.60
	Present	238	62.80	141	37.20		379	23.40
Skin-fold involvement	Absent	681	55.28	551	44.72	0.079	1232	76.00
	Present	235	60.41	154	39.59		389	24.00

^aIncome level was calculated based on the exchange rate at the time of the study.

CAM = Complementary and alternative medicine; PASI = Psoriasis Area Severity Index; DLQI = Dermatology Life Quality Index.

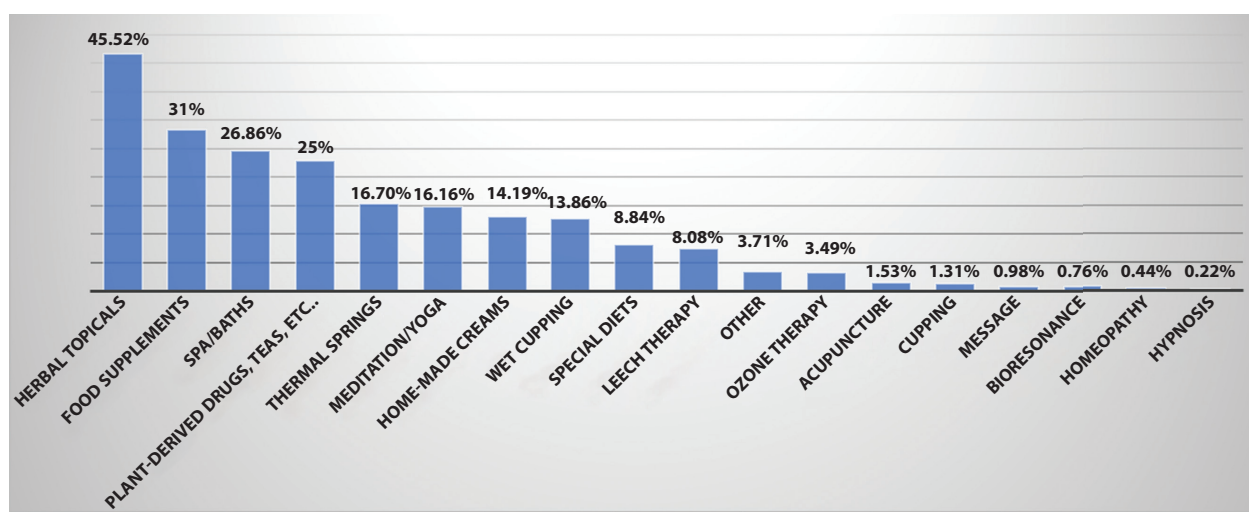


Figure 1. CAM methods preferred by the patients. More than one response allowed (total percentage exceeds 100%). CAM = complementary and alternative medicine.

use was higher in the groups of cyclosporine (64.02%), biological agents (64%), phototherapy (62.87%), and methotrexate (60.78%).

The CAM methods preferred are summarized in Figure 1. They resorted to these methods most commonly after the fifth year of the disease (32%) and within the first to fifth years of the disease (27.3%). This was followed by the groups that started to use CAM methods from the time of diagnosis (18.8%), before consulting a doctor (11.24%),

and within the first year of the disease (9.4%). The patients had mostly heard of CAM methods from their acquaintances (33.95%) or relatives (28.49%), and through the internet (23.91%). Those that heard from their dermatologists constituted 12.34% of the sample. The duration of CAM use was reported to be 1-6 months by 24.78% of the patients and 2-4 weeks by 24.56%. For 31.77% of the patients, the CAM practitioner did not have any CAM training while 33% did not know about the practitioner training and 31% were not

interested in the practitioner education. The patients most resorted to CAM methods when their disease became severe (46.40%) while 31.55% stated that they referred to these methods when they had mild PV, 24.56% when they experience joint pain, 20.09% when the disease recurred, and 14.41% when they had no hope about getting better.

While 54.5% stated that they would not recommend these methods to other patients, 11.55% were positive about recommendation, and the remainder were indecisive. CAM had no effect on PV for 56.55% of the patients and worsened the disease according to 8.33% whereas 28.38% thought they had benefitted from treatment. The remainder made no comment about the effect of CAM on PV. The answers about the reason why they received CAM are summarized in Table 2.

The physicians of 67.03% of the patients did not ask whether they had used CAM, and 48.91% of the patients did not spontaneously inform their doctors that they had received such treatment. The patients who shared this information stated that their physicians recommended stopping the CAM treatment (27.65%), did not interfere (26.61%), or mentioned that there was no harm in continuing to use CAM (20.79%). The remaining 24.95% did not care or were unresponsive.

When the patients that had not used CAM were asked for their views concerning these methods, 56.17% did not find them reliable and safe, 28.94% thought they were nonsensical and useless, 28.37% found them expensive, and 24.26% were concerned about side effects. When asked whether they would use CAM in the future, 60.85% stated that they would not use them, 25.39% would use if they were sure they would do no harm, 23.12% might use, and 6.95% were thinking about using them.

