

# Assessment of Knowledge, Attitude and Practice towards Herbal Medicines in General Public of Raichur, Karnataka

Sarfazar Mohammed<sup>1\*</sup>, Praise Marine Sabu<sup>2</sup>, Asma Parveen<sup>2</sup>, Dodddayya H<sup>2</sup>

<sup>1</sup>Professor, Department of Pharmaceutics, NET Pharmacy College, Raichur- 584103, Karnataka, India

<sup>2</sup>NET Pharmacy College, Raichur- 584103, Karnataka, India

DOI: [10.36348/sjimps.2022.v08i04.003](https://doi.org/10.36348/sjimps.2022.v08i04.003)

| Received: 15.02.2022 | Accepted: 23.03.2022 | Published: 11.04.2022

\*Corresponding author: Sarfazar Mohammed

Professor, Department of Pharmaceutics, NET Pharmacy College, Raichur- 584103, Karnataka, India

## Abstract

Nature has given a large source of medicinal agents from plants for the past thousands of years, an impressive number of modern drugs have been isolated from natural sources. The plant-based, traditional medicine system continues to play an essential role in health care, with about 80% of the world's inhabitants relying mainly on traditional medicines for their primary health care. The purpose of this study was to evaluate the knowledge, attitude and practice towards herbal medicine (HM) in Raichur district of Karnataka. A descriptive, validated cross sectional questionnaire based study was conducted for a period of six months. The survey was divided into 3 themes and comprised of 30 items that gathered information about the knowledge, attitude and practice of respondents toward herbal medicines. Approximately 50.5% of the respondents believed that herbal medications are better than commercially available prescription and over-the-counter drugs. Majority (72.5%) of them reported that they did not visit physicians for their complementary and alternative medicine use. The most common influences for using this type of treatment were family (65%) followed by the internet (29.6%). The most commonly reported herbal medicines used were tulsi (65.9%) and ginger (54.4%). More than half of the respondents (59.8%) reported that cough/cold is the most common ailment for using HM. The study revealed a high prevalence of HM use among general public of north Karnataka. More awareness and education about risks and complications of HM use are needed for general public.

**Keywords:** Knowledge, attitudes, practice, complementary and alternative medicines, herbal medicine, questionnaire.

**Copyright © 2022 The Author(s):** This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

## INTRODUCTION

Treatment of illness and maintenance of health using herbal medicines is the oldest and most popular form of Healthcare practice known to humanity that has been practiced by all cultures in all ages throughout the history of civilization. Herbal medicines have long earned reputation as "the people's medicines" because of their easy accessibility, safety, and the ease with which they can be prepared. Use of herbal medicines in the treatment of diseases has a long tradition of use outside of conventional medicines. In some Asian and African countries, 80 per cent of the population depends on traditional herbal medicines for primary healthcare. In many developed countries, 70 to 80 per cent of the population has used some form of complementary or alternative medicines (CAM) composed primarily of herbal medicines (Ghani A, 2013).

Use of plants for healing purposes predates recorded history and forms the origin of much of

modern medicine. Many conventional drugs originate from plant sources: a century ago, most of the few effective drugs were plant-based. Examples include aspirin (from willow bark), digoxin (from foxglove), quinine (from cinchona bark), and morphine (from the opium poppy). The development of drugs from plants continues, with drug companies engaged in large-scale pharmacologic screening of herbs (Vickers A *et al.*, 2001).

There are multiple reasons for patients turning to herbal therapies. Often cited is a "sense of control, a mental comfort from taking action," which helps explain why many people taking herbs have diseases that are chronic or incurable viz. diabetes, cancer, arthritis or AIDS. In such situations, they often believe that conventional medicine has failed them. When patients use home remedies for acute, often self-limiting conditions, such as cold, sore throat, or bee sting, it is often because professional care is not

immediately available, too inconvenient, costly or time-consuming. In rural areas, there are additional cultural factors that encourage the use of botanicals, such as the environment and culture, a “man earth relationship.” People believe that where an area gives rise to a particular disease, it will also support plants that can be used to cure it (Winslow and Kroll, 1998). In India vast sections of the rural population have no access to modern medicine (Mudur, 1997). Hundreds of primary health centres which are intended to serve rural areas, lack staffs, diagnostic facilities, and adequate supplies of drugs. Population is heavily dependent on traditional medical systems (Mudur, 1995). Natural plant products are perceived to be healthier than manufactured medicine (Gesler, 1992). Additional, report of adverse effect of conventional medications are found in the lay press at a much higher rate than reports of herbal toxicities (Winslow and Kroll, 1998).

