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## Original Research Article

# Use of complementary and alternative medicine by patients with dermatological disorders in western part of India: a prospective study

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### ABSTRACT

**Background:** This study was aimed in assessing the prevalence and pattern of CAM in patients with dermatological disorders.

**Methods:** This cross sectional study was carried out at outpatient department of Dermatology at tertiary care teaching hospital. Data was collected with help of questionnaire which contained sociodemographic details and details of use of CAM if any by the attending patients. Data was analysed for sociodemographic and clinical character, pattern of use of CAM, source of information and reasons for using CAM.

**Results:** Mean age of participants was  $29.29 \pm 20.25$  (Mean $\pm$ SD) years and 102 (46.54%) users were women. Highly educated patients (49.25%) were the most frequently CAM users. Below 20 years (57.84%) youngsters were the frequent CAM users. About 45.19% patients were belonging to rural area of community. Acne vulgaris was the commonest condition for CAM use. Folk medicines (70.73%) were the most frequent used CAM. Advised by friends/relatives was the commonest source of information. About 80.49% patients had not informed to their physician about the use of CAM. None of the patients had knowledge of adverse effect of CAM.

**Conclusions:** Use of CAM is very common in dermatological disorders, youngsters and literate were the most common CAM users. Combined administration of herbs with prescription drugs may increase or decrease the pharmacological or toxicological effects of either compound.

**Keywords:** Acne vulgaris, CAM, Dermatological disorders

### INTRODUCTION

The National Centre for Complementary and Alternative Medicines (NCCAM) defines CAM as a group of diverse medical and health systems, practices and products that are not presently considered to a part of conventional medicine.<sup>1</sup> Complementary medicine is together with conventional medicine while alternative medicine is use in place of conventional medicine.<sup>1</sup> Utilization of CAM is a universal phenomenon both in developing countries and developed countries like USA.<sup>2,3</sup> Ayurveda the oldest system of medicine is the commonly prescribed form of CAM in India fulfilling the medical need of 80% of the population.<sup>4</sup>

Studies have documented that about half of the population of many industrialized countries used traditional, complementary and alternative medicine and proportion is as high as 80% in many developing countries.<sup>5</sup> It is being widely used in India and about 2860 hospitals provide CAM services.<sup>6,7</sup> Herbal medicines are increasingly becoming popular as alternative medicine and estimated one third adult population from developing countries and 80% from developed countries are using herbs as an alternative medicines often in combination with allopathic drugs which may lead to herb drug interaction by affecting pharmacokinetic and pharmacodynamic properties.<sup>8</sup>

Estimation of CAM use among adult with dermatological disease in the United States have varies from 50% to 60%.<sup>9-11</sup> Previous studies have revealed that the use of CAM is prevalent among patients with dermatologic disease, the frequency of CAM use being reported as between 21% to 49.69% depending on the country.<sup>12-17</sup>

Limited information about utilization pattern of CAM in dermatological disorders is available in India. Hence this study was planned with the aim of assessing the prevalence and pattern of the utilization of CAM in Out Patient Department of Dermatology at a tertiary care teaching hospital in Western part of India in Gujarat state.

## METHODS

This was a questionnaire based cross sectional descriptive study. The study was carried out in Out Patient Department of dermatology at C. U. Shah Medical College and hospital in Surendranagar city of Gujarat state in India. The C. U. Shah hospital is a teaching hospital in Surendranagar catering to health needs of people in villages in Zalawad province as well as the Surendranagar city. The study was approved by the Institutional Ethics Committee. The study period was August 2010 to October 2010 (3 months). Patients of both sex and all age groups attending outpatient department of dermatology during study period were invited to participate. All the patients were informed about the study and its aim. Those patients who were willing to participate and consented for the study were included. A questionnaire to assess the prevalence and pattern of use of CAM was developed and validated by considering previous study.<sup>18</sup> The questionnaire was pre-tested by pilot study in 20 patients. Modifications were made on the based on the responses and observations of the patients.

