



## ORIGINAL RESEARCH ARTICLE- CLINICAL STUDY

# KAP STUDY OF COMPLEMENTARY AND ALTERNATIVE MEDICINE IN RISHIKESH: A COMMUNITY BASED CROSS-SECTIONAL STUDY

RAVINDRA<sup>1</sup> KHAPRE MEENAKSHI <sup>2</sup> SAXENA VARTIKA<sup>3</sup>

### ABSTRACT:

Complementary and alternative medicine (CAM) are group of medicines that are not considered to be a part of conventional medicine. They lack documented evidences regarding to safety and efficiency. CAM plays an important role in primary health care system of India. Therefore, this health system needs strengthening and integrated in current system in order to fill the gaps in accessibility. It is necessary to know the current belief and perspective of people for whom services is to be provided. **Objective:** to assess the knowledge, attitude and practice of CAM in an urban area. **Methodology:** A community based cross sectional study was planned in Rishikesh Nagar Pallika. Wards were Clusters and 15 were selected by PPS. From each cluster 30 households were selected randomly. One adult from each household was interviewed with structured questionnaire. **Results:** Out of 450 total participants, 98 % of participants were aware of one or other CAM. Ayurveda was most known medicine (93 %) followed by homeopathy and yoga. Ayurveda was perceived to be more effective in diabetes and infertility compared to allopathy. Eighty-two percent had ever used CAM and 67 % had used it as an alternative medicine. 92 % of those who used CAM were satisfied with the effect. 22 % participants were using CAM for Gastrointestinal diseases. **Conclusion :** Significant number of them were aware of CAM. It has more acceptability because of its less side effect, culturally rooted, availability and lesser cost. Three fourth of them had ever used CAM.

**Key words:** Complementary and alternative medicine, Ayurveda, Yoga, knowledge, community based.

**Key messages:** this article describes

- The deep rooting of Complementary and alternative medicine in India that must be utilized in health care system
- The acceptability is more due to perceived less side effect, easy availability and cost
- There is need for strict guidelines on rational use, quality control of drugs and certification of practitioners

<sup>1</sup>Medical officer, Homeopathy, Dept. of AYUSH, AIIMS Rishikesh

<sup>2</sup>Asst. Professor, Dept. of Community and Family medicine, AIIMS Rishikesh

<sup>3</sup>Profesor, Dept. of Community and Family medicine, Head, Dept. of AYUSH, AIIMS Rishikesh

## INTRODUCTION

Complementary and alternative medicine (CAM) covers heterogeneous systems from traditional to new approaches in order to either promote health, prevent or treat the disease. The National Center for Complementary and Alternative Medicine, a part of the National Institutes of Health, defines CAM as 'a group of medical and health-care systems, practices, and products that are not presently considered to be part of conventional medicine' due to lack of scientific proof regarding the efficiency and safety. Complementary interventions are used together with conventional treatments, whereas alternative interventions are used instead of conventional medicine <sup>[1]</sup>. CAM therapies such as traditional Chinese medicine, chiropractic, homeopathy, and Ayurveda are officially identified <sup>[2]</sup>. Due to its affordability, availability, and accessibility, CAM has played an important role in meeting the demands of primary health care in many developing countries, particularly in Africa and Asia. 70- 80 % of the population in India in rural area are dependent on Practitioners of this medicine for primary health care. The World Health Organization (WHO) encourages country members to support the regional traditional medicines by formulating policies and appropriate regulations inculcating it in preventive, promotive and curative aspect of

health <sup>[2]</sup>. Resultantly, the government of India has institutionalized the Indian systems of traditional medicine as the Department of AYUSH elaborated as Ayurveda, Yoga, and Naturopathy, Unani, Siddha and Homeopathy with focused attention for development of Education and Research in this field. The main focus of this CAM is prevention and promotion of disease. Medical tourism is increased due to growing interest of westerners in ISM like yoga, Ayurveda etc.