In recent times current literature carries strong evidence in support of herbal medicine and dietary therapy as potential effective antivirals against present diseases like SARS-CoV-2 and COVID-19. During COVID-19 the herbal medicines were used to prevent infection and strengthen immunity, as antiviral agents in coating of masks, as air-disinfectants (essential oil) to stop aerosol transmission; and as surface sanitizing agents to provide disinfected environment (Panyod S *et al.*, 2020).

Use of herbal medicines for therapeutic purpose is now well-established and widely acknowledged to be safe and effective. Many drugs commonly used today in the developing countries are of herbal origin and about of all modern prescription drugs contain at least one active ingredient derived from plant material, either obtained from plant extracts or synthesized to mimic natural plant compound. Many of the pharmaceuticals currently available to Physicians have a long history of use as herbal remedies (Ghani A, 2013).

Furthermore, there has been little investigation on knowledge, attitude, and practice of different complementary and alternative medicine practices particularly in rural societies of the country and as far as the knowledge of the investigators is concerned, there was no such study conducted in the study area. In this context, the present study was carried out to determine people’s knowledge, attitude, and practice towards herbal medicine through community based cross-sectional study.

## **MATERIALS AND METHODS**

### **2.1. Study design and sample size**

This descriptive, cross sectional study was conducted for a period of six months from January 2021 to June 2021 in general public of Raichur and the patients visiting Navodaya Medical College Hospital &

Research Centre (NMCH & RC) Raichur. Convenience sampling method was used to collect the responses from patients visiting hospitals in and around the region. The patients who were aged above 15 years and literate were eligible for this study. Data were collected from hospital premises and public places. Only those patients, irrespective of their disease or condition, who were interested in the study, were included, and hence the response rate was 100%. A total of 331 subjects participated in the study.

### **2.2. Ethical approval**

Permission was obtained from Institutional Ethics Committee of Navodaya Medical College Hospital and Research Centre. The study was approved by the committee by issuing ethical clearance certificate.

### **2.3. Development of Questionnaire**

The questionnaire was prepared in English language and it was validated using cronbach’s alpha value statistical tool. The questionnaire contained socio-demographic details of the study participants and 30 questions which were categorised into knowledge, attitude and practice based questions. In order to check the validity of the questionnaire pilot study was conducted at NMCH & RC under supervision of the senior researcher for the purpose of evaluating the response of the subject, measuring the validity of the questionnaire, testing the study tools; and choosing the best way for data collection and management. The pilot study was completed in 1 week and it involved 10 subjects. All the necessary additions or changes in the study tools were made. The result of the pilot study was included in the main study. A Cronbach’s alpha value of 0.8 was found for the questionnaire which indicated that the tool has good internal consistency. The structured questionnaire was prepared and given to subject experts for their comments. According to the subject expert’s comments or suggestions changes in the questions were made. Questions were open ended and closed ended containing either dichotomous or multiple choice questions.

### **2.4. Questionnaire distribution, collection and analysis of the data**

The validated questionnaires were distributed among patients in the study area, i.e., hospital premises and public places. The project team briefed about the study to the participants. The questionnaire was distributed to each patient at a time and the responses were collected. The targeted population for this study were residents of Raichur aged 18 years and older. As Covid 19 restrictions begun and we could not have access to the public and NMCH & RC the rest samples were collected online through Google forms. An invitation message to participate in the study was sent via social media (WhatsApp) and email to family members, friends and the general community with a

link to the survey. The participants were informed about the study goals. The information provided by the study participants in the questionnaires were kept confidential and only the collected data was processed. Based on the responses obtained from the questionnaires, results were tabulated and analysed.

The filled KAP questionnaires were analysed and monitored for the following variables:

1. Socio-demographic data
2. Knowledge, attitude and practice towards herbal medicines

The data from the KAP questionnaires were analysed using descriptive statistics namely total numbers, percentage and mean. Microsoft excel and word was used to generate graphs, Tables etc.

## RESULTS AND DISCUSSION

The present study estimated the epidemiological trend and explored public knowledge, attitude and practice of traditional medicines in general public of Raichur region. In this study, total 331 participants were selected since the sample size was 331.

### Demographic information

Out of 331 participants 179 (54%) were female and 152 (46%) were male. This data suggested that females are using herbal medicines more than males. This result was similar to studies conducted by Hannan Mohammed Al Yousef *et al* and Nalini A *et al.*, Another survey by Sulaiman *et al.*, also reported that herbal product consumption was more in female compared to male as many of them consumed herbal products for the treatment of menstrual problem. This implies that the medicinal plants were more popular

among females. On the contrary, studies conducted by Bhavana BB *et al* showed that men are using more herbal medicines than women.