56.69% of the patients thought that various foods affected PV while 28.74% did not consider that any food or habit had a worsening effect on PV. The patients thoughts

on which food and habits are affecting psoriasis are listed in Table 3.

A gluten-free diet was followed by 5.55% of the patients at some time in their lives. Of the patients with this history, 52.22% thought that removing gluten from their diet did not affect their PV symptoms while 21.11% believed that it helped relieve their rash, 26.67% itch, 4.44% joint pain, 5.56% nail symptoms.

Conclusions

In previous studies conducted with psoriasis patients, the use of CAM was reported at a rate of 41%-69% [11-18]. Our rate of 56.51% was similar to previous studies. In addition, there was no significant difference in CAM use according to gender and financial status, which is in agreement with the literature [17]. In the current study, the patients using CAM were significantly younger (42.5 and 45.7 years, respectively; $P = 0.000$) and had a significantly longer mean disease duration (15.8 and 14.3 years, respectively, $P = 0.007$) compared to those without a history of CAM use, which is also consistent with previous research [12,17]. Generally, people that were younger but who had a longer disease duration were determined to seek alternative treatment options.

In our study, the patients with a minimum university level tended to have a higher rate of CAM use. This contradicts with a previous study indicating no relationship between education level and CAM use [16]. In Turkey, individuals with higher education participate more in work life and they are more likely to do an online research and access these methods. This may contribute to higher use of CAM in our highly educated patients.

The patients using CAM had significantly higher PASI and DLQI than those that did not use (PASI = 6.5 and 5.8, respectively; DLQI = 10.2 and 8.3, respectively). Previous studies

Table 2. Patients reasons for receiving CAM.

	N	%
Saw no benefit of modern drugs for psoriasis	177	19.32
Thought it would prevent disease recurrence	242	26.42
Became tired of medical therapies and decided to look for an alternative method	334	36.46
Natural and safe with no side effect	275	30.02
Cheaper	33	3.6
More reliable and effective than medical therapies	18	1.97
Easily available	64	6.99
Don't know	111	12.12
Other	68	7.42
Total	1322	

More than one response allowed (total percentage exceeds 100%).
CAM = complementary and alternative medicine.

Table 3. Patients thoughts on food and habits affecting psoriasis.

	N	%
Sunflower seeds	222	13.70
Nuts	141	8.70
Hot-tasting food	510	31.46
Spicy food	489	30.17
Milk, dairy products	50	3.08
Packaged food, such as crisps	233	14.37
Fried food	285	17.58
Offal	31	1.91
Food and beverages with coloring, such as coke	238	14.68
Sugar, chocolate	142	8.76
Fatty food	171	10.55
Chicken	28	1.73
Red meat	61	3.76
Fish, fish oil	23	1.42%
Hormone-injected vegetables/fruit	69	4.26
Alcohol	228	14.07
Wheat, wheat products	51	3.15
Eggplant	136	8.39
Tomato	365	22.52
Ketchup, mayonnaise	107	6.60
Paste, sauces	163	10.06
Smoking	280	17.27
Gluten	54	3.33
Stress	563	34.73
Lack of sleep	202	12.46
Other	88	5.43
Total	4930	

More than one response allowed; total percentage exceeds 100%.

similarly reported a higher rate of CAM use in patients with high PASI scores [12,16,18]. This suggests that as the disease duration and severity increase and the QoL deteriorates, patients are more willing to try different treatment options.

QoL in PV patients may vary according to the involvement areas. In our study, CAM use was significantly higher in those with facial (64.26%) and genital involvement (62.8%) and those with arthralgia (62.30%) and arthritis (62.16%). In another study, CAM use was found to be high in the presence of scalp and facial involvement [18]. Previous publications did not detect a difference in the use of CAM among patients with arthritis [17,18]. Psychosocial effects are more commonly observed in patients with lesions located in visible areas and intimate areas, as well as those with arthropathic psoriasis [19]. This situation may also create an important barrier for patients to present to health institutions to be examined by physicians and explain why our patients felt the need to refer to CAM methods.

CAM use varies by country and culture. Patients often try treatments that are easier to access in areas where they live. Our patients mostly used herbal topicals (45.52%), food supplements (31.0%), and hot springs/baths (26.86%) while they least referred to hypnosis and homeopathy treatments, which are not common in Turkey. Previous studies showed that herbal topicals (36.80-73.13%) were among the most preferred CAM method [11,12,14-18,20]. In addition, as in our study, food supplements were among the frequently preferred CAM methods in many studies [14,17]. This shows that despite differences depending on the geography, patients tend to rely more on drugs derived from plants. Herbal treatments are also officially accepted in Far Eastern countries. In Korea, all herbal, acupuncture and bath treatments are classified under the name of oriental therapy and subject to license, and their use is legally approved [15]. Herbal medicine formulas are included in traditional Chinese treatments and used for psoriasis [21]. Since natural spring waters are

abundant in Turkey, bath/spa treatments are among the frequently preferred treatments. Similarly, studies conducted in Korea (44.3%) and Israel (46%) reported that bath/spa treatments were used frequently [12,15]. In addition, herbal products and salts used in bath were frequently preferred methods in other studies [16,17].

