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Research Article
Pattern of Complementary and Alternative Medicines Use in Patients with Chronic Dermatological Conditions

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Abstract

Background and Objective: Complementary and Alternative Medicine (CAM) use for chronic dermatological conditions is common. However, such usage data in the South Indian population is lacking. The study aimed to investigate the frequency and types of CAM users among patients with chronic dermatological conditions in a tertiary care South Indian hospital. **Materials and Methods:** A prospective, cross-sectional study was conducted in 205 patients with chronic dermatological conditions. **Results:** About 16.1% of the patients used CAM therapies. Most of the CAM users were found to be in the upper-lower class. The most commonly used CAM treatment was Ayurveda medicines followed by herbal medicine. Among the 33 CAM users, 22 patients (66.7%) discussed their CAM therapy management with their dermatologists. Of the 22 cases discussed, 12 patients (54.5%) reported that their dermatologists did not encourage CAM usage. **Conclusion:** The usage of CAM therapy by the study patients was less when compared to other studies. Ayurveda and herbals were frequently used CAM. Further studies are needed to evaluate the clinical outcomes of the potential drug-CAM interactions.

Key words: Drug interaction, chronic dermatological condition, Ayurveda, skin, complementary medicine, alternative therapy, conventional medicine

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Data Availability: All relevant data are within the paper and its supporting information files.

INTRODUCTION

Complementary medicines are used along with conventional medicines, whereas alternative medicines are used instead of conventional medicines[1]. Even though the safety and efficacy of Complementary and Alternative Medicines (CAM) are unproven, the utility of CAM therapy is very popular throughout the world[2]. CAM therapy is common for the management of chronic disorders[3]. Chronic skin disease affects all ages from neonates to the elderly and causes harm in several ways. The usage of CAM therapy by dermatological patients ranged from 35-69%[4].

Generally, the term CAM therapy refers to the use of AYUSH drugs such as Ayurveda, Yoga, Unani, Siddha and Homeopathy. Of them, Ayurveda is one of the world's oldest holistic healing systems. It originated in India and this system of medicine includes plants, animal origin products, metals and minerals as drugs[5]. These are available in the market as Over The Counter (OTC) products in India. People believe that Ayurveda drugs are natural and do not cause any adverse events or will not cause any interactions[6].

As interest in and use of CAM continues to grow, clinicians must be able to help patients make informed decisions regarding the safety and efficacy of the various therapies they encounter[7,8]. The pattern and prevalence of CAM usage vary to a large extent among people with different cultural practices, especially in a country like India which has huge cultural diversities. Hence it is important to explore such patterns across various hospital settings. Therefore, in the present study, the authors aimed to investigate the frequency, types of CAM usage among patients with chronic dermatological conditions in the southern part of India.

MATERIALS AND METHODS

Study area: A prospective, cross-sectional study was conducted at the Department of Dermatology in G-block and Sri Ramachandra Medical Center, Sri Ramachandra Institute of Higher Education and Research (SRIHER), Deemed to be University (DU), Chennai, Tamil Nadu from May, 2018-2021, after getting approval from the Human Institutional Ethical Committee of SRIHER, DU (CSP/18/JAN/65/25).

Data collection: Patients who were more than 18 years of age, of both genders, presenting with any chronic dermatological conditions were included in the study. Patients with any co-morbidity were excluded. The purpose of the study was explained to patients and written informed consent was obtained.

Demographic data of the patients, such as their age, gender, domicile, education, occupation and family monthly income were collected. The socioeconomic class of the patients was calculated according to Modified Kuppuswamy Socioeconomic classification[9].

Methodology: Based on the literature survey, the research team decided to include relevant questions to ascertain whether the patient used CAM therapy anytime in his/her life for the treatment of their dermatological conditions and to collect details of the CAM therapy.

The sample size was calculated using the expected proportion and precision of (d) 0.1 with a confidence interval of 95%. The calculated sample size was 198. Baseline characteristics were expressed as descriptive statistics. The frequency of CAM usage was expressed as percentages.

RESULTS AND DISCUSSION

A total of 218 patients were approached for the study. Four refused to participate and 9 had to be excluded from the study since they did not answer all the questions in the data collection form. A total of 205 patients were included in the survey. Characteristics of study patients are summarized in Table 1. Gender and socioeconomic status were significantly associated with CAM use while age, domicile and diagnosis did not.

