



**HERBAL DRUGS: STUDY OF KNOWLEDGE ATTITUDE AND PRACTICES ABOUT THEIR SIDE EFFECTS, SOURCE OF ADVICE AND CONDITIONS FOR PREFERENCE AMONG EDUCATED CLASS.**

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**ABSTRACT**

**Background:** Herbal medicines are increasingly popular among both developing and developed countries across the world. Knowledge and attitude has an important bearing on utilization. In India there are well established systems based on herbal medicines. So it is important to know the knowledge attitude and practice of people about herbal medicine. **Material and Methods:** We conducted a cross-sectional descriptive study among educated people using a pre-designed

validated questionnaire in English language. Data were collected based on socio-demographic variables, as well as knowledge, attitude and practice of herbal Medicine. We Analyzed for frequencies and comparison in groups with respect to level of education and their field of educational background. Gender based Analysis was also done. **Results:** The Results show good percentage (55%) had used Herbal Medicines in last one year and was having a very positive attitude on safety and effectiveness of herbal medicines. Across all education level and field there was perception about Herbal drugs being free from side effect (75%). Among other findings the most notable was wide prevalence of Self medication (50%) and perception that herbal medicine has no adverse effect. **Conclusion:** There are

many points of attention in Knowledge attitude and practice of Herbal medicine in India and a need of mass awareness based on scientific evidence. This can be done by involving all stakeholders including the practitioners of Herbal medicine, herbal pharmacy regulatory authorities and self help groups.

**KEYWORDS:** CAM, Self Medication, Preference for Herbal Drugs.

## INTRODUCTION

Although a unanimous definition of Traditional Medicine (TM) / Complimentary and Alternative Medicine (CAM) is still elusive. According to WHO Traditional Medicine Strategy WH. 2002–2005 Document “Traditional medicine” is a comprehensive term used to refer both to TM systems such as traditional Chinese medicine, Indian ayurveda and Arabic unani medicine, and to various forms of indigenous medicine. TM therapies include medication therapies —if they involve use of herbal medicines.” The document defines Herbal medicine as “Herbal medicines include herbs, herbal materials, herbal preparations and finished herbal products that contain as active ingredients parts of plants, or other plant materials, or combinations thereof.” [1]

There is remarkable upsurge of public interest and use of Traditional Medicine/Complimentary and Alternative Medicine. This trend is common throughout the developed and developing world. Different studies suggest that among developing countries its use is quiet popular ranging from 40% (Colombia) to 80% in African countries. The trend is not different among developed countries. The percentage of Population which has used CAM at least once is 48% in Australia 70% in Canada, 42% in USA, 38% in Belgium and 75% in France.<sup>[2, 3,4,5,6,7]</sup> As the knowledge and attitude of people has a direct bearing on utilization of services so, this trend has an important bearing on the health care system and Policy Framework of any country. In India there are many established system based on Herbal Medicine i.e Ayurveda, Unani and Sidha etc. Ayurveda and Unani are Popular in throughout India and Siddha system mostly in some of the south Indian state.

The herbal medicine has also increasing in terms of trade and market value. In India, an annual trade value corresponding to the trade of 3,19,500 MT of botanical raw drugs in the country works out to Rs. 1,0691,058.90 crores for the year 2005-06.<sup>[8]</sup> In 1996, the herbal medicine market in the European countries was about \$ 10 billion, in USA about \$ 4 billion, in India about \$ 1.0 billion and in other countries was \$ 5.0 billion.<sup>[9]</sup>

They are used by people for the management of many of the chronic conditions. So it becomes important to know the about the prevalence, socio-cultural economic factors and the personal factors like knowledge, beliefs, attitudes, motivations underlying a person's choice or decision for the use of herbal medicines. Hence, the present work is aimed at studying the knowledge, attitude and practice of Herbal Medicine among the educated class in India.

