

## RESEARCH ARTICLE

### Complementary and alternative medicine usage in patients for different ailments in rural region of Malwa area of Punjab: A cross-sectional study

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#### ABSTRACT

**Background:** The use of complementary and alternative medicine (CAM) has increased steadily over the past 10-15 years and has gained medical, economic, and sociological importance. The prevalence of CAM use in patients is frequently high and estimated to be from 30% to 90% as reported in the literature. However, such usage data are missing in Indian population and that too based in rural area. **Aims and Objectives:** Our study aims to explore prevalence, pattern of use, and predictors of CAM and patients perceptions in various chronic diseases in rural populations. **Materials and Methods:** A descriptive, cross-sectional, 6 months survey enrolling 350 patients was conducted at Community Health Centre, located in village Badal, in Malwa region of Punjab, for 6-month period (July-December 15). Data collection was done in two parts: (a) Demographic details and (b) conventional treatment details. A questionnaire based on the International Questionnaire to Measure Use of CAM, developed by National Research Centre in CAM of the University of Tromso, Norway, which aims to internationally assess the use of CAM. **Results:** Out of total of 346 patients recruited, 200 confirmed of CAM usage and 146 denied of any CAM therapy and were labeled as a non-user group. Male predominance was seen in both user and non-user group. Uneducated farmers and those below poverty line were the dominant category who went for CAM as an ailment curing therapy, indicating education and poverty as one of the major predictors in our study. Hypertension, diabetes, arthritis, dermatology, and patients of diseases with longer duration more frequently practiced CAM. Hiding the therapies from treating physician was reported 58%. Homeopathic and ayurvedic therapies were famous in our rural population. All the results were compared in user and non-user groups. **Conclusion:** CAM usage to such an extent is alarming. No previous reports of CAM use in the rural population of Malwa region are documented. This increasing trends worldwide are making CAM history essential component of treatments for all common specially chronic diseases. So, our study is one of the first efforts to make CAM history an integral part of usual case history in our rural setup.

**KEY WORDS:** Complementary and Alternative Medicine; International Questionnaire to Measure Use of CAM-Questionnaire; Cross-Sectional Study

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#### INTRODUCTION

Progress in medical technologies has resulted in an increase in early stage disease detection, reporting, and improved treatment modalities all over India. Despite the progress, in rural areas, the challenge is to provide treatment to under-privileged who cannot afford evidence-based conventional

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care. A lot of new alternative therapies are coming in light which are practiced by such patients, one of which is complementary and alternative medicine (CAM).<sup>[1]</sup>

CAM is defined by the National Centre for CAM as “a group of diverse medical and health care systems, practices, and products that are not presently considered to be part of conventional medicine.”<sup>[2]</sup> In addition, a new operational definition of CAM was proposed that it should include patients’ perspectives such as individual goals, objectives, and beliefs of the patients.<sup>[3]</sup>

The National Centre for CAM classifies CAM therapies into five categories:<sup>[4]</sup>

- i. Alternative medical systems such as traditional Chinese medicine or Ayurveda
- ii. Mind-body interventions such as meditation prayer
- iii. Biologically-based therapies (herbs, dietary supplements, or vitamins)
- iv. Manipulation and body-based methods (massage, chiropractic, or osteopathy)
- v. Energy therapies (bioelectromagnetic-based therapies such as magnetic fields).

The use of CAM has increased steadily over the past 10-15 years and has gained medical, economic, and sociological importance.<sup>[5]</sup> A high prevalence (30-90%) has been reported in the literature in cancer and chronic disease patients.<sup>[6-8]</sup> In a meta-analysis based on studies from 18 countries (65,000 cancer patients), the combined prevalence for current use of CAM across all studies was 40%. The highest was in the United States and the lowest in Italy and the Netherlands.<sup>[9]</sup> In India too, studies have demonstrated CAM use in various diseases such as Parkinson’s, chronic kidney diseases, and rheumatic arthritis.<sup>[10,11]</sup> A recent survey in Delhi showed that 34.3% of cancer patients used CAM. The results also demonstrated a statistically significant relationship between the use of CAM and reported delay in seeking help from clinical medicine ( $P < 0.001$ ).<sup>[12]</sup>

A lot of patients specially in the rural area present with the irreversible damage done due to the progression of disease. An example of the case which came to light where a patient presented with irreversible loss of vision with a history of following the alternative medicine for ailment of glaucoma. This and many other cases led us to conduct this study which was aimed to explore prevalence, pattern of use, and predictors of CAM in various chronic diseases in the rural population of Malwa region.

## MATERIALS AND METHODS

A descriptive, cross-sectional, 6 months survey enrolling 350 patients was conducted at the Community Health Centre, located in village Badal, in Malwa region of Punjab, for

6-month period (July-December 15). The various inclusion and exclusion criteria to recruit the patients were as under:

### Inclusion Criteria

- Adult patients of either gender with a diagnosis of any chronic disease or cancer
- Able to understand the questions
- Free from any condition that would make completing the questionnaire inappropriate or overburdening for the patients
- Willing to participate in the study.