India has vast diversity in use of CAM. There are high prevalence of use of this medicines for various diseases like Hypertension<sup>[3]</sup>, diabetes<sup>[4,5]</sup>, arthritis <sup>[5,6]</sup>, cancer <sup>[7]</sup>, Parkinsons<sup>[8]</sup> etc. taking into consideration the significance of body, mind, and spirit, United Nation has declared international yoga day on 21<sup>st</sup> June. Rishikesh is the place where tourists are attracted due to its Ayurveda and Yoga centers. It is considered as the land of saints with healing power. It is land for achieving holistic health. It is community's felt need for services other than those of the allopathy.

In order to understand how strong is this medicine deep-rooted in this area in northern India, the present community-based cross-sectional study was conducted to assess the knowledge, attitude and practice of CAM in an urban area.

## METHODOLOGY

**A** Descriptive cross-sectional study was designed in Rishikesh Nagar pallika. Adults (18-60 yrs) willing to participate in study were included in study, excluding those who were not at all involved in decision making in the family regarding health matters and mentally challenges individuals. Probability Proportional to size (PPS) sampling was used.

The sample size was determined using the formula:

$$n = \frac{z^2 pq}{d^2}$$

Hence,  $(1.96)^2 \times 0.79 \times 0.21 / (0.05)^2 \times 1.5$   
(Design effect)

$n = 396$ ,  $n$  = minimum sample size

Where;  $n$  = desired sample size from the population

$Z$  = Confidence interval, 95% = 1.96

$P$  = Population prevalence = 0.79 (9)

$Q = 1 - p = 0.21$

$D$  = Degree of accuracy desired at 0.05

With assumed 10 % non-response rate the final sample size cam to be 436.

There are 20 wards in Rishikesh nagar pallika so by PPS sampling 15 clusters were selected with

Sampling interval of 4679. Thirty participants were selected from each cluster

Then from each cluster, households were selected by random walk method. One eligible adult from each household was selected. If we found more than one eligible adult, then only one was selected randomly from each household. The process is repeated until 30 participants were recruited from each cluster. After obtaining the prior Written consent, participants were interviewed with the Structured schedule in local language by trained interviewers. It took around 10- 15 minutes for each participant.

Participants were told to rank the effectiveness of allopathy, Ayurveda, homeopathy, and yoga for different diseases based on their perception and practices. For analysis the rank 1,2,3,4 was given the weightage point of 4,3,2 and 1 points respectively. Those who were not ranked were not given any points. Collected data were analyzed by frequencies and mean using MS Excel 2010.

#### RESULT:

**Table 1: Socio-demographic profile of study participants**

		Male (238)	%	Female (212)	%	Total	%
Age	< 25	60	25.32%	45	21.23%	105	23.28%
	>25 - 35	52	21.94%	65	30.66%	117	26.30%
	>35 - 45	44	18.14%	45	21.23%	89	19.69%

	>45 - 55	35	14.77%	27	12.74%	62	13.76%
	>55 - 65	29	12.24%	23	10.85%	52	11.55%
	>65 - 75	13	5.49%	5	2.36%	18	3.93%
	>75	5	2.11%	2	0.94%	7	1.53%
<b>Education</b>	Illiterate	12	4.64%	26	12.26%	38	8.45%
	Just literate	57	24.05%	66	31.13%	123	27.59%
	Primary	5	2.11%	6	2.83%	11	2.47%
	Secondary	47	19.83%	25	11.79%	72	15.81%
	H. sec	44	18.57%	29	13.68%	73	16.13%
	Graduates and above	73	30.80%	60	28.30%	133	29.55%
<b>Occupation</b>	Unemployed	58	24.47%	161	75.94%	219	50.21%
	Labourer	47	19.41%	29	13.68%	76	16.55%
	Shopkeeper /business	94	39.66%	17	8.02%	111	23.84%
	Clerical/	7	2.95%	2	0.94%	9	1.95%
	Agricultural/fishery	2	0.84%			2	0.42%
	Professional /senior officer/manager	30	12.66%	3	1.42%	33	7.04%

Out of 450 total participants, 52.8 % were male and 47.1 % females. One-fourth of them were less than 25 years and 25-35 years respectively. 92 % of them were literate. 24 %

of males and 76 % of females were unemployed or students or housewife. This may be due to selection bias due to the timing of data collection in afternoon.

