

## Complementary/Alternative Medicine Practices for Sore Throat - Comparing Practices in Healthcare Providers and the General Population

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### ABSTRACT

**OBJECTIVES:** To determine the practice and varieties of Complementary and Alternative Medicine (CAM) for sore throat and common cold treatment in healthcare providers (HP) and the general population.

**METHOD:** This is a questionnaire-based cross sectional study conducted at Ojha Campus, Dow International Medical Collge Karachi.

**RESULTS:** This study shows that 62% of our total study population use CAM (62.8% healthcare providers, 61% general population). Combination therapy was the most popular method of CAM usage (55.8% healthcare providers, 47% general population). Family and friends were the most common source of CAM information in both groups. Steam, Saltwater gargles, Medicated vapors, honey and ginger were most frequently used, in both populations. Very few persons had a regular practice of informing their healthcare provider about their CAM use (23.8% healthcare providers, 2.7% general population). Around 63% healthcare providers recommend CAM to their patients for treating sore throat. The most frequent reason for doing so being their personal effective experience.

**CONCLUSION:** Our study demonstrates the high usage of CAM to treat sore throat. Some basic training in CAM should be considered for our healthcare providers, in order to integrate this cost effective form of therapy in our healthcare system. Healthcare providers should inquire about their patients' CAM usage to avoid interactions between the two forms of therapy.

**KEYWORD:** Complementary/ Alternative Medicine, Sore Throat, alternative therapy, Patient doctor communication.

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### INTRODUCTION

Worldwide, Complementary Alternative medicine (CAM) is becoming increasingly popular to treat various ailments<sup>1,2</sup>. Complementary and alternative systems of medicine have been used in a number of regions for centuries, including areas where conventional healthcare is easily accessible to the population<sup>3</sup>.

Complementary and Alternative Medicine (CAM) is defined as "a group of diverse medical and health care systems, practices, and products that are not presently considered to be part of orthodox medicine". Categories of CAM in South Asian subcontinent include, among others, Hikmat, Unani medicine, Homeopathy, therapies using natural substances such as herbs, meditation and faith healing.<sup>4</sup>

The common cold is a disease for which CAM use is highly prevalent and some therapies have proven ef-

fective<sup>5</sup>. Various products are available in the market some are available from practitioners of CAM such as Hakims and homeopaths and some can be formulated at home. Because of the deeply rooted use of CAM in our cultural setup, it can be assumed that a large portion of our population is using it. There is little data available about CAM use specifically for common cold symptoms in Karachi, and there has not been any study attempting to assess CAM belief and practices among our conventional healthcare providers. Our objectives are to ascertain and compare the practices of CAM for a sore throat which is one of the main symptoms of the common cold and related nasopharyngeal illnesses. We also wish to compare the knowledge, attitudes and practices of the general population (GP) and healthcare providers (HP) towards use of CAM. The aim is to assess the pro-

spects of possible integration of CAM with conventional healthcare for treatment of this symptom.

## METHODOLOGY

### **Ethical Approval**

The study was approved by the Institutional Review Board of Dow university of health sciences.

A cross-sectional survey study was carried out in Dow University at Ojha Campus, among two population groups The healthcare providers employed on the campus and the general population (patients) visiting the campus in the Out Patient Clinic were our target populations. The study was conducted from 10<sup>th</sup> November 2013 to 30<sup>th</sup> December 2013.

With a prevalence rate of 29% (1), at 95% confidence interval with 5% confidence limit, the calculated sample size is 317. (Source Open Epi, version 3).

The sample size achieved was 357, from which 172 (48.2% of the total sample) were healthcare providers and 185 (51.8% of the total sample) were of the general population.

**Sampling Technique:** Non-Probability, Purposive Sampling.

**Inclusion criteria:** We included persons within the definition of healthcare provider and adults above the age of 18 as members of general population.

**Exclusion criteria:** Persons under 18 were excluded Participants of both groups were briefed on the project study and consent was taken. Data collection was carried out using a self-developed questionnaire (1-4), either given to the participant to fill in, or interviewing the participant, based on the level of education. Participants were allowed to choose more than one treatment options from CAM therapy listed in the questionnaire.

Our operational definitions were as follows.