Among the total samples collected age was taken in to consideration by dividing in to six age groups being kept at an interval of 10 yrs each. Maximum number of patients was found in the age group of 18 – 28 yrs (36.25%) followed by 48 – 58 yrs (23.86%) and 38 – 48 yrs (16.61%).

These results were similar to the study done by Hanan Mohammed Al-Yousef *et al.*, which showed that youth population had more positive attitude towards medicinal plants. These finding were also supported by Zimmerman and Kandiah who showed that younger people appear to be quite familiar with good impacts of herbal medicine and food supplements.

Among the total 331 samples collected, about 184 (55.6%) participants didn't have any medical condition which was followed by medical conditions such as hypertension and diabetes (8.76%), thyroid 26(7.6%) and COPD and asthma 21(6.3%).

### Knowledge towards herbal medicine

About 39.30% of the respondents consumed herbal medicines only if necessary or required, where as 26% of participants take HM for daily. 26.60% participants consume HM once a week and 7.60% in once a month. The results were similar to studies conducted by Nalini A *et al.*, in Malaysia. According to the study by Aziz and Tey and Mithia *et al.*, consumption of herbal products is also influenced by the culture and ethnicity. The results are shown in Figure 1.

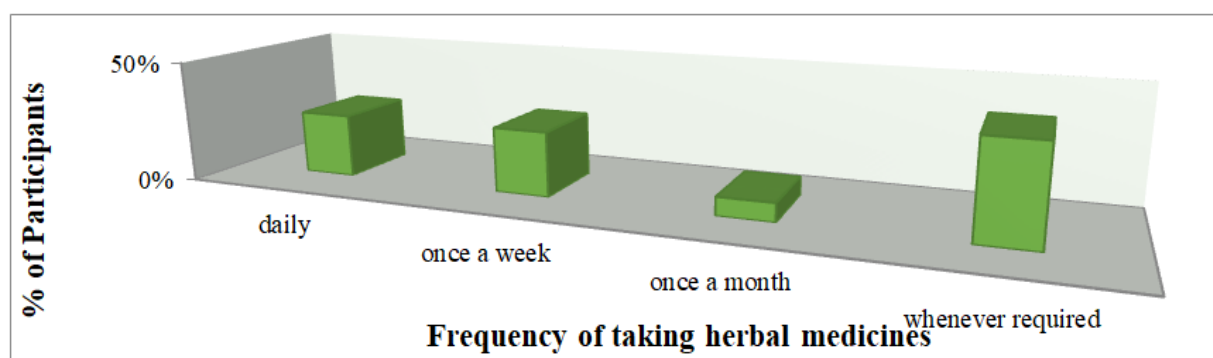
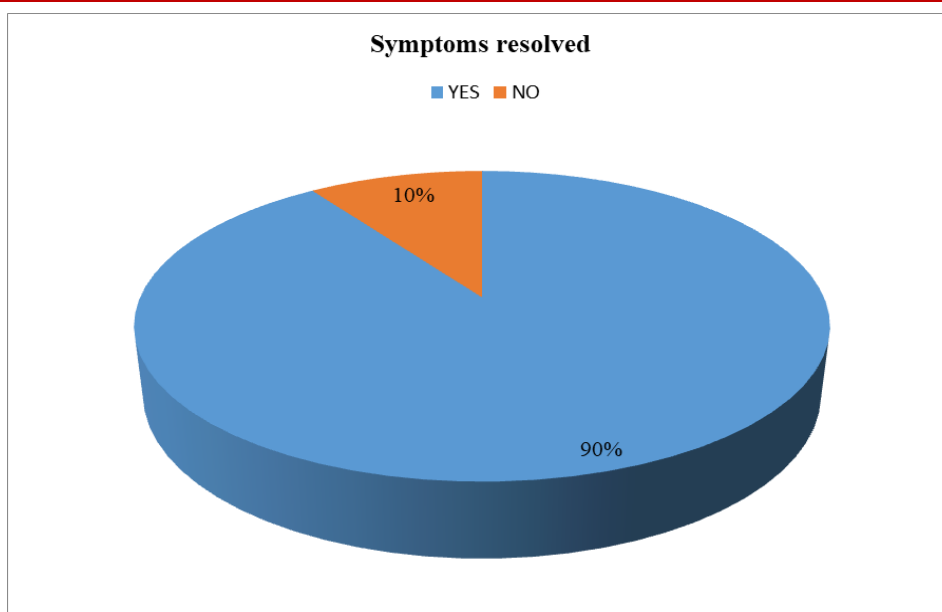


Figure 1: Frequency of taking herbal medicines (n= 331)

Figure 2 represent participant's knowledge on resolving the symptoms by herbal medicines. Majority of the respondent's 299 (90.3%) claimed that consuming herbal medicines resolved their symptoms