**Table 2: Participant Awareness regarding CAM**

		n=442	%
Types of CAM	Ayurveda	412	93%
	Homeopathy	392	89%
	Yoga	282	64%
	Unani	32	7%
	Siddha	3	1%
Source of information	Family/friend	251	57%
	Television	162	37%

	Printed material (newspaper, billboards etc)	136	31%
	Others	3	1%
Availability	Practitioners	309	69.9%
	Pharmacy	161	36.4%
	Heath centres	8	1.8%

Table 2 shows the Ninety-eight percentage of participants were aware of one or other CAM. Ayurveda was most known medicine (93 %) followed by homeopathy and yoga. Most

common sources of information were family and friend. Seventy percent of them are aware of its availability from practitioners and 36 % of the pharmacist.

**Table 3 : Attitude regarding CAM (n=442)**

Is CAM better than MM	Yes	352	80%
	No	82	19%
	Not sure	8	2%
Disadvantage of TM	Long t/t	58	13%
	Difficult lifestyle	9	2%
	Non availability of good doctors	2	0%
	Not proven medicine	13	3%

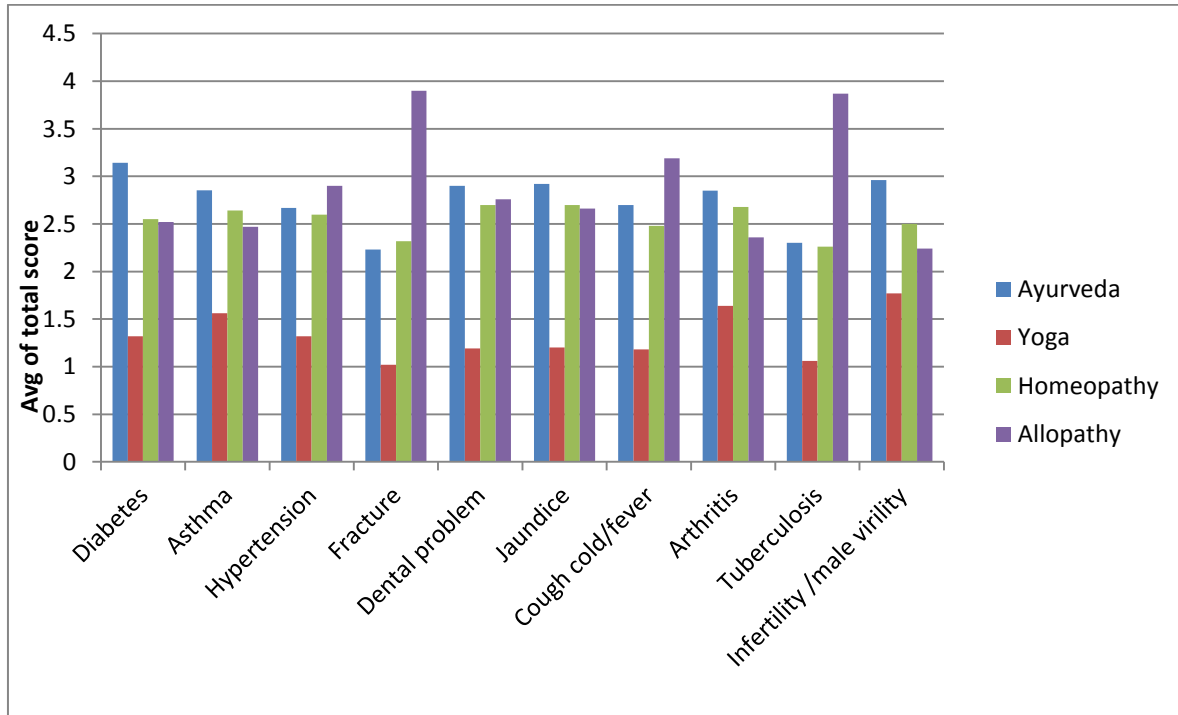
Table 3 shows the 80 % of participants felt CAM better than allopathy due to the absence of any side effects. Among those who considered CAM to be inferior to allopathy, the main reason was long treatment and absence of scientific evidence. Compared to other medicines, Allopathy was perceived to

be more effective in fracture, cold and cough and tuberculosis. Ayurveda was perceived to be significantly more effective for diabetes and infertility. For arthritis, Ayurveda and allopathy was considered to be equally effective . (Fig 1 and Table 4.below )