- Complementary and alternative medicine (CAM) - 'includes a wide range of practices that do not fit within the dominant biomedical model of healthcare and are not commonly provided within orthodox medicine (OM) settings<sup>6</sup>.
- Healthcare provider (HP) – A health care provider is an individual or an institution that provides preventive, curative, promotional or rehabilitative health care services in a systematic way to individuals, families or communities.
- An individual health care provider (also known as a health worker) may be a health care professional within medicine, midwifery-obstetrics, nursing, pharmacy, or allied health professions<sup>7</sup>.
- Conventional medicine - any therapeutic agent recommended by textbooks of conventional/allopathic medicine or conventional health practitioner.
- "Sore throat" is defined as "Inflammations of either

tonsils, pharynx, or larynx characterized by pain on swallowing.<sup>8</sup>"

### **Statistics:**

All data was analyzed using SPSS version 16.

Descriptive Statistics: Frequency and percentages were compiled for qualitative data such as gender, level of education etc., and mean  $\pm$ SD for quantitative data such as age.

Inferential Statistics: The Chi Squared test was performed on different variables (pertaining to a positive response to CAM usage, either alone or in combination), to evaluate any significant relationship between the two study groups in their CAM practices.  $P < 0.05$  was taken as significant.

## RESULTS

Table 1 summarizes the demographics of the two study groups. Our study population consisted of 357 persons, 172 of which were health professionals (females 87 [50.6%], males 85 [49.4%]) and 185 were of the general population (females 118 [63.8%], males 67 [36.2%]). 164 [95.3%] of the health professionals held at least a graduate degree. Majority of the general population, i.e. 177 [71.9%] had at least 12 years of schooling.

The overall frequency of CAM use was found to be around 219 persons [62%] in our study. The most common method to treat the symptom of a sore throat in both populations was found to be a combination therapy of conventional and CAM treatment (98 members of HP [44.7%], 88 of GP [40 %]). The use of CAM alone was uncommon, with 7 persons [3 %] using this in HP, and only 26 [11.8%] of GP.

The most common reason for use of CAM in both groups was that CAM therapies were perceived to have fewer side effects than conventional therapies for sore throat. This was followed by CAM therapies being perceived as less costly than conventional medicine (HP [40.2%], GP [35.4%]).

Our study also found the belief in superior therapeutic effect of CAM therapies as one reason for opting to use them (as reported by 26 HP [24.1%] and 44 GP [38.9%]). Another commonly reported reason was that CAM was traditionally used in families to treat a sore throat (31 HP [28.7%], 40 GP [35.4%]). More than half the people that did not use CAM explained that they did not think CAM therapy was effective (65 HP [37.8%], 72 GP [39%]).

The most common source of information regarding CAM modalities for a sore throat was from family and friends HP 85 [78.7%], GP 94 [83.2%]. Other reported sources were used by 20-30% persons in both study groups – these included internet, TV/Radio and books.

Hakims and homeopathic practitioners were far less

commonly used as sources of information (<10% in both study populations).

The CAM therapies studied were steam, ginger, honey, salt water gargle, clove, turmeric, Vicks, Hakimi/Unani Medicine, Joshanda and other combinations Table no2. It was noted that the most commonly used

products in the GP were steam, followed by honey. The most common modalities of CAM in use in HP group were saltwater gargle, steam, honey and ginger.

Other modalities (shown in Table 2) did not receive a positive response by most.

All respondents were asked if they told their healthcare provider about their CAM practices.

Among the general population, majority 177 [95.7%] never told their doctor. Only 4.3% (each) always told their doctor; sometimes or did so only when asked.

Healthcare professionals showed a different response 44 [25.6%] never told their healthcare provider, 44 [25.6%] sometimes did, 41 [23.8%] always did, and 43 [25%] did so only when asked.

The following questions were only put to healthcare providers.

“Do you recommend CAM to your patients?” To this question, the greater majority 108, [62.8%] healthcare providers recommended CAM, while only 64 [37.2%] did not.