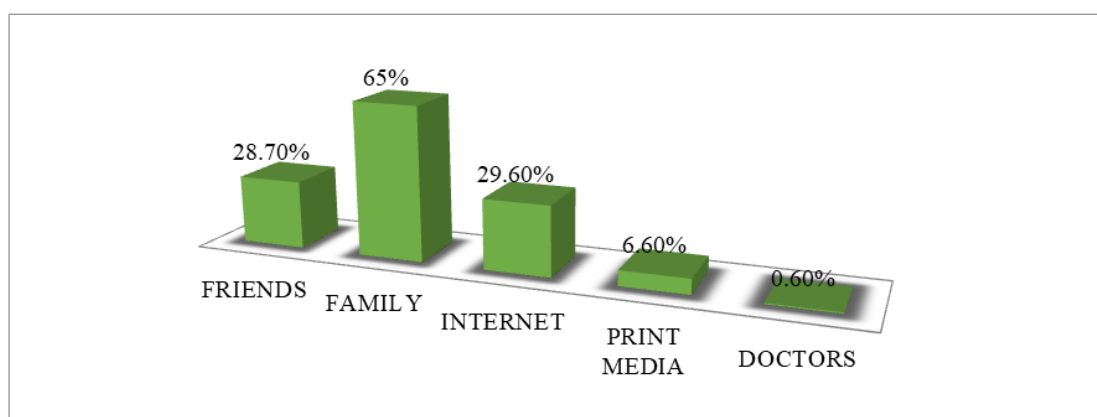
and about 32 (9.7%) participants found it inefficacious. Majority of them have used HM and found positive outcomes in their health related issues.



**Figure 2: Knowledge on resolving symptoms (n=331)**

Major source of knowledge or information about herbal medicine was from family 215 (65%) and friends 95 (28.7%) who recommended the usage. Basically older generation are the main source of information on HM as it is carried down since generations across the world. These results were similar with the studies conducted by Hanan Mohammed Al-Yousef *et al.*, and Nalini A *et al.*, The data suggested herbal consumers measure the effectiveness based on the length of time herbal medicines have been used and

handed down from generation to generation and most of them are strong believers and preservers of tradition. Besides that, 98 (29.6%) of the respondents refer to online sources, as nowadays utilization of internet is widening and the information also worldwide. Information regarding the herbal product promotion and sale by many websites in the internet has become a famous source of reference among the consumers and practitioners. The results are depicted in Figure 3.



**Figure 3: Source of information (n=331)**

The major reason given by the participants for taking herbal medicine 202 (61%) was to acquire immunity, followed by treatment 143 (43.2%) and prevention 121 (36%). As they did notice they built

immunity towards common cold and cough and might have fallen ill quite less. The results are depicted in Figure 4.

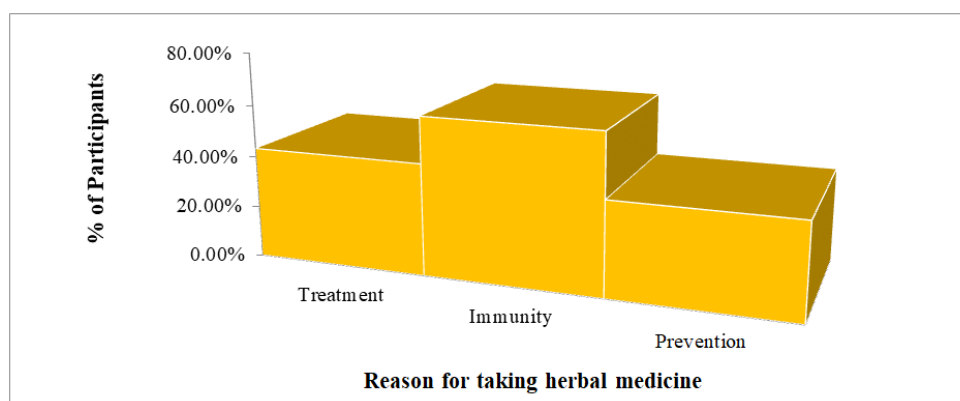


Figure 4: Reason for taking herbal medicines (n=331)

Table 1: Knowledge variables

Knowledge variables		N	%
Do you think herbal medicines are safe?	a) Yes	319	96.4
	b) No	12	3.6
Do you have any specific physician where you visit for your herbal medicines? How often do you visit him?	a) Yes	90	27.19
	b) No	241	72.80
Do you know about the healing property of Herbal medications which you are currently using? specify.	a) Yes	253	76.4
	b) No	78	23.6
According to you which treatment costs you more?	a) Herbal medicines	44	13.3
	b) Allopathy	286	86.4
	c) Others	1	0.3

The knowledge on safety of herbal medicine shows that most of respondents 319 (96.4%) believed HM are safe and efficacious as they might have not experienced ill effect or thought it would harm. These results were similar to studies conducted by Ahmad M Eid *et al.*, on pregnant and lactating women. This data suggested that herbal medicines and products were safe in all population including special populations like pregnant and lactating women, geriatrics and paediatrics.