### Exclusion Criteria

- Psychological illness
- Not willing to participate.

### Data Collection

All patients who met the inclusion criteria during the study period were recruited in the study. Informed consent was taken and those who consented were then preceded with filling up of the questionnaire.

Data were collected in two steps:

1. Case study form having two components
  - a. Demographic details
  - b. Conventional treatment details (medications prescribed for the disease).
2. Specific CAM details.

This was obtained using a questionnaire based on the International Questionnaire to Measure Use of CAM, developed by the National Research Centre in CAM of the University of Tromso, Norway, which aims to internationally assess the use of CAM.<sup>[13]</sup> It includes a set of four main questions, which are further split into subsets of questions such as number of times the physician was seen in past 3 months, reason to follow a particular therapy, and how helpful it was to be enumerated in detail. The four major sets of questions are regarding:

1. Visiting health care providers
2. Complementary treatments received from physicians
3. Use of herbal medicine and dietary supplements including tablets, capsules, and liquids.
4. Self-help practices.

Some additional questions, open-ended questions were also quoted from previously published articles and literature review.<sup>[14,15]</sup> Open-ended responses were optional hence allowing participants to report any other CAM practices used particularly in their area/village/region that were not listed in the response choices.

**Statistical Analysis**

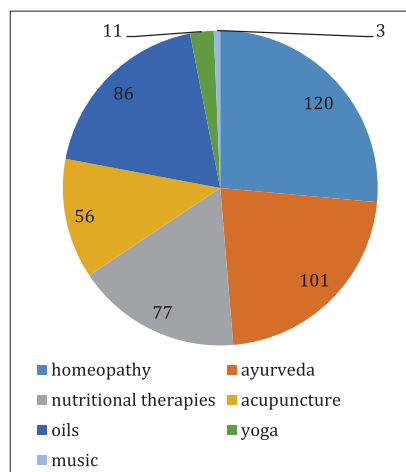
The collected data were tabulated and the baseline characteristics, such as patient demographics (age, gender, socio-economic status, educational status, occupational status, and place of living), severity of disease, and co-morbidities, were expressed as descriptive statistics. The duration and frequency of CAM usage were expressed as mean and standard deviation. The influence of gender, socioeconomic status, educational status, and occupation and the co-morbidities in the usage of CAM were assessed using Chi-square test. A  $P < 0.05$  was considered statistically significant.

**RESULTS**

A total of 350 patients having different chronic diseases involving various systems were recruited in the study. Four of them denied to give the informed consent, so we were left with a total number of 346 patients who consented to participate. Almost all the patients belonged to rural and remote places. 57.8% of the participants were CAM users, and 42.2% were labeled as non-users.

As our study included patients presenting with different and multiple disorders, we also analyzed as which pharmacological group of drugs was maximally prescribed and as the results concluded as in Table 1, those patient who were on therapy for chronic diseases such as that of hypertension, diabetes, arthritis, hemorrhoids, and others (such as vitiligo and psoriasis) were the main users. Likewise, Table 2 indicates non-steroidal anti-inflammatory drugs (NSAIDs) were being maximally consumed followed by antibiotics.

As shown in Figure 1, the commonly used CAM in majority of our rural population in descending order of prevalence was homeopathy (26%) followed by ayurvedic therapy (22%), oils (19%), nutritional therapy (17%), acupuncture (12.3%), yoga (11%), and music to lesser extent. A considerable overlap



**Figure 1:** Complementary and alternative medicine usage frequency

was seen in using the CAM, as many of the patients were using two or more therapies at the same time, for example, ayurvedic therapies + oils for arthritis.

As evident by Table 3, in our rural population with not much access to media, peer reference (89%) was the major source of information, with mostly a weekly visit (73%), and the users were partially satisfied with the CAM treatment. 35% users did not report any side effect, others mainly complained of headache and nausea. 88% users reported that neither the physician enquired nor they themselves reported the physician about subsequent usage of CAM. 60% of patients used it along with the prescribed medication for their respective treatments.