**Table 4: Perceived Effectiveness of different types of medicines in diseases**

Disease	Ayurveda Mean (SD)	Yoga	Homeopathy	Allopathy	F	Post hoc (absence of significant difference)

Diabetes	3.1425 (1.04)	1.319 (1.33)	2.552 (1.06)	2.5193 (1.08)	199 (3,1764)	(H & AI )
Asthma	2.855 (1.09)	1.56 (1.47)	2.64 (1.14)	2.47 (1.15)	96.4 (3,1764)	Except Yoga
Hypertension	2.67(1.055)	1.32(1.32)	2.597(1.1)	2.9(1.16)	166.1 (3,1764)	Except Yoga
Fracture	2.23(0.85)	1.02(1.01)	2.32(0.93)	3.9(0.37)	906.7 (3,1764)	(None )
Dental problem	2.9(1.08)	1.19(1.19)	2.7(1.76)	2.76(1.14)	163.5 (3,1764)	Except Yoga
Jaundice	2.92(1.07)	1.2 (1.2)	2.7(1.79)	2.66(1.11)	151.3 (3,1764)	Except Yoga
Cough cold/fever	2.7(1.05)	1.18(1.12)	2.48(1.05)	3.19(1.06)	304.7 (3,1764)	(Ay & Ho)
Arthritis	2.85(1.08)	1.64(1.52)	2.68(1.1)	2.36(1.16)	82.31 (3,1764)	(Ay & AI) & yoga with all
Tuberculosis	2.3(0.91)	1.06(1)	2.26(0.92)	3.87(0.45)	775 (3,1764)	(AY & H)
Infertility /male virility	2.96(1.02)	1.77(1.59)	2.5(1.08)	2.24(1.2)	70.51 (3,1764)	(H & AI)



**Fig 1: Perceived Effectiveness of different types of medicines in diseases**

**Table 5 : Practice of CAM ( n=373, 82.88 % of total)**

Type of TM	Ayurveda	272	73%
	Yoga	71	19%
	Unani	9	2%
	Siddha	2	1%
	Homeopathy	195	52%
	none	69	18%
Frequency of visit	Always	70	19%
	Very Often	210	56%
	Sometimes	18	5%
	Rarely	69	18%
	Not answered	6	2%