Although about 90 (27.19%) participants reported that their physicians were aware of their HM use, the vast majority of the respondents 241 (72.80%) were taking this treatment without any prior consultation with their physicians. The results were similar to the study conducted by Hanan Mohammed Al-Yousef *et al.*, The data suggested that participants were having better knowledge regarding the usage, administration and effectiveness of herbal medicines.

Many of the respondents 253 (76.4%) were aware about the healing property of herbal medicines which they consume because of their belief and practical results and quite a few as 78 respondents (23.6%) were not aware about the healing property of HM.

Most of the participants 286 (86.4%) believe that allopathy costs more than herbal medicines and other forms of treatment which might be due to higher production costs and polypharmacy. All these results are shown in Table 1.

Figure 5 shows the knowledge regarding cost of herbal medicines. 192 (58%) respondents claim herbal medicine costs about Rs.100 – Rs.500 and 92 (27.8%) responds feel they are cheap and are available at a price less than Rs.100.

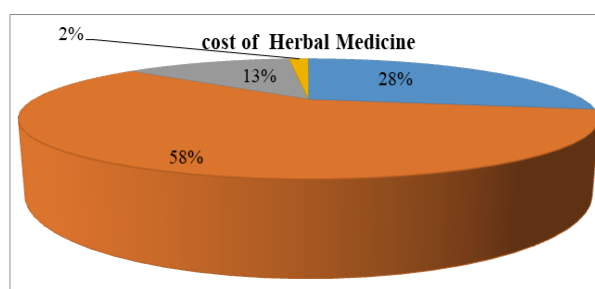


Figure 5: Participant knowledge on cost of herbal medicines (n=331)

**Attitude towards herbal medicine****Table 2: Attitude towards herbal medicine**

Attitude variables		N	%
Have you ever considered taking Herbal medicine over OTC or prescription medicines?	a) Yes	86	26
	b) No	187	56.5
	c) both	58	17.5
Do you believe Herbal medicines are better than taking allopathic medicines? Reason.	a) Yes	127	38.4
	b) No	37	11.2
	c) depends on the condition	167	50.5
Do you think Herbal medicine have complications? Have you ever experienced any side effects?	a) Yes	65	19.6
	b) No	266	80.4
Have you noticed improvement in your disease status after taking Herbal medicine? Specify	a) Yes	287	86.4
	b) No	44	13
Do you find any difficulty in using Herbal medicine?	a) Yes	56	16.9
	b) No	275	83.1
Do you consider giving your children Herbal medicine? Why?	a) Yes	237	71.60
	b) No	94	28.39
Do you still prefer continuing taking Herbal medicine even after your symptoms were resolved?	a) Yes	203	61.3
	b) No	128	38.7

About 187 (56.5%) participants responded that they consider taking commercially available prescription and over the counter drugs than that of herbal medicines, the reason for this could be to obtain immediate action and quick relief as taking HM could give slow progress compared to allopathy and only about 86 (26%) participants responded they consider taking herbal medicines over prescription drugs.

Approximately 167 (50.5%) respondents believed that the use and effectiveness depends on the condition whether the concern requires medical advice or it could be cured at home and 127 (38.4%) participants responded that HM are better than taking commercially available prescription medicines and OTC drugs. On the contrary studies conducted by Hannan al yousef *et al.*, concluded that HM are effective than that of prescription and over the counter drugs.

Third question represents the complications associated with HM. Many of the respondents 266 (80.4) believed that there is no complications associated with the use of HM. These results were congruent with the studies of Behrouz Talaei *et al.*, which is conducted on diabetic patients which concludes herbal products had lower complications in comparison to conventional anti-diabetic drugs.

Majority of the respondents 287 (86.4%) agreed HM show improvement in their disease status after consumption and 44 (13%) state that HM did not show much improvement in their disease status. Opinions varied individual to individual.

The assessment of consumer's difficulty in using HM shows that about 275 (83.1%) participants state that they are not facing any difficulty in using HM as they are easily accessible and 56 (16.9%) participants responded they face some difficulty in using HM.

A higher number of the respondents 237 (71.60%) claim that giving herbal medicines to children is safe and herbal medicines are suitable for all age groups 203 (61.3%) and 94 (28.39%) show it is not effective in treating children, 128 (38.7%) show they are not suitable for all age groups.