Age, gender, disease status, hospitalisation, geographic region, degree of education, wealth and belief in CAM are all characteristics that influence CAM use, according to Barnes *et al.*[10]. In the present study, gender and socioeconomic status were significantly associated with CAM use. Ceylan *et al.*[11] found that the older a patient is, the less likely he or she is to use CAM therapy. Barnes *et al.*[10], on the other hand, found that older persons were more likely than younger adults to use CAM[10]. However, no such age-related CAM use was found in the current study.

Types of CAM therapy, which patients used to treat their dermatological conditions are summarized (Table 2). Ayurveda was the most popular at 27.2%. Oral Ayurvedic medications such as Acokarokini (*Picrorhiza kurroa*), Neem (*Azadirachta indica*), Ashwagandha (*Withania somnifera*), Panchatikta Ghrita Guggulu (*Tinospora cordifolia* and *Azadirachta indica*), Aragwadhadikwatham and ointments such as PSORA care pack and shoreline were commonly used. Herbal remedies were placed next to Ayurveda. Herbals such as *Curcuma longa*, *Zingiber officinalis*, *Aloe vera*, *Solanum nigrum*, *Linum usitatissimum* and *Camellia sinensis* were used frequently by the patients. All the herbal formulations were applied externally.

Table 1: Characteristics of study patients

	CAM users		Non-CAM			
Variables	Numbers	Percentage	Numbers	Percentage	Chi square value	p-value
Gender						
Male	11	33.3	80	46.5	0.8	0.008*
Female	22	66.6	92	53.5		
Age in years						
18-30	18	54.5	82	47.7	0.16	0.643
31-50	12	36.4	65	37.8		
>51	3	9.1	25	14.5		
Domicile						
Rural	5	15.2	52	30.2	0.23	0.784
Urban	11	33.3	48	27.9		
Semi-urban	17	51.5	72	41.9		
Socioeconomic status						
Upper	1	3.0	12	6.9	12.6	0.008*
Upper middle	8	24.2	15	8.7		
Lower middle	7	21.2	27	15.7		
Upper lower	16	48.5	88	51.2		
Lower class	1	3.0	30	17.4		
Diagnosis						
Psoriasis vulgaris	11	33.3	30	17.4	1.0	0.842
Chronic eczema	9	27.3	24	14		
Palmoplantar psoriasis	3	9.1	20	11.6		
Vitiligo	3	9.1	20	11.6		
Dermatitis	3	9.1	9	5.2		
Tinea infection	2	6.1	12	6.9		
Melasma	1	3.1	4	2.3		
Systemic lupus erythematosus	1	3.1	2	1.1		
Others	-	0	51	30		

*Represents the statistical significance at <0.05

Table 2: Type of CAM therapy used by study patients

Type of CAM	Numbers	Percentage
Ayurveda	9	27.2
Herbal	8	24.2
Homoeopathy	5	15.1
Siddha	5	15.1
Vitamin E	1	3.03
Yoga	1	3.03
Others	4	12.1

Herbal therapy was the most widely used CAM therapy by our patients. The widespread usage of herbal medicine among our participants could be attributable to the availability and accessibility of these goods in our location, people's perceptions of herbal products as more natural than other approaches or their broad use in Indian traditional medicine. In other studies also, herbal medicine was one of the most commonly employed CAM therapy for various dermatological conditions[12,13].

Table 3 depicts the treatment characteristics of CAM users. Information about the CAM treatment was brought to the knowledge of the patients mostly by previously used patients for their ailments (42.4%). Many patients preferred CAM therapy as they were less costly compared to conventional therapy (60.6%). The expectation of using CAM therapy by the study patients was that CAM may suppress the progression of the condition (69.7%). About 54.5% of CAM users found their CAM therapy to be effective. The majority of the patients (88%) did not experience any harmful effects with the CAM product while 4 patients stated that the CAM product caused itching and aggravation of symptoms. Among the 33 CAM users, 22 patients (66.7%) discussed their CAM therapy management with their dermatologists. Of the 22 cases discussed, 12 patients (54.5%) reported that when they discussed CAM usage, their dermatologists did not encourage CAM usage.

Among the 33 CAM users, 5 potential drug-CAM interactions were identified using the database (Table 4). According to the database report, all the interactions were pharmacodynamic, the CAM product had the chance of decreasing the efficacy of the drug and the interactions between the drug and CAM were moderate in severity.