## **MATERIAL AND METHODS**

A cross-sectional descriptive study was conducted. The data were collected based on socio-demographic profile, as well as knowledge, attitude and practice of herbal Medicine using a pre-designed questionnaire in English language that was to be filled by participants. Study was approved by institutional ethics committee. All participants were well versed in English language and minimum qualification of participants was Matric (Secondary School). Participants were given sufficient time to fill the form. Questionnaire included the following 1). Socio-demographic data including age, sex, residence, education, Income group etc, 2). Pattern of use and source of advice of Herbal Medicine 3). Knowledge on Safety, effectiveness and costs of herbal medicine 4). Attitude and practice on use of Herbal Medicine along with and in addition to allopathic treatment 5). Condition for which they prefer/take Herbal drugs.

Statistical analysis: The Final data was tabulated and analysed using SPSS version 16.0. The data was subjected to descriptive analysis and percentages were calculated. Analysis was done for Frequencies and comparison in groups with respect to level of education and their Faculty of educational background and gender.

## **RESULTS & DISCUSSION**

Total 134 participants were enrolled. Out of this 14 incomplete questionnaires were excluded. 120 subjects completed the survey. There were 82 Male and 38 Females. The Socio – demographical analysis of i.e. age distribution, place (Urban/Rural/Semi Urban), Family Monthly income, level of education, field of education has been deatiled in (Table No 1). Across the gender and level of education 66 (55%) participants have used herbal medicine in last 1 Year. (Table 1). 28.3% always prefers Herbal Medicine and 31.7% prefer it in minor illnesses (Table 2,3). Almost 50% use it as self medication and 75% believe that it is free from side effect (Table 4). The preferred form of herbal medicine (Plant parts, pharmaceutical preparation) among different level of education and conditions in which they prefer Herbal

medicine over Allopathic medication is detailed in (Table 5) For different educational qualification the source of advice for herbal medication and if it is self medication then the source of inspiration has been detailed in (Table 6).

Use of Herbal Medicine is quite prevalent throughout the world. This study was to access about knowledge, attitude, and practice of Herbal Medicine among educated class. The Age and sex distribution, Level of education, Faculty of education and Household income has been analysed and given in (Table 1).

Study showed that nearly half (55%) of respondents have used Herbal Medicine during Last 1 year (Table 1). This is a significant number and indicates that use of Herbal Medicine is quiet common. Another remarkable trend is nearly a quarter (28.3%) always prefers Herbal Medicine over Allopathic Medicine and 31.7% prefer it in minor illnesses (Table 2,3). This trend among educated (normally relatively rich class) points that this trend may be even more among economically backward class where cost is also a factor.<sup>[10]</sup>

As for Reason for using Herbal Medicine a overwhelming majority (75%) among participants choose the option of herbal medicine having no side effect (Table 4) Out of 120 Respondents 60,(50%) use herbal medicine as self Medication. Self medication (in 50%) along with attitude of Herbal medicine having no or minor side effect (75 %) is a matter of concern for any health care system and drug regulatory authorities. (Table 4)

**Sex based analysis:** In sex based Analysis with respect to the use of form of herbal medicine (e.g. plant part, pharmaceutical preparation) there was no significant difference between male and female.(p value = 0.825).(Table 2). There was also no statistically significant difference (p value = 0.161) among sexes with respect to the question of preference of herbal medicine over allopathic.(Table 3).

With respect to the reason for use of Herbal drugs the question gave freedom for choosing more than one option. Out of total Respondents 75% considered herbal medicine is having no side effect, 74% considered it natural,32% of the respondents considered that herbal medicine cures completely, and 10% said that it is holistic (Taking care of body as a whole). A general perception about the use of herbal drug is its cost effectiveness but only 17% considered cost to be a reason for use of herbal medicine.(Table 4)

In sex based analysis of reason for use there was no significant difference between male and female for any point except in considering it to be holistic. But All the 10% of respondents

who considered it holistic were male (P value = 0.009). So the attitude and practice is nearly homogenous among the educated males and females.(Table 4)

**Analysis based on level of education:** The minimum education of participants were matric and highest was P.hd but majority (68%) were either undergraduate or post graduate. There qualification brake up of participants were Matric 16 (13.13%), Diploma/intermediate 8 (6.6%), Undergraduates 38(36.7%), Post graduate (31.66%) and PhD (11.66%). (Table 1). There was no significant difference with respect to level of education and preference of herbal drugs and source of advice. A significant,47% of the post graduate and 59% % of the graduates doing self medication.

