

## Awareness and Practices of Complementary and Alternative Medicine among Paediatric Patients Visiting Two Tertiary Care Hospitals in Mangaluru: An Interview Based Study

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This study aims to find out the details of complementary and alternative medicine (CAM) use in children, including factors favouring their use and concomitant usage of allopathic drugs along with CAM. The study also analyses the communication between allopathic practitioners and patients regarding utilization of CAM. It was an interview based study based on a semi-structured interview. The study sample included parents of children waiting in the paediatric outpatient department. A total of 200 parents were interviewed. Though most of the parents were aware about CAM, around 10% parents were ignorant. Ayurveda was the most commonly used CAM followed by homeopathy. Fifty-four children had taken CAM for the first time at an age of less than 6 months. The most common condition for which children were taking CAM was related to the diseases of respiratory system. The primary reason for preferring CAM over allopathy is that they believe it is natural and has no adverse effects. Only 23% of the parents voluntarily informed the doctors that the child was taking CAM concurrently and half of the parents stated that the treating physician did not enquire regarding CAM therapy. As evident from the study, use of CAM in children starts at a very early age hence the safety and efficacy of these therapies should be well established before children are exposed to them. Hazards of concomitant administration of CAM along with allopathic medicines should also be carefully evaluated by all the treating physicians.

**Keywords:** CAM, Ayurveda, Unani, traditional medicine, children.

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Complementary and alternative medicine (CAM) consist of medical and healthcare practices and products that are not presently considered as an integral part of conventional medicine or allopathy.<sup>1</sup> There is widespread use of alternative medicine throughout the world, in developed and developing countries alike, with 80% of developing countries

reportedly utilizing CAM or Traditional Medicine (TM).<sup>2</sup> In India, usage of CAM is prevalent and recognized by the Government of India under the acronym of AYUSH (Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy). There are two categories of CAM practitioners, of which 7,85,185 are certified AYUSH doctors

and around one million community health care workers.<sup>3</sup>

Complementary and Alternative medicines comprise various treatment modalities which involve modifications in dietary habits and lifestyle, along with medication comprising of metals, herbs, precious stones in various combinations.<sup>4</sup> Ayurveda is a system of medicine dating back to the vedas and is currently practiced worldwide. Ayurveda mainly uses plants based medicines, but raw material can be obtained from animal origin, metals and even minerals. It has also conceptualized the principle of Rasayana, i.e. the utilization of various treatment modalities in order to improve immunity and prevent development of disease. Unani involves drugs obtained only from herbs, along with some animal and mineral sources, used singly or in combination. It emphasizes prevention of disease along with maintenance of health (Hifzān-iSihhat). Siddha is an ancient Indian system of medicine which is highly individualistic in nature. A large number of ailments are treated with the drugs composed of processed mercury, silver, arsenic, lead and sulphur which are believed to be free of side effects. Yoga and Naturopathy are both systems of medicine which are non-invasive and do not involve drugs. They are natural modalities which are helpful in the elevation of health status and are largely preventive systems of medicine. Homeopathy is a German system of medicine which is based on the 'Law of Similars'. All homoeopathic remedies are ascertained to have properties of producing symptoms in a healthy person which mimic natural disease. This when given to a diseased person is said to act therapeutically. It also helps in strengthening the immune system of the human body. Drugs in this system of medicine are usually obtained from plant, mineral or chemical sources.<sup>5</sup>

According to a study based on a National Health Survey in 2014, in a reference period of two weeks, 6.9% of patients seeking outpatient care also pursued AYUSH services.<sup>6</sup> This shows that there is a widely prevalent use of CAM in the current health care set up. Reasons for such widespread CAM use include greater requirement for all health related services, demand for individualistic care and treatment and awareness of the concept disease prevention which is emphasized in all forms of CAM treatment.<sup>7</sup> CAM is not only utilized

by adult populations but paediatric populations as well. According to a National Institute of Health(NIH) survey in USA, approximately 12% of the children in the United States use CAM in some form.<sup>8</sup> Parents with children utilizing CAM believe it to be 'natural' and have fewer side effects than conventional medicine. They also believe that these therapies are more effective in chronic conditions than allopathic medications.<sup>9</sup> CAM is almost three times as likely to be used in chronic disease as an acute condition.<sup>10</sup> Studies also show that a large number of parents do not inform their paediatricians of the alternative systems of medicine utilized by their children.<sup>11</sup> A large number of children utilizing CAM also receive conventional care concomitantly.<sup>9</sup> While individually these systems of medicine are believed to be quite safe, the interaction of these drug components with allopathic medication can occur. For example, Shankapushpi, a drug used in Ayurveda as a CNS stimulant, is believed to decrease phenytoin levels and reduce efficacy when administered concomitantly.<sup>12</sup> However majority of these drug interactions are largely unknown and unreported.