Questionnaire was filled in either by participants themselves or by investigator by asking questions to the literate patients and parents or guardians in case of children. Questionnaire included information regarding sociodemographic data, present clinical condition, allopathic medicines used and details of usage of complementary and alternative medicine, source of

information for CAM, the reason for the CAM use and participant's knowledge of adverse drug reactions likely to occur with CAM.

For usage of complementary and alternative medicine patients were specifically asked about different CAM therapies including herbal remedied from Ayurveda, homeopathy, folk remedies, acupuncture, chiropractic, megavitamins, prayer or spiritual healing, commercial diet, programs, relaxations, meditation, massage, naturopathy, yoga etc. If patients were using CAM then further questions regarding CAM were asked. Most of the allopathic drugs were prescribed by their brand names. The generic content of each formulation was obtained from commercial publications like Indian Drug Review (IDR). Information regarding herbal or any alternative medicine was obtained from commercial web site ([www.nccam.gov](http://www.nccam.gov)). Information not available from this source was obtained from local medicine shops.

### Sample size calculation

Sample size of 285 was derived using Rao soft sample size calculator considering prevalence of 25% at 95% confidence with 5% margin of error.<sup>10</sup> Data were analysed by using Microsoft excel 2007.

### Statistical analysis

The recorded data was compiled and entered in a spreadsheet computer program (Microsoft Excel 2007) and then exported to data editor page of SPSS version 15 (SPSS Inc., Chicago, Illinois, USA). For all tests, confidence level and level of significance were set at 95% and 5% respectively.

## RESULTS

### Prevalence of usage of CAM

Total 500 patients were included in the study. Out of 500 patients 205 (41%) reported using CAM. 13 patients (6.34%) being current CAM users. Out of 205 CAM users 102 (46.15%) were female.

**Table 1: Demographic characteristics of study population (n=500).**

Variable	Number (%)	CAM users	Prevalence (%)	
<b>Gender</b>	Male	279 (55.8)	103	36.91
	Female	221 (44.2)	102	46.15
<b>Age (years)</b>	<10	45 (9)	11	24.44
	11-20	102 (20.4)	59	57.84
	21-30	111 (22.2)	57	51.35
	31-40	79 (15.8)	27	34.17
	41-50	67 (13.4)	17	25.37
	51-60	57 (11.4)	20	35.08
	>65	39 (7.8)	14	35.89

Continued.

Variable		Number (%)	CAM users	Prevalence (%)
<b>Religion</b>	Hindu	455 (91)	184	40.43
	Muslim	35 (7)	16	45.71
	Jain	10 (2)	5	50
	Christian	0 (0)	0	0
	Others	0 (0)	0	0
<b>Monthly family income</b>	<5000	345 (69)	138	40
	5000-10000	116 (23.2)	46	39.65
	>10000	39 (7.8)	21	53.84
<b>Education</b>	Illiterate	69 (13.8)	27	39.13
	Can read and write	181 (18.2)	69	38.12
	Up to school level	183 (36.6)	76	41.53
	Graduates	67 (13.4)	33	49.25
<b>Background</b>	Rural	208 (41.6)	94	45.19
	Semi urban	104 (20.8)	35	33.65
	Urban	188 (37.6)	76	40.42

Mean age of participants was 29.29±20.25 (Mean±SD) years. Educated patients reported most frequent use of CAM with 49% while lower education, patients can read and write reported lower use at 38%. Majority of CAM users were from rural area (45.19%). About 57.84% of patients aged between 11 to 20 years used most frequently.