**Table.1 Distribution of age, sex, residence, educational qualification, field of education, household income and frequency of herbal drug use of participant.**

Age	19-24	28.3%
	25-30	25%
	31-36	15%
	37-42	13.3%
	43-48	8.3%
	49-54	6.7%
Sex	Male	68.3%
	Female	31.7%
Residence (Native Place was asked)	Urban	40
	Rural	40
	Semi Urban	20
Educational Qualification	Ph D	11.7%
	Postgraduate	31.7%
	Undergraduate	36.7%
	Intermediate/Post Matric Diploma	6.7%
	Matriculation	13.3%
Faculty of Education (Excluding Matriculation)	Arts/Social Science	30
	Science/ Life Science	28.3
	Medicine	5%
	Engineering	11.7
	Law/Management/agriculture etc.	11.7
Household income	Less than 20,000	35%
	20000-50000	33.3%
	50001-100000	11.7%
	Above 100000	5%
How Many times used Herbal Medicine in last 1 year	Not used at all	45%
	1-5 times	43.3%
	> 5 times	11.7%

**Table 2 Form herbal medicine being taken and when herbal medicine is preferred over allopathic medicine. Sex based frequency and Chi square test analysis**

<b>Number (%) taking Plant or Pharmaceutical Preparation or both</b>			
	<b>Females (n= 38)</b>	<b>Males (n=82)</b>	<b>Total (n=120)</b>
Plant Part	8 (21.1%)	16 (19.5%)	24 (20%)
Pharmaceutical preparation	24 (63.2%)	56 (68.3%)	80 (66.7%)
Both	6 (15.8%)	10(12.2%)	16 (16.3%)
<b>When Herbal Medicine is Preferred over Allopathic</b>			
Always	8 (21.1%)	26 (31.7%)	34 (28.3%)
If allopathic fails	6 (15.8%)	18 (22%)	24 (20%)
In minor illness	18 (47.4%)	20 (24.4%)	38 (31.6%)
In chronic illness	2 (5.3%)	8 (9.8%)	10 (8.3%)
Never	4 (10.5%)	10 (12.2%)	14 (11.6%)

Chi square test Analysis between sexes for Form of herbal medicine (p value = 0.825). Chi square test Analysis between sexes for Preference of herbal medicine over allopathic (p value = 0.161).

**Table 3. Source of Advice for using herbal medicines with respect to Sex**

<b>Source of Advice</b>	<b>Number (%) saying yes</b>	
	<b>Females (n= 38)</b>	<b>Males (n=82)</b>
Unani /Ayurvedic Doctors	8 (21.1%)	34 (41.5%)
Self Medication	18 (47.4%)	42 (51.2%)
Herbal Pharmacy	12 (31.6%)	6 (7.3%)
<b>If Self Medication Then Source of Inspiration</b>		
Advertisement	6 (33.3%)	12 (28.6%)
Elders/Older text	2 (11.1%)	14 (33.3%)
Relatives & Friends	10 (55.6%)	16 (38.1%)

**Table 4. Reason of using herbal medicines with respect to sex (Freedom of choosing more than one option was permissible)**

<b>Reason</b>	<b>Number (%) saying yes</b>		<b>P value (2 sided)</b>
	<b>Females (n= 38)</b>	<b>Males (n=82)</b>	
Cure completely	8 (21.1)	30 (36.6)	0.097
Has no Side Effect	26 (68.4)	64 (78.0)	0.266
It is cheap	6 (15.8)	14 (17.1)	1.000
It is natural	28 (73.7)	60 (73.2)	1.000
Holistic (Take care body as a whole)	0 (0)	12 (14.6)	0.009
Don't contain Chemical	14 (36.8)	24 (29.3)	0.409
Under Self Control	8 (21.1)	4(4.9)	0.017