As the types and utilization of various systems of medicine vary across the world, it is important to have indigenous studies for the utilization of CAM. In India, there have been some studies documenting CAM use in an adult population.<sup>13,14</sup> However, there are very few indigenous studies for the same in a paediatric population.<sup>16</sup> These studies deal mostly with use of CAM in particular diseases like asthma, cancer, chronic pain, mental health etc.<sup>16,17, 18</sup> As children make up a large demographic of the country, it is important to study the CAM utilization in these populations for all kinds of illnesses. As mentioned above, a large proportion of CAM systems believe in prophylactic treatment of disease, therefore it is likely that a child utilizing CAM will concomitantly utilize allopathic medication for acute illnesses. Our study attempts to provide a detailed insight into CAM use in children for all clinical conditions.

## METHODS

The study protocol was approved by the institutional ethics committee. The study sample included parents of children (less than

18-year-old) who were waiting in the paediatric outpatient department to seek consultation with the paediatricians. The study was conducted in two hospitals, RAPCC (Regional Advanced Paediatrics Care Centre) and Kasturba Hospital, Mangalore. Since it was a time bound study, duration of study was 2 months and sampling was convenient. The purpose of the study was explained in the detail to parents and those who volunteered to take part in the study were interviewed by the investigator. The interview was based on a semi- structured questionnaire which contained a series of questions under 4 different sections. The first set of questions were related to the demographic details and personal information of the family. The second set of question assessed the knowledge of the parents related to CAM. The third section was related to the usage of CAM, both by the parents as well as the child. The last section dealt with their perspectives related to CAM and their communication with the allopathic practitioner related to CAM. The questionnaire was based on previous studies<sup>9,19</sup> with suitable modifications. The content and the face validity of the questionnaire was validated by subject experts and non-subject experts. All the parents were interviewed by a single investigator. Data analysis was done by statistical package SPSS version 16.0.

**Table 2.** Type of complementary alternative medicines used by parents for their children (multiple answers)

Type	Frequency (Percentage) n=200
Ayurveda	82 (41)
Yoga	9 (4.5)
Unani	3 (1.5)
Siddha	1 (0.5)
Homeopathy	25 (13)

**Table 4.** Common beliefs for utilizing CAM (multiple answers)

Reasons	Frequency (n=99)
Advices of elders, relatives and friends	49
Natural and safe	42
Cures disease completely where allopathic medications are ineffective	21
Helpful in preventing occurrence of disease and improves immunity	23
Cheap compared to allopathy	3
Easy access	2

## RESULTS

A total of 200 parents were interviewed. Modified Kuppaswamy scale was used to analyse their socioeconomic status. (Table 1). The average age of the children whose parents were interviewed was  $5.81 \pm 1.32$  years. Though most of the parents (93.5%) were aware about CAM, 6.5% parents were ignorant of it. Most of the parents had come to know about CAM from television/internet/media (39%) or from family/friends (37.5%). Next common source of information regarding CAM was ayush hospitals (15%) and 2% came to know about CAM through allopathic doctors. Interestingly,

**Table 1.** Socioeconomic status of parents (modified Kuppaswamy scale)

Category	Frequency
Upper class	3 (1.5)
Upper middle class	48 (24)
Lower middle class	71 (35.5)
Upper lower class	75 (37.5)
Lower class	3 (1.5)
Total	200 (100)

**Table 3.** Indications for Chinnamatre (multiple answers)

Indication	Frequency (n=71)
Crying & temper tantrums	60
Fits	33
Respiratory illness	22
Increase immunity	4
Increase intelligence	1
Deworming	1
Gastrointestinal illnesses	1
Improve activity	1
Teething	1

90% of parents did not know that CAM has adverse effects and they thought it to be completely safe for themselves as well as for their kids. Among the 200 parents, 99 have given CAM therapy to their kids while the children of the remaining 101 parents have never taken any form of CAM. Ayurveda was the most commonly used CAM followed by homeopathy. (Table 2) CAM was more commonly preferred for chronic conditions rather than acute illness. About 8.5% of the children were taking CAM along with allopathic drugs. Among the 99 children who were had taken CAM, 54 of them had taken CAM for the first time at an age of less than 6 months while 18 of them started between 6 months to 1-year age. The most conditions for which children were using CAM were related to the diseases of respiratory system, gastrointestinal tract and skin. Many parents also felt that CAM could boost the immunity and prevent infection. Most of the parents (57 %), have first visited a registered medical practitioner for the illness and then given CAM therapy to the child since the former was not effective. About 79 parents (40 %) preferred CAM for prophylactic treatment against illness. The most common illnesses for which prophylactic treatment was sought were related to the respiratory (62.5%) and gastrointestinal system (25%). Around 15% percent parents gave CAM prophylactically to their kids to prevent allergies and 10% of them gave it to improve immunity. One child was administered CAM to improve intelligence.

One of the most surprising results of our study was that, 71 parents (35.5 %) give a herbal medicine locally called as “*chinnamatre*” to their children. The various indications for use of this medicine is listed in table 3.