The HP were also asked why they chose to prescribe CAM to their patients. Multiple responses could be given by a single HP. The commonest response was that it had proved effective from personal experience 78[73.6%]. 41 persons from HP recommended CAM due to professional experience [35.8%], with patients seeming to benefit from the modality recommended. 31 [29.9%] recommended CAM due to patient prefer-

**TABLE I: DEMOGRAPHICS**

Group	Healthcare Providers Frequency (%)	General Population Frequency (%)
Participants (n=357)	172 (48.2%)	185 (51.8%)
AGE (mean)	29	26
STD DEV	6.869	9.394
<b>GENDER</b>		
Men	85 (49.4%)	67 (36.2%)
Women	87 (50.6%)	118 (63.8%)
<b>SCHOOLING</b>		
Uneducated	0 (0%)	4(2.2%)
School	0 (0%)	3(1.6%)
Matric (10 years schooling)	3 (1.8%)	31 (16.8%)
Inter (12 years schooling)	4 (2.3%)	133 (71.9%)
College and Beyond (>12 years schooling)	165 (95.9%)	14 (7.6%)

**TABLE II: EFFECTIVENESS OF CAM MODALITIES (MORE THAN ONE OPTION WAS ALLOWED)**

Group		CAM Modality Used Frequency % (n=357)								
		Users of Ginger	Users of Steam	Users of saltwater gargle	Users of Clove	Users of Turmeric	Users of Honey	Users of Vapor (Vicks®)	Users of Hakimi Preparation	Users of Joshanda
Healthcare provider	Not Used	38	14.8	13.9	51.9	66.7	23.1	40.7	68.5	21.3
	Not effective	6.5	0	0.9	6.5	4.6	2.8	4.6	2.8	5.6
	Not Sure	6.5	7.4	3.7	11.1	7.4	3.7	3.7	8.3	10.2
	Effective	49(53)	77.8(88)	81.5(88)	30.6(33)	21.3(23)	70.4(76)	50.9(55)	20.4(22)	63.0(68)
General Population	Not Used	35.4	11.5	18.6	61.9	69	15.9	29.2	65.5	38.9
	Not Effective	1.8	2.7	1.7	5.3	2.7	1.8	4.4	3.5	0.9
	Not Sure	7.0	2.6	8.0	4.4	4.4	4.4	8.0	14.2	2.7
	Effective	55.8(63)	83.2(94)	71.7(81)	28.3(32)	23.9(27)	77.9(88)	58.4(66)	16.8(19)	53.1(60)

ence.

Chi Square test were used to compare the knowledge, attitude and practices of CAM usage of both study groups. TV media being significantly more popular as a source for information for CAM ( $p=0.00$ ), all other variables showed no significant difference in knowledge, attitude and practice between the two groups studied.

## DISCUSSION

The occurrence of CAM use for a sore throat overall was 62% in our study, which was slightly higher than other reported studies. CAM use as reported by Shaikh et al in their nation-wide study is 52%<sup>4</sup>, and much higher than reported by Shakeel et al<sup>10</sup> who reported it as only 29% prevalence. Bodeker et al found up to 80% prevalence in developing countries<sup>11</sup>.

Shaikh et al further reported prevalence of simultaneous use of CAM and conventional medicine<sup>4</sup>. In our study also, the most common method to treat the symptom of a sore throat in both populations was found to be a combination therapy involving both conventional and CAM treatment. Here we recommend caution – studies have reported herb-drug interactions, including between simple analgesics and home remedies<sup>12</sup>.

The use of CAM alone was not common; with 7% healthcare professionals, and only 14% in the general population that practiced this method. These findings have various possible explanations. For instance, a bacterial cause of the symptoms might mean failure of the initial therapy with CAM followed by consultation with a healthcare provider for biomedical therapy. Indeed, some respondents commented that this was the case. Furthermore, some participants believed that conventional medicine provided a faster cure, while CAM only provided symptomatic relief. Shaikh et al found that severity of symptoms played a major role in selection of therapy, with severe symptoms of an illness prompting a visit to the conventional healthcare provider, and milder symptoms being treated with alternative medicine alone<sup>3</sup>.

High cost of conventional healthcare was found to be a factor in favor of selecting CAM therapy. This was also identified as one of the factors for CAM use by Acosta et al<sup>12</sup>, and was also noted by Graham et al and others in their study on CAM<sup>4,13,14</sup>. Our study had similar findings. It would seem that integrating CAM with conventional healthcare may lower healthcare cost for patients. We also found perceived superior therapeutic effect of CAM therapies as a common reason for opting to use them, as was found by Shaikh et al<sup>4</sup>. Another reported reason was that CAM was traditionally used in families to treat a sore throat. Shaikh et al also reported respondents stating that among

their reasons family opinion was a significant factor for using CAM<sup>3</sup>.

The most common source of information regarding CAM modalities for a sore throat was from family and friends. Other sources were ranging from 20-30% in both groups– internet, TV, Radio and books. We believe this is an important finding; in that the major source of information for CAM use was identified as being from non-qualified sources.