**Table 1:** Demographic details of CAM users and non-users

Characteristics	CAM users	Non-users	Chi-square	P value
Total number of patients (346)	200	146		
Sex				
Male	138	108	1.01	0.31
Female	62	38		
Education				
Uneducated	109	66	40	<0.05
Until 5 <sup>th</sup> grade	27			
Educated	24	80		
Occupation				
Farmers	111	70	2.41	0.12
Unemployed	18	12		
Self-employed (drivers, shopkeepers, etc.)	71	64		
Income				
Below poverty line (card holders)	107	70	8.32	<0.05
Above poverty line	93	76		
Disease				
Cancer	11	8		
Hypertension	165	33		<0.05
Arthritis	160	29		
Prostate hypertrophy	08	01		
Asthma	31	17		
Diabetes	112	44		<0.05
Hemorrhoids	55	12		
Glaucoma	02	-		
Dermatology	104	11		<0.05
Lump breast	12	20		
Cholelithiasis	7	25		
Tuberculosis	16	11		
Others	66	11		

CAM: Complementary and alternative medicine

**Table 2:** Prescription analysis of drugs

Conventional treatment prescribed	Frequency
NSAIDs	400
Metformin	89
Other hypoglycemics	67
Beta blockers	107
Calcium channel blockers	145
Antibiotics	289
Anticancer	23
Steroids	56
Antituberculosis	18
Antihistaminics	208
Antihypertensives	294

NSAID: Non-steroidal anti-inflammatory drugs

**Table 3:** Perceptions of rural population about CAM

Perceptions	N (%)
How did you come to know about CAM?	
Friends	178 (89)
TV	20 (10)
Newspaper	44 (22)
The frequency of CAM visit?	
Daily	22 (11)
Weekly	145 (73)
Occasionally	54 (27)
Only once	09 (4)
Money spent till now?	
<500	02 (1)
500-1000	28 (14)
1000-5000	101 (50)
>5000	11 (5)
How satisfied are you with CAM?	
Satisfied	83 (41)
Disappointed	56 (23)
Cannot say	61 (30.5)
Any side effect?	
Yes	25 (12.5)
No	69 (35)
Did your physician ever inquired about CAM?	
Yes	11 (10)
No	177 (88)
How you have been using it?	
By stopping prescribed therapy	44 (22)
Along with it	121 (60)

CAM: Complementary and alternative medicine

## DISCUSSION

The reason for recruiting mostly the rural patients in this study was as no data are available from our region and patients often delay their consultation with the physicians

due to long-term indulgence in CAM therapies, as per our previous clinical experience. The reason can be non-access or affordability issues with the people residing in remote areas. The two prominent examples seen in our study were one patient with Stage 4 carcinoma esophagus who was experiencing the difficulty in swallowing since last 10 years, reluctant to consult the physician and was taking some alternative medicine as advised by her peers and family, and another one who presented with blindness due to long-term treatment of glaucoma who kept on treating their ailments without any expert physicians consultation. Similar reports are documented previously too.<sup>[12]</sup> This indicates the problem to be solved at grass root levels.

In contrast, Bhandari and Banerjee reported 81.4% of the population availed modern medicine, 16.5% availed homeopathy, and 2% availed other indigenous systems in India, and rural people were aware of the need for an early initiation of the onset.<sup>[16]</sup>

Uneducated farmers and those below poverty line were the dominant category who went for CAM as an ailment curing therapy, indicating education and poverty as one of the major predictors in our study. Various previous studies focusing on different ailments have produced variable results. Educated patients while investigating Parkinson disease were reported by as dominant followers of CAM by Pandit et al.,<sup>[10]</sup> whereas uneducated patients were reported by Arjuna Rao et al.<sup>[17]</sup> Some studies state no significant association between CAM use and gender, marital status, occupation, or socioeconomic status of the patients.<sup>[18]</sup>

Further, our study revealed that hypertension, diabetes, arthritis, dermatology patients, and patients of diseases with longer duration more frequently practiced CAM which is consistent with previous results that chronic disease patients have a higher incidence of CAM use.<sup>[11,18]</sup>

Homeopathic medications were frequent CAM practiced in our population and also reported by others especially in Indian population.<sup>[16]</sup>

As our study included heterogeneous group of patients, we found maximum prescription was that of NSAIDs and antibiotics. Poly-pharmacy was frequent in all the prescriptions.

The alarming thing was that physicians never inquire about CAM therapy usage among patients, nor the patients are willing to tell them. The majority of CAM users (58.2%) did not disclose the use of CAM to their physicians, the most common reasons cited were that it was not necessary for the doctors to know (65.9%), or the doctors never asked (40.9%), or the doctors would disapprove of it (33.0%). This simultaneous use can lead to drug interactions and hence the side effects. Informative reviews of such side effects have

been presented in the literature.<sup>[19]</sup> A timely enquiry and intervention can hence be helpful for increasing the efficacy and decreasing the potential side effects which could result from simultaneous use.

As per best of knowledge, no previous reports of CAM use in rural population of Malwa region are documented. This study will be first of its kind in a population where reporting at a late stage of disease is common. Low sample size, heterogeneous group of ailments of patients are some of its limitations. Due to the cross-sectional nature of the data collection, it is difficult to assess the temporality of relationships between some of the correlates and CAM use.

## CONCLUSION

To summarize an elaborate communication between doctor and patients about the complementary therapy and wise inclusion (if required) will lead to a holistic approach with less adverse reactions and more beneficial outcome. Looking at increasing trends worldwide our strong recommendation is to make CAM usage enquiry an integral part of usual case history.

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