About 249 (75.2%) state that they continue taking herbal medicines even after the symptoms are resolved as a matter of fact to maintain their immunity and 82 (24.8%) show they stopped using HM when the symptoms were resolved. The observations are depicted in Table 2.

Figure 6 presents the criteria for the selection of HM. About 230 (69.5%) responded for desired results of HM as it plays an important role in selecting them as treatment. The second main criteria for selecting HM is due to the seriousness of side effects caused by allopathy 103 (31.1%). About 101 (30.5%) participants state that allopathy requires more time to show effects which are just opposite with HM. The reasons for using CAM were similar to those published by Al-Faris *et al.*, which state that the apparent success of alternative medicine is an inclination towards natural products and also the perceived failure of conventional medical treatment.

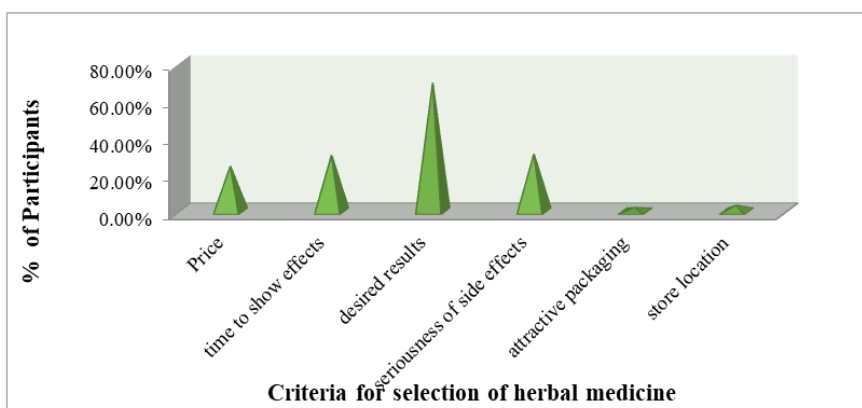


Figure 6: Criteria for the selection of herbal medicines (n=331)

**Practice towards herbal medicine**

Figure 7 show the common ailment for which the HM is used. More than half of the respondents 198 (59.8%) reported that cough and cold is the most common ailment prompting HM use, as they seem to

have relief with their symptoms and are cured without any side effects compared to conventional drugs. This was followed by gastric problems 161 (48.6%) and fever 119 (36%).

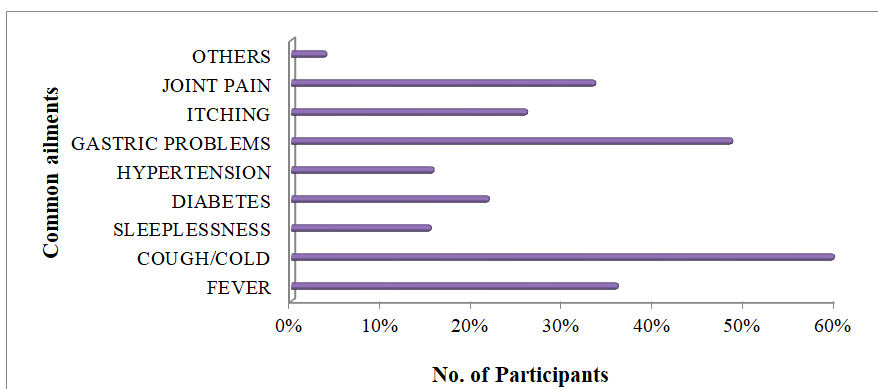


Figure 7: Common ailments for which herbal medicines are used (n=331)

Traditional medicines and other plant based products are being explored as possible therapeutics against covid -19. The use of herbal medicines by people has been increased during the pandemic. More than half of the participants 212 (64%) consumed

herbal medicines for preventing and boosting immunity during Covid -19 which showed a positive response for them, and 120 (36%) participants have not used herbal medicines in any form during Covid -19. The results are shown in Figure 8.

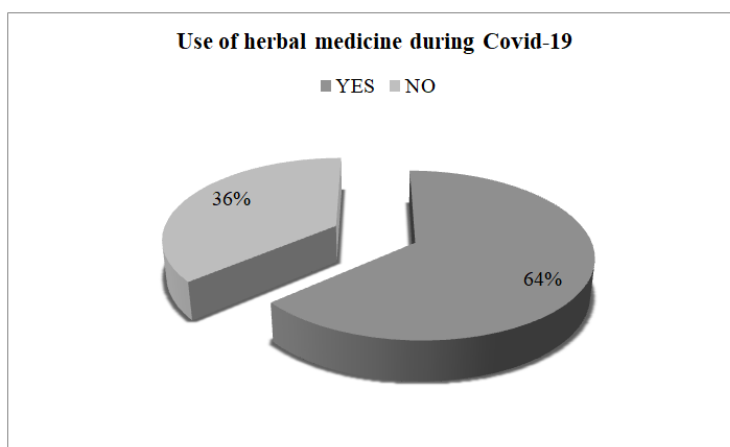


Figure 8: Use of herbal medicine during covid 19 (n=331)