**Table 5. Form of herbal medicine being taken and when herbal medicine is preferred over allopathic medicine (Modern Medicine) in relation with educational qualification.**

Number (%) taking Plant or Pharmaceutical Preparation or both					
	Ph D (n= 14)	Postgraduates (n= 38)	Under Graduates (n= 44)	Intermediate/Diploma (n= 8)	Matriculation (n=16)
Plant Part	2 (14.3%)	8 (21.1%)	8 (18.2%)	2(25%)	4(25%)
Pharmaceutical preparation	12 (85.7 %)	26 (68.4%)	30(68.2%)	6(75%)	6(37.5%)
Both	0 (0%)	4 (10.5%)	6 (13.6%)	0(0%)	6 (37.5%)
When Herbal Medicine is Preferred over Allopathic					
Always	4(28.6%)	8(21.1%)	16(36.4%)	2(25%)	4(25%)
If allopathic fails	2(14.3%)	8(21.1%)	12(27.3%)	2(25%)	0(0%)
In minor illness	2(14.3%)	12(31.6%)	12(27.3%)	4(50%)	8(50%)
In chronic illness	2(14.3%)	6(15.8%)	0(0%)	0(0%)	2(12.5%)
Never	4(28.6%)	4(10.5%)	4(9.1%)	0(0%)	2(12.5%)

**Table 6. Source of advice for using herbal medicines in relation with educational qualification of participants.**

Source of Advice	Number (%) saying yes					Out of Total Respondants. (n=120)
	Ph D (n= 14)	Postgraduates (n= 38)	Under Graduates (n= 44)	Intermediate/ Diploma (n= 8)	Matriculation (n=16)	
Unani /Ayurvedic Doctors	4 (28.6%)	14 (36.8 %)	14(31.8 %)	6 (75%)	4 (25%)	42 (35%)
Self Medication	4 (28.6%)	18 (47.4 %)	26 (59.1%)	2 (25%)	10(62.5%)	60 (50%)
Herbal Pharmacy	6 (42.9%)	6 (15.8 %)	4 (9.1%)	0 (0%)	2 (12.5%)	18 (15%)
If Self Medication Then Source of Inspiration (60 participants reported self medication n=60)						
Advertisement	0 (0%)	6 (33.3%)	8(30.8%)	2(100%)	2 (20%)	18 (30%)
Elders/Older text	0 (0%)	2(11.1%)	8(30.8%)	0 (0%)	6 (60%)	16 ( )
Relatives & Friends	4(100%)	10(55.6%)	10 (38.5%)	0 (0%)	2 (20%)	26

## CONCLUSION

The knowledge and attitude has a direct bearing on Practice. This will give inputs for any policy decision about Herbal Medicine and public Health care system.<sup>[11]</sup> As for Reason for using Herbal Medicine an overwhelming majority (75%) among participants choose the option of herbal medicine having no side effect. It is a common perception that herbal drug has no Adverse effect. Even the health care professional has the same perception. Study

conducted by (Ghia Canna J et.al) recorded it to be 90% among health care professional.<sup>[12]</sup> This trend has been reflected in this study also as 75% of respondent considered it free from adverse effect. And this belief is also prevalent among well educated class. But this fact is not based on sound scientific foundation. This is further complicated by fact that in many countries including India the approval of new herbal drugs and its regulation is easy compared to allopathic system of medicine.<sup>[13]</sup>

There is diverse range of opinion among different stakeholders regarding complimentary and Alternative system of medicines, for issues like its scientific basis, drug regulation, Quality control, and relation to public health.<sup>[14,15]</sup> The increasing use of alternative medicine also started a debate to include its education in allopathic system of medicine.<sup>[16]</sup>

The result showed that there are many points of attention in Knowledge attitude and practice of Herbal medicine. Self medication for herbal drugs is also very common. There is a need of mass awareness for this effect. This can be done by involving all stakeholders including the doctors of Herbal medicine, herbal pharmacy regulatory authorities and self help groups.

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