Among the reasons for using CAM, our patients commented that they sought an alternative treatment method (36.46%), considered it natural (30.02%), and thought it would prevent PV recurrence (26.42%). Nineteen percent considered that the modern drugs did not help. In general, it was seen that the patients were worn-out due to the repetitive nature of psoriasis and referred to CAM with the hope of achieving a full cure. In addition, there were many patients that believed that these treatments had no side effects or health risk. Similarly, in previous studies, patients frequently stated that they resorted to CAM methods because they try everything to eliminate their disease, were unhappy with conventional treatments' results, and found CAM to be safe [12,15-17,22].

Although our patients mostly received recommendations for CAM treatments from their acquaintances (33.95%), some also read about them on the internet (23.91%) and were recommended by their dermatologists (12.34%). In previous studies, patients generally found out about CAM through their acquaintances, friends and the internet, with dermatologist recommendations being reported at a rate of only 3.40%-4.48% [15,17]. This difference can be attributed to the varying practices of physicians in terms of CAM use and recommendations according to geographical differences.

Thirty-five percent stated that stress was the factor that most worsened PV. This was followed by those considering that the consumption of hot and spicy foods, tomatoes, and smoking had a negative effect on psoriasis. The rate of those who thought that their food preferences did not affect was 43.31%. Afifi et al reported this rate to be 37% and determined sugar (13.8%) and tomato (7.4%) to be the food that most increased the disease severity [23]. A considerable proportion of our patients (22.52%) thought that tomato worsened their symptoms, but there was a higher rate of those considering hot (31.46%) and spicy (30.17%) foods to have a negative effect, which was much higher than reported before (2%-5%) [23]. Since dietary habits can differ between countries, the higher rate of our patients believing that hot and spicy foods and tomato worsened their disease compared to previous studies can be explained by the more frequent consumption of such food products in Turkey.

There are different opinions about the relationship between psoriasis and gluten. In contrast to those that claim that there is no relationship between gluten intake and the risk of developing psoriasis, there are also publications that link celiac disease with PV [24-27]. In a previous study,

52.9% of PV patients who followed a gluten-free diet reported that they observed some improvement in their disease [23]. In our sample, 52.22% following a gluten-free diet did not consider any effect on psoriasis while 3.33% of all patients thought that gluten exacerbated PV. This is lower than the rate of those reporting that gluten affected their disease (7.2%) in a USA study [23].

Although most physicians do not pay any attention to CAM treatments, there are many studies on this subject in the literature. Cochrane reviews, meta-analyses and systematic reviews reveal the presence of studies investigating products containing fatty-acid containing oils, oral and topical herbal medicine, marine medicines such as fish oil, acupuncture, selenium, vitamin D, zinc, avocado oil, climatotherapy, and mind/body interventions in the psoriasis treatment [21,18-31]. These studies report findings of anti-inflammatory, antiproliferative and immunomodulatory effects of the herbal treatments as a complementary option to conventional therapies [28]. However, it is advised that care should be taken in terms of hepatotoxicity, and the benefits of these treatments are low and the methodologies of these studies are usually weak [21,28]. It is also suggested that there is no solid evidence concerning the benefits of vitamin D, zinc, selenium, topical vitamin B12, and avocado oil while evidence presented on oil, aloe vera, fish oil, climatotherapy and mind/body interventions is conflicting, and acupuncture is not effective [29].

In our study, 67.03% of the patients stated that their physicians did not inquire about their CAM use, and 48.91% did not inform them about CAM use if not prompted by their physicians. As a result, it was seen that most physicians were unaware of CAM being used by their patients. CAM use without the physician knowledge can lead to undesirable side effects and make it difficult for the physician to determine the underlying cause of these effects. Similar to our results, a previous study reported that the rate of physicians asking their patients about CAM use was very low (10%) and only 22% of the patients shared this information with their physicians [12].

Due to the chronic and recurrent nature of PV, more than half the patients seek CAM methods. This tendency is more common in patients with a severe disease, poorer QoL, increased disease duration, arthritis/arthritis, and facial, genital involvement. We determined that the patients used CAM because they thought that these methods were natural and safe and had no side effects, and they were exhausted with the process of undergoing conventional treatments and experiencing disease recurrence. Herbal topicals, food supplements and bath/spa treatments were the most preferred CAM methods. The physicians usually did not ask about their patients CAM use, and almost half of the patients did not choose to share this information with their physicians.

The patients considered that stress, consumption of hot and spicy foods, and smoking worsened their disease, and gluten did not effect. In light of these data, it is considered very important that the physicians should question the use of CAM in their patients with chronic diseases and guide them appropriately.

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