**Table 2: Common condition for which CAM was used (n=205).**

Characteristics	Total number	Prevalence (%)
Acne vulgaris	76	37.07
Eczema	23	11.22
Scabies	16	7.80
Lichen simplex	6	2.93
Dematitis	16	7.80
Urticaria	21	10.24
Alopecia	1	0.49
Hair fall	4	1.95
Tinea infection	4	1.95
Pityriasis infection	4	1.95
Psoriasis	15	7.32
Prurigo	2	0.98
Melasma	1	0.49
Tanning	4	1.95
Sun burn	2	0.98
Hyper pigmentation	9	4.39
Itching	1	0.49

Majority of CAM users were from rural area (45.19%). About 57.84% of patients were included in age group of 11 to 20 years. (Table 1). Usage of CAM was most frequent in acne vulgaris (37.07%) followed by eczema 11.22% (Table 2).

Friends/relatives (48.26%) were the most information source followed by self experience (35.12%). Only 6.83% of patients had used CAM on recommendation by

qualified physician. About 66.83% of patients stated that they have used CAM because of cost benefit and 77.07% patients reported no change in condition. 1.95% of patients experiencing adverse effect after using CAM.

**Table 3: Characteristics of the individuals related to their use of CAM methods (n=205).**

Characteristics	Number	Percent
<b>Which CAM is used</b>		
Ayurveda	38	18.53
Homeopathy	3	1.46
Unani	0	0.00
Folk medicine	145	70.73
Others	19	9.25
<b>Source of information about CAM usage</b>		
Qualified practitioners	14	6.83
Advice by friends/relatives	99	48.29
TV/internet/media	20	9.76
Self medication	72	35.12
<b>Information to their doctor about CAM usage</b>		
Yes	40	19.51
No	165	80.49
<b>CAM used associated with cost benefit</b>		
Yes	137	66.83
No	68	33.17
<b>Result experienced</b>		
Beneficial	43	20.89
Harmful	4	1.95
No change	158	77.07
<b>Knowledge about side effect of CAM</b>		
Yes	0	0.00
No	205	100

About 80.49% of the patients had not disclosed to their physician about the use of CAM. None of the patients had knowledge about side effects and possible drug interaction of CAM with prescription medicines.

Looking to the types of CAM used, majority (70.73%) were using folk medicines followed by Ayurvedic medicines (18.53%) (Table 3).

**Table 4: Distribution of CAM used orally (n=15).**

Medicine	Disease	No. of patients (%)
Homeopathic tablet	Eczema	1 (6.6)
	Acne vulgaris	2 (13.3)
	Total	3 (20)
Garlic	Hypertension	2 (13.33)
Gandhak rasayan churna	Eczema	3 (20)
Mahamanjishthadi kwath	Acne vulgaris	3 (20)
	Psoriasis	2 (13.33)
	Total	5 (33.33)
Tab Arogyavardhini	Acne vulgaris	2 (13.33)

**Table 5: Distribution of CAM use topically by using folk medicines (n=145).**

Methods used	Number (%)
Bengalgram flour	10 (4.88)
Glycerine	2 (0.98)
Shankhjeeru	5 (2.44)
Kokam ghee	1 (0.49)
Multani sand	10 (4.88)
Olive oil	2 (0.98)
Ghee	1 (0.49)
Rose water	2 (0.98)
Ponds cream	2 (0.98)
Butter	1 (0.49)
Aloe Vera gel	27 (13.17)
Vaseline	20 (9.76)
Coconut oil	11 (5.37)
Honey + lemon juice	6 (2.93)
Sandalwood powder	7 (3.41)
Ash (bhasm)	2 (0.98)
Badam oil	1 (0.49)
Telcum powder	3 (1.46)
Maisurdal powder	2 (0.98)
Fudina (mint)	3 (1.46)
Neem leaves water bath	11 (5.37)
Castor oil	1 (0.49)
Neem leaves	6 (2.95)
Nutmeg	2 (0.98)
Til oil	4 (1.95)
Turmeric	2 (0.98)

Aloe Vera gel (13.17%) was the most frequently used topical folk medicine followed by Vaseline (9.76%), neem leaves water (5.37%), coconut oil (5.37%) and multani sand (4.88%) (Table 5).