**Table 3: Practice towards herbal medicine**

Practice variables		N	%
What time of the day you take herbal medicines?	a) Morning	204	61.6
	b) Afternoon	57	17.2
	c) Evening	118	35.6
	d) Night	93	28.09
How do you take Herbal Medicines?	a) Water	280	84.60
	b) Meals	49	14.80
	c) Milk	62	18.70
Do you use any Herbal medicines for external purpose? Where do you apply them?	a) Yes	122	36.9
	b) No	123	37.2
	c) Hair	95	28.7
	d) Face	89	26.9
	e) Mouth	32	9.7
	f) skin	102	30.8
Do you have any herbal plant/shrub at your home? What type of plant?	a) Yes	203	61.3
	b) No	128	38.67

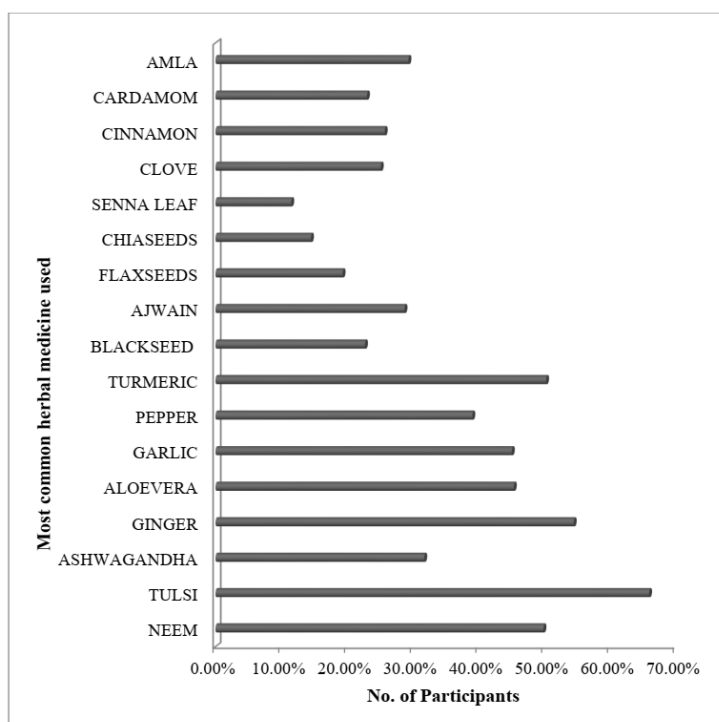
About 204 (61.6%) participants consume herbal medicine in morning followed by evening 118 (35.6%) and night 93 (28.09%) as shown in Table 3. Reason for taking during morning could be resulting in better absorption and effectiveness. Majority of the participants consume HM with water 280 (84.60%) and least with meals 49 (14.8%) which is depicted in Table 3.

Table 3 show the use of herbal medicines for external purpose and about 122 (36.9%) use herbal medicines for external purpose whereas 123 (37.2%) don't use externally. Mostly herbal medicines are used

on skin 102 (30.8%), followed by hair 95 (28.7%) and face 89 (26.9%).

Table 3 represent the availability of herbal plants at home and 203 (61.3%) participants are having herbal plant at their home and these respondents incorporate HM on daily basis and 128 (38.67%) do not have a herbal plant at home such respondents buy from local stores or from a herbalists.

Majority of the respondents 218 (65.9%) consumed Tulsi followed by ginger 180 (54.4%) and turmeric 166 (50.2%), for various ailments which is commonly available in every household and has great therapeutic effect. The results are depicted in Figure 9.

**Figure 9: Most common herbal medicine used (n=331)**



## CONCLUSION

The findings of the study indicate diverse knowledge, attitudes and practice among the participants on the usage of herbal medicines in the study setting.

The study concluded that people use herbal medicine in many ways. Most of the people used the local herbals together with conventional medicines. People use HM only if required or necessary aiming for treatment, immunity and prevention. They found consuming HM resolves their symptoms without any complications or adverse effects making it safer and effective for various ailments than that of conventional medicines.

The cost and side effects associated with conventional medicines makes people to stick more on to herbal medicines. People believe herbal medicines are suitable for all age groups including paediatrics, geriatrics, pregnant and lactating women.