The most common reason stated by parents for preferring CAM over allopathy is that elders have told them to use and since ages it is being used by their relatives and friends and they believe it is natural and has no adverse effects. (Table 4) In contrast, 101 parents, did not prefer CAM mainly because they did not have enough information regarding CAM and that they felt that their kids were too young to be exposed to CAM. (Table 5) Only 23% of the parents voluntarily informed the doctors that the child was taking CAM concurrently. Almost half of the parents (45 %) stated that the treating physician did not enquire regarding CAM therapy.

## DISCUSSION

Complementary and alternative medicine (CAM) is practiced in India since ages. It is estimated that about 80% of the world population utilizes CAM in some or the other form. CAM mostly includes Ayurveda, yoga, unani, siddha and homeopathy. But it can also extend to other forms of therapy like aromatherapy, massage, acupuncture etc. There is still no clear definition for CAM. In India, CAM is followed since ages and people specially believe a lot in Ayurveda. Even in our study, the most commonly used alternative therapy was ayurveda. Despite of extensive usage of ayurveda in form of homemade remedies for various ailments like common cold, cough, pain etc., we do not have adequate scientific studies demonstrating the efficacy and safety of these traditional practices. In our study, there were around 13 parents who were not aware of any form of CAM. The rest knew about some or the other

**Table 5.** Common reasons for not utilizing CAM (multiple answers)

Reason	Frequency (n=101)
Not enough information available regarding CAM	40
Worried about mixing with allopathic medicines	17
No faith in alternative systems of medicine	14
Need for CAM use was not felt	14
Slow action compared to allopathic medications	9
Worried about adverse effects	8
Warned by allopathic doctors regarding use of CAM	5
Child too young to use CAM	3
Not available	2

form of CAM. And the most common source of information regarding the CAM was friends and family. The elders have passed on the information regarding these therapies from generation to generation and they believed that since CAM was natural so it was free of any side effects. Similar results have been reported in another study.<sup>20, 21</sup> Half of the mothers denied of having given any form of CAM to their children, though some of them have taken these treatments for themselves. The reason behind this is that some of them were not sure of the adverse effects of CAM while few of them thought that child was too young to take CAM. The parents included in our study were from all socio-economic strata and use of CAM was seen uniformly across all strata.

One of the most interesting fact that we came across in this study is that many mothers were giving a local herbal preparation marketed under the name of “Chinnamatre” to their children (some of them being less than 6 months old, during which only breast feeding is advocated). They did not consider this as a drug, instead most of them felt it was like a supplement which would keep their child in good health. Chinnamatre is available as an over the counter drug in local stores. It is a matter of concern because many children in this area are given this drug and the constituents are not mentioned on the drug label. The efficacy and safety needs to be assessed and if it is clinically found to be efficacious and safe, it can be marketed worldwide. Since there is no published data on the use of this preparation, we cannot compare the data.

Most common diseases for which CAM was used in children was to either treat or prevent respiratory illness like common cold and flu and gastrointestinal symptoms like colic pain. Another important use of CAM was to improve immunity in children to build resistance against diseases and to increase their intelligence. Other studies in adults and children have mentioned that CAM is more often preferred for chronic diseases than acute problems.<sup>19,20</sup> In our study also most of them preferred CAM for chronic ailments rather than acute problems. Some of these parents preferred to try CAM first for the child while the remaining opted for CAM only when there was no relief by allopathic medications.

Many of the patients were concomitantly taking both allopathic and CAM therapy and many of them have not informed the doctors regarding these treatments to their practitioners. This is a dangerous practice as sometimes it could lead to drug interactions and ultimately harm the child. Similar concerns were also raised by few other studies<sup>20,22,23</sup>. Half of the parents stated that the treating physician did not enquire about CAM usage. In another study done in adults also reveals that almost 60% of the study population used CAM concomitantly with allopathic medication, and only 7% of the health care practitioners enquired about the same.<sup>15</sup> In our present system of medical education, there is no emphasis on CAM therapy. Since CAM is widely used in the country, it is high time that our MBBS undergraduates are given training regarding CAM so that they are able to identify the advantages and disadvantages of combining CAM and modern medicine.<sup>21</sup> Integration of CAM with the current teaching curriculum is something we should all aim for so that patients are given holistic treatment and minimal harm is done.

#### **Limitations of the study**

Due to time-line restrictions, the sample study of the study was small. A bigger sample size would have given a deeper and more convincing insight to the use of CAM in children. Secondly, since this is an interview based study, therefore there could be some amount of recall bias in the information obtained. In this study, we have not taken into consideration the decoctions/drinks which are made at home or vitamins/nutritional supplements. This might cause some differences in the results from other studies which have added these data.

#### **CONCLUSION**

Complementary and alternative medicine (CAM), as is evident from the study, is utilized in Indian therapy from a very tender age, therefore, it needs to be validated and the beneficiaries must be apprised with the safety of these remedies. The aim of treating patients should be use of CAM along allopathic medicines to provide a holistic therapy, potentiating each other's goodness and minimizing the adverse effects.

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