Among the orally used medicine by 15 patients mahamanjishthadi kwath (33.33%) followed by

homeopathic tablet (20%), gandhak rasayan churna (20%) and garlic (13.33%) were used. Other types of CAM reported were itch guard cream (3.41%) and Johnson's baby cream (1.46%) (Table 4).

**Table 6: Distribution of CAM use topically by using Ayurvedic medicines (n=38).**

Methods used	Number (%)
Neem soap bath	6 (2.22)
Maha bhrungraj hair oil	2 (0.98)
Kumkumadi oil	5 (2.44)
Patanjali aloe vera gel	4 (1.95)
Herbal facepack	2 (0.98)
Raktachandan powder	1 (0.49)
Natural golden face pack	1 (0.49)
Ruturaj hair oil	1 (0.49)
Vico turmeric cream	2 (0.98)
Dabar amla hair oil	1 (0.49)
Lotus cream	1 (0.49)
Navratna hair oil	1 (0.49)

Neem soap was the most frequently used ayurvedic remedy (2.92%) followed by kumkumadi oil (2.44%) (Table 6).

**Table 7: Distribution of CAM use topically by using other medicines (N=19).**

Methods used	Number (%)
Itch guard cream	7 (3.41)
Himalaya cream	2 (0.98)
Crack cream	1 (0.49)
Sun screen lotion	1 (0.49)
Orange pill	2 (0.98)
Dettol soap	2 (0.98)
Johnson's baby cream	3 (1.46)
Himalaya face wash	1 (0.49)

Itch guard cream (3.41) was the most frequently used other type of medicine followed by Johnson's baby cream (1.46).

## DISCUSSION

Many studies carried out in dermatological disorders in USA, England, Germany, Taiwan, Turkey and Switzerland. Limited data for dermatological disorders are available in India. Estimation of CAM use among adults with dermatological disease in the United States varies from 50% to 60%.<sup>9-11</sup> In various studies it was stated that the prevalence of CAM methods in dermatology patients was 49.9% in USA; 26.5% in Germany; 35% in Switzerland; 41% in Taiwan; 35-69% in UK; and 21% in Turkey.<sup>12-17</sup> In our study about 41% patients had used CAM which is accordance with report from Taiwan.<sup>15</sup> The low prevalence is due to inclusion of

all types of dermatological disorders acute as well as chronic.

Chen et al reported that use of CAM methods was recommended to the majority of individuals by friends and relatives followed by media and doctors.<sup>15</sup> Similarly in the present study majority of patients (48.29%) had used CAM as advised by friends and family members while 35% of patients had used CAM as self-medication. Only 6.38% of the patients were using CAM on advice of qualified practitioners. Eser et al reported that to want to try was common reason for most of the individuals to use CAM and it was natural and less adverse effect, less expensive.<sup>17</sup> Similarly another study, also reported that people just wanted to optimize therapy by using CAM.<sup>12</sup> Our study is in accordance with Eser et al, in our study majority of (66.83%) patients had stated that CAM is less expensive only 33.17 % patients had reported that CAM is natural, safe and having less adverse effect than allopathic medicine.<sup>17</sup>

Study conducted by Smith et al in USA, oral therapy remain the common route of administration.<sup>12</sup> In the present study it was found that majority of CAM methods used by patients were applied topically. Out of 51 types of CAM remedies, 46 types were topically applied. However in chronic ailments CAM remedies were used systemically (7.3%). Our study is in contrast with Smith et al.<sup>12</sup> Aloe Vera gel (13.5%), neem leaves (11.22%), Vaseline (9.76%) being the most frequently topically used CAM remedies. Mahamanjishthadi kwath, gandhak rasayanchurn and garlic (for hypertension) were the orally used CAM remedies. Mahamanjishthadi kwath was the most frequently (33.33%) orally used herb.