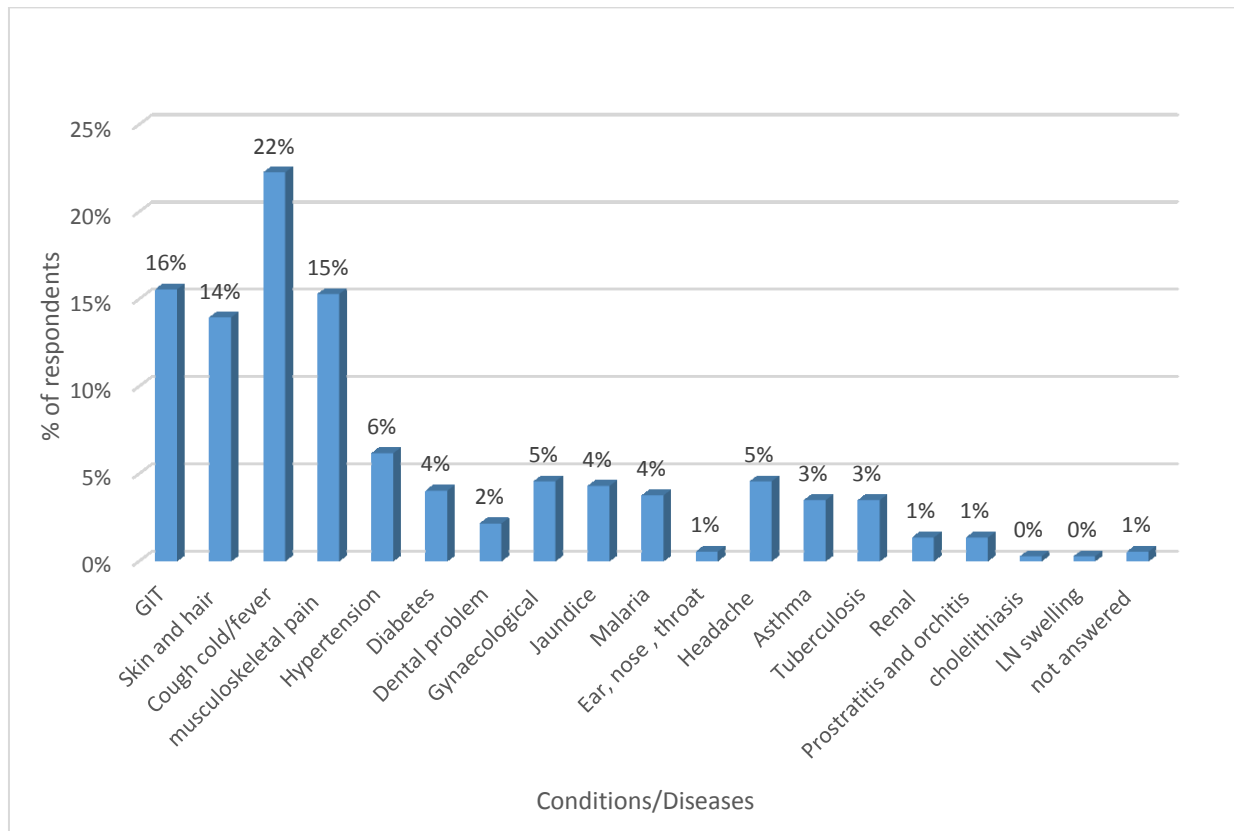
Table 5 shows Eighty-two percent had ever used CAM i.e 373 participants.. Significant knowledge gap was found among those who were aware and ever used CAM ( $\chi^2$  59.423, 11.47 - 18.9). 73 % had used Ayurveda while

52 % used homeopathy. 56 % of them visit the CAM practitioners very often.

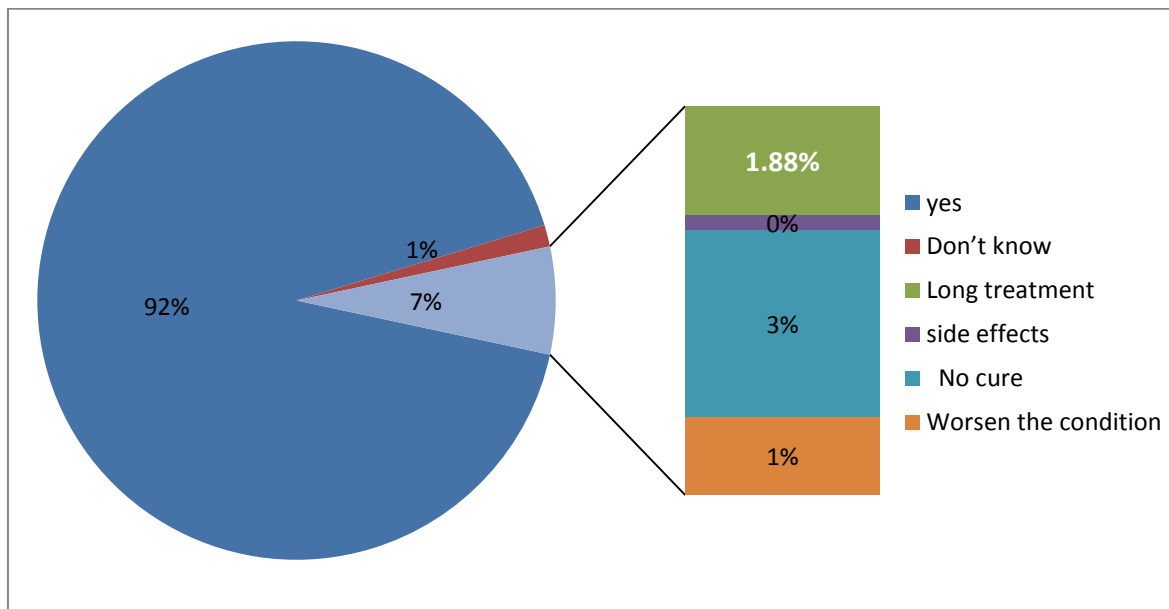
The top three conditions for which CAM was used was a cough and cold (22%), Gastrointestinal problems (16%),

musculoskeletal (15 %) followed by skin and

hair problem (14 %) shown in fig 2 below.