People use HM for treating minor and major ailments which include cough, cold, fever, gastric problems, diabetes and hypertension. And the most commonly used herbal medicine is Tulsi, ginger, turmeric, flaxseeds, aloe Vera, etc. The consumption of herbal medicine has increased during covid-19 and people still continue taking herbal preparations for preventing disease and boosting immunity against covid-19 infection.

This study is anticipated positive behaviour on herbal medicines consumption. Scientific research also needs to be conducted for reliable and trusted evidence to raise the confidence among the consumers. Furthermore, it will help to empower the local community in enhancing their economic status. The outcome from this study on the level of knowledge towards herbal medicines of people showed there is a need for an aggressive promotion to create awareness among people about existence of various medicinal plants species with valuable benefits.

## ACKNOWLEDGEMENT

Authors take it as a privilege to acknowledge Sri S. R. Reddy: Chairman, Navodaya Educational Trust, Medical Superintendent; Navodaya Medical College Hospital and Research Center, HODs of department of Pharmacy practice and Medicine department and the staffs for their support during the study. Special thanks to Mr. Bhaskar, Biostatistician for their valuable guidance and suggestions throughout our project work.

**Conflict of Interest:** The authors declare no conflict of interest.

## REFERENCES

- Ghani, A. (2013). Herbal medicines: present status and future prospects. Pharmabiz.com.
- Vickers, A., Zollman, C., & Lee, R. (2001). Herbal medicine. *Western Journal of Medicine*, 175(2), 125-128.
- Winslow, L. C., & Kroll, D. J. (1998). Herbs as medicines. *Archives of internal medicine*, 158(20), 2192-2199.
- Mudur, G. (1995). Mandatory rural practice proposed in India. *British Medical Journal*, 311(7014), 1186-1187.
- Mudur, G. (1997). Panel defends India's traditional doctors. *British Medical Journal*, 314(7094), 1573.
- Gesler, W. M. (1992). Therapeutic landscape: medicinal issue in light of the new cultural geography. *Social Science and Medicine*, 34(7), 735-746.
- Panyod, S., Ho, C. T., & Sheen, L. Y. (2020). Dietary therapy and herbal medicine for COVID-19 prevention: A review and perspective. *Journal of traditional and complementary medicine*, 10(4), 420-427.
- Al-Yousef, H. M., Wajid, S., & Sales, I. (2019). Knowledge, Beliefs and Attitudes towards Herbal Medicine—A Community-based Survey from a Central Region of Saudi Arabia. *Indian Journal of Pharmacy Practice*, 12(3), 189-193.
- Arumugam, N. (2019). Knowledge, attitudes and practices (KAP) towards medicinal plants among Malaysian consumers. *Medicinal Aromat Plants*, 8(6), 341.
- Suleiman, A. K. (2014). Attitudes and beliefs of consumers of herbal medicines in Riyadh, Saudi Arabia. *J Community Med Health Educ*, 4(2), 269.
- Bhat, B. B., Udupa, N., Ligade, V. S., Khan, S., & Sreedhar, D. (2019). Assessment of knowledge and attitude of patients on herbal medicine use in Udupi region, Karnataka, India. *Tropical Journal of Pharmaceutical Research*, 18(1), 117-121.
- Zimmerman, C. (2012). A pilot study to assess students' perceptions, familiarity, and knowledge in the use of complementary and alternative herbal supplements in health promotion. *Alternative therapies in health and medicine*, 18(5), 28-33.
- Aziz, Z., & Tey, N. P. (2009). Herbal medicines: prevalence and predictors of use among Malaysian adults. *Complementary Therapies in Medicine*, 17(1), 44-50.
- Mitha, S., Nagarajan, V., Babar, M. G., Siddiqui, M. J. A., & Jamshed, S. Q. (2013). Reasons of using complementary and alternative medicines (CAM) among elderly Malaysians of Kuala Lumpur and Selangor states: An exploratory study. *Journal of Young Pharmacists*, 5(2), 50-53.
- Eid, A. M., & Jaradat, N. (2020). Public knowledge, attitude, and practice on herbal remedies used during pregnancy and lactation in

- West Bank Palestine. *Frontiers in pharmacology*, 11, 46.
- Talaei, B., Asghari, G., Mirmiran, P., Azizi, F., & Bahreini, S. (2019). Knowledge, Attitude, and Practice of Diabetic Patients toward Herbal Products in Iran: A Cross-sectional Study. *Journal of Nutrition and Food Security*, 4(3), 161-169.
  - Al-Faris, E. A., Al-Rowais, N., Mohamed, A. G., Al-Rukban, M. O., Al-Kurdi, A., Balla Al-Noor, M. A., ... & Sheikh, A. (2008). Prevalence and pattern of alternative medicine use: the results of a household survey. *Annals of Saudi Medicine*, 28(1), 4-10.