Schafer et al and Ernst et al reported that a higher of CAM by patients with pruritis.<sup>13,16</sup> In our study it was found that acne vulgaris (37.07%) remain the main reason for usage of CAM.

Eser et al reported that the most common reason for most of the individuals to CAM were is natural, less adverse effects and less expensive.<sup>17</sup> In our study majority (70.73%) of patients had used folk remedies as CAM. Ayurvedic medicines were used by only 18.53% of the patients as the cost of therapy for Ayurveda is in general less than allopathy but more than house hold remedies which could be the reason for high usage of household or folk remedies. These findings are in agreement with Eser et al.<sup>17</sup>

Many studies reported that apart from herbs acupuncture, aroma therapy, homeopathy, and mega vitamins were the popularly used types of CAM.<sup>12-17</sup> In our study 1.5% patients had used homeopathy and none of the patients had used yoga to treat their dermatological ailments. This could be due to lack of awareness about these therapies in the region where this study was carried out. Moreover use of CAM therapies varies from country to country depending upon their cultural beliefs regarding indigenous medicines being prevalent e.g. in China

traditional Chinese medicine such as herbal medicine, acupuncture, acupressure, Qi gong and t'ai chi chu'an are widely used while in Japan kampong and acupuncture are commonly used CAM therapy.<sup>18</sup>

In a previous study 56.5% of the patients had stated that there was no change in complaints and 75.8% had never disclosed their CAM use with their doctors.<sup>17</sup> Majority of the respondents (77.07%) in our study also reported no change in complaints. Eser et al reported that 75.8% of the individuals who used CAM did not share the use of CAM methods with their physician. Similarly in our study a higher proportion of CAM users (80.49%) did not reveal their CAM use to their doctors.<sup>17</sup>

Smith et al reported that use of CAM therapy is more common among women than men as in our study also 44.54% CAM users were women.<sup>12</sup> Schafer et al reported that the group with higher education used CAM more.<sup>13</sup> Collins also reported that higher education is positively associated with CAM use.<sup>9</sup> Similar findings were determined in study done in United States, Taiwan, Turkey and UK in dermatological ailments.<sup>15,17,18</sup> Similarly in our study usage of CAM was highest (49.25%) in the patients who has completed their graduation.

Eser et al reported that to want to try was common reasons for most of the individuals to use CAM and it was less expensive.<sup>17</sup> Smith et al reported that people just wanted to optimize therapy by using CAM.<sup>12</sup> Similarly in our study 33.17% of the patients had stated that CAM therapy was less expensive, 11.83% of the patients stated that they wanted to try whether CAM is working or not. While majority (55%) of the patients believed that CAM therapy does not cause any adverse effect because it is natural and safe. In the previous study it was reported that use of CAM is high amongst individual in 30-50 years of age group.<sup>15,19,20</sup> In contrast in our study majority of CAM users were in 11-20 years of age group. This can be explained by the use of CAM method at a high percentage (37.07%) for the treatment of Acne vulgaris, a common problem experienced by young people. Chen et al reported that the greatest prevalence of all types of CAM use by young people and young people can increase the prevalence of use of CAM methods in future.<sup>15</sup> Smith et al reported that the use of CAM therapy was more common among women men in dermatological disorders.<sup>12</sup> Jensen and Eser et al reported that there were no significant difference between male and female in the use of CAM method.<sup>17,20</sup> Our findings are in accordance with Smith et al, in our study CAM therapies remain more frequently used among women (44.54%) than men (36.91%).<sup>12</sup>

## CONCLUSION

Use of CAM is quite prevalent in patients suffering from dermatological disorders and percentage of prevalence rate is 41%. Folk remedies are most frequently used. Women, young people and literate are more likely to use CAM. Higher income earners are frequently associated

with CAM use. Acne vulgaris remain the dermatological condition for using CAM. The fact that most users do not inform their doctors about use of CAM needs attention. The treating doctors should be positively ask the history of CAM to patients so as to avoid unwanted drug interactions resulting from them.

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