Among the five main categories of CAM therapy in the National Center for Complementary and Alternative Medicine (NCCAM), in the present study, the authors observed the use of three categories such as whole medical systems, mind-body

Table 3: Treatment characteristics of CAM users

Characteristics	Numbers	Percentage
Source of information about CAM		
Recommended by other patients	14	42.4
Recommended by family/friends	6	18.2
Own feel	8	24.2
Media/magazine	5	15.2
Reason for using CAM		
Not improved with existing one	8	24.2
Repeated hospitalization	5	15.2
Less cost compared to conventional therapy	20	60.6
Expectation of using CAM		
Complete cure	8	24.2
Suppress the progression	23	69.7
Increase the immunity	2	6.1
Effectiveness of CAM		
Very good	4	12.1
Satisfactory	18	54.5
Not effective	11	33.3
Harmful effects of CAM		
Yes	4	12.1
No	29	87.9
Dermatologists recommendations for CAM usage		
Agree	7	21.2
Disagree	21	63.7
Neutral	5	15.2
Reason for not informing the use of CAM to a dermatologist		
Dermatologist didn't ask	4	12.1
Harmless and it is not a medicine	24	72.7
Afraid that they may discourage	5	15.2

Table 4: Potential interaction between the drug and CAM

Drug (oral)	CAM (oral)	Frequency of interaction	Effect of interaction	Severity of interaction
Tacrolimus	*Picrorhiza kurroa*	7	It decreases the immune system	Moderate
Prednisolone	*Azadirachta indica*	5		
Prednisolone	*Withania somnifera*	4		
Prednisolone	*Tinospora cordifolia*+ *Azadirachta indica*	2		
Halobetasol	*Azadirachta indica*	2		

medicine and biological-based practices. The use of CAM therapy among dermatological patients was reported to be 35-69% in a systematic review[14]. On the contrary, in the present study, CAM therapy was used by 16.1% of the patients. The difference could be due to regional or cultural differences between our country and other countries.

In the present study, only 21.2% of clinicians agreed to the use of CAM for various dermatological conditions. 72.7% of patients believed that CAM is not a medicine and harmless. It showed the patients' lack of knowledge about the pharmacovigilance of AYUSH. People believe those AYUSH drugs are usually safer but this is not always the case. ADRs from AYUSH medicines might be harmful[15].

No interactions were found between the ointments of conventional medicine and CAM product. The details of interaction were brought to the knowledge of treating clinicians for their clinical judgment. Since the identified drug-CAM interactions have not contributed to any ADRs and also not impaired the efficacy of the drugs clinically, no changes were made in the prescription. Thus, there is a disparity between the potential and clinically relevant drug-CAM interactions. Whenever drug-CAM interactions are identified using any database, the benefit to risk evaluation should be made based on the clinical relevance of the interactions as well as patient-specific factors[16]. Therefore, clinical prudence is required before changing the prescription due to potential drug-CAM interactions identified using the database.

The strength of our study is that this is the first study in the South Indian population to report the drug-CAM interactions in patients with chronic dermatological conditions. The study has certain limitations, such as it was conducted in only one centre and this study has to be replicated in other areas of the country with diverse environmental conditions and cultures to assess generalizability and compare different regions.

Our findings show that dermatological patients do use CAM therapy, with herbal or other dietary supplements being the most popular. As CAM can interact with prescription medicines, dermatologists should be aware of these findings. As community members' behaviour in using CAM therapy without adequate knowledge may have a significant impact on one another, we should consider ways to educate the general public about CAM methods as well as their potential risks and benefits and encourage our health care workers to communicate these to their patients.

CONCLUSION

In line with previous studies, the results of the present study showed that the usage of CAM therapy by the study patients was less. To find whether the patients hide their CAM use or not is a big challenge. Ayurveda and herbals were the frequently used CAM therapy. A moderate level drug-CAM interaction was found using a literature review. However, patients did not experience any clinically relevant adverse events identified. Therefore, clinical outcomes associated with drug-CAM interactions need to be further investigated in future clinical trials.

SIGNIFICANCE STATEMENT

This study discovers the prevalence and pattern of CAM therapy used for various chronic dermatological conditions that can be beneficial for other CAM users and dermatologists. This study will help the researcher to uncover the critical area of CAM-drug interactions that many researchers were not able to explore. Thus, a new theory on CAM-drug interactions may be arrived at.

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