**Fig 2: Distribution of participants for visiting the practitioners of TM for various diseases**



**Fig 3 : Satisfaction with TM and reason for non satisfaction (n= 373)**

67 % said CAM was not used in combination with allopathy medicine while rest were not aware.

92 % of those who used CAM were satisfied with the effect. The main reason for unsatisfaction was no relief and long duration of treatment (Fig 3). Out of 442 participants,



271(61.3 % ) had suggested CAM to their family and friends.

## DISCUSSION

In the present study, 98 % were found to be aware of CAM which is much higher than other studies from India <sup>[4,9]</sup> and outside India <sup>[2,10,11]</sup> may be due to the local tradition of the place. No significant difference in knowledge was found among the gender, age groups and education. Three fourth of them had used it for some diseases. However, we found a significant gap in knowledge and practice of CAM as opposed to Kumar et al, <sup>[4]</sup> where no gap was found. The participants in this study were suffering from chronic diseases while this study was the community-based study with the healthy population as well as diseases population. So even if they had knowledge of CAM's as many of them were healthy, they felt no need to go to CAM practitioners.

There is the positive attitude of participants towards the CAM. They perceive it to be the safe, efficacious, affordable. Also there is easy availability of CAM practitioners. They think that CAM provides additional benefit if taken with allopathy medicine. Another study from North India states 71 % consider it more effective than allopathy <sup>[12]</sup>, older individual >40 years preferred CAM to allopathy medicine <sup>[9]</sup>.

Ayurveda was most commonly used CAM followed by Homeopathy and Yoga. The

preference of CAM in India depends on the local tradition. They prefer CAM for chronic conditions like arthritis, Gastro Intestinal tract, musculoskeletal, dermatological, asthma, diabetes, hypertension etc. This is analogous for studies that reported the use of CAM in chronic diseases including cancer <sup>[3,5-8]</sup>. CAM was considered to be effective for arthritis, diabetes hypertension, asthma, and infertility. Some of them also use CAM for infections like malaria, gynecological, ear, nose throat problems, and jaundice. It is surprising to note that though participants considered Ayurveda to be more effective than allopathy for infertility, none of them had used it. Or it may be due to nondisclosure of information. None of them had used it for fracture, though its usage for fracture is prevalent in rural India leading to complicated fracture or shortening of limbs further. This information remains undocumented. Yoga is perceived as least effective in all the diseases compared to other medicines. Yoga is the way of living for health promotion and mostly used as complementary medicine. Most of the users in our study were satisfied with effect of CAM. While rigorous scientific research on the efficacy of most CAM treatments is lacking, traditional forms of CAM are generally supported by extensive clinical practice. It has the potential to improve the disease outcome, quality of life and lessen the cost <sup>[13]</sup>.

Study reported that Participants were using this medicines as complementary to allopathy. Very few of them reported the usage to allopathy practitioners. In one of study, the author also stated that it leads to delay in seeking health care for diseases like cancer. A patient wait till six months to get relief from CAM for cancer and then visits the allopathy medicine practitioners at last stage <sup>[7]</sup>. One-third of our study participants were not aware of whether they were given medicines in combination. The public has a misconception of the natural meaning safe so they don't care about interactions of herbal medicines and mostly used as self-medication. Many of them have recommended CAM to their friends and family again depicts their positive attitude and acceptability of CAM system.

#### CONCLUSION:

There is high public interest in CAM significant number of them were aware of CAM. It has more acceptability because of its less side effect, culturally rooted, availability and lesser cost. Though, consumer awareness is lacking on its proper use, it should be emphasized by strict policy guidelines and awareness campaigns in this regards.

Considering the health care crisis in this region of India and belief on CAM, integration of this medicines in the national health system with regulations, policies, quality control will help to combat the health inequality. Also focus

should be on generating the evidences of its effect.

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