Hakims and homeopathic practitioners were far less commonly used as sources of information (<10% in both study populations), which is ironic, considering that these, unlike other unregulated therapies; are at least recognized forms of CAM in Pakistan<sup>3</sup>.

We will describe in detail the benefits and risks of these most commonly used modalities of CAM.

The benefits of steam inhalation in rhino-pharyngitis are common knowledge. Our study reports a high occurrence in both study groups, as well as belief in its effectiveness. Steam is an easily available affordable form of CAM. It has long been known to benefit the symptoms of a common cold. However, steam was found in two studies as not significantly benefitting the symptoms and in some cases causing irritation<sup>15-17</sup>. This contradicts popular belief of steam being free of any side effects, and the method of administration of steam may need to be properly advised by the healthcare provider.

Saltwater gargle has long been a traditional form of symptomatic relief for sore throat. Our study reported over 70% (81.5% HP, 71.7% GP) persons in both groups found saltwater as an effective treatment for sore throat. Although its efficacy has not been proven in clinical trials, its use has not been known to cause adverse effects, so this method could be recommended without hesitation in the adult population [18]. Due care would have to be taken when prescribing gargles in the pediatric population to avoid the risk of aspiration.

Honey was found effective by a number of users (70.4% HP, 77.9% GP). Studies have shown that along with symptomatic relief [18], honey has been found to have antimicrobial activity<sup>19,20</sup>.

Medicated vapor (Vicks ®) was believed to be effective in more than half of participants (50.9% HP, 58.4% GP). However, although it provides symptomatic relief to the airways and throat, one study found it to have similar effects on the airways as does an irritant, causing increased mucus secretions and nasal airway reduction. Therefore its use should be re-assessed, especially in the pediatric population, who would be at a risk of respiratory distress<sup>21</sup>.

Ginger is used in many cultures as a home remedy for the common cold<sup>22</sup>. A number of our study participants

(49%HP, 55.8% GP) found ginger an effective CAM modality for treating a sore throat. It has been found that extracts of ginger show antibacterial properties<sup>23</sup>. Therefore the use of ginger would seem beneficial for treating a sore throat. However, we should note the potentiating antiplatelet action of ginger, which can pose a threat to the patient taking concurrently aspirin or other antiplatelet drug<sup>12</sup>. This necessitates proper communication with the doctor regarding its use, especially if surgery is planned.

Our study demonstrated a serious lack of communication on the subject of their CAM therapy, with only 23.8% healthcare professionals and a mere 2.7% general population making it a point to always tell their doctor about their CAM use. It is possibly because CAM has been prevalent in our part of the world for hundreds of years [3] which makes its use seem to be a routine. A vital point here also is the popular belief that natural therapies have fewer side effects, as was demonstrated in our study. However, we know from previous studies how drug-herb interactions, and adverse effects of certain CAM modalities do truly exist and may pose a threat to the patient, if medical or surgical decisions are taken by a practitioner oblivious of the patient's CAM use<sup>10, 12</sup>. Indeed, during our study, one doctor narrated to us the case of a patient with persistent gingival bleeding, that was attributed at the time to vitamin C deficiency, but was later found to be due to the patient's excessive use of ginger tea for their sore throat. This is but one small example; studies have warned of the various interactions of herbs and drugs, and stress the need for the doctor to be aware of their patient's CAM use<sup>10, 12</sup>.

Our study found that the majority of healthcare providers recommend CAM. Doctors that recommend CAM have been found to do so because of the opportunity to provide more holistic care, and also because positive professional experiences encourage them<sup>1</sup>.

Certainly, those that participated in clinical trials that proved CAM effectiveness felt encouraged to prescribe it<sup>1</sup>.

## CONCLUSION

Our study has found high occurrence of various forms of CAM for treating a sore throat among both general population and healthcare providers. More than half of healthcare providers recommended CAM. Communication about these practices with the healthcare provider is essential to avoid any cross reaction between therapeutic strategies causing unwanted risk to the patient.

## LIMITATIONS

Our participants were of varying socioeconomic groups and educational levels, which might have af-

ected their ability to understand our questioning methods. Furthermore our study did not analyze the cultural differences in CAM practice, which is an important determining factor for the types of CAM modalities utilized. The study duration was over two months, which did not allow for analysis of seasonal variations in CAM usage. Another study of a longer duration is required for completely analyzing all the variable involved in CAM therapy for sore throat.

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