



ISSN: 2278-2648

International Journal of Research in Pharmacology & Pharmacotherapeutics (IJRPP)

IJRPP | Vol.12 | Issue 4 | Oct - Dec -2023

www.ijrpp.com

DOI : <https://doi.org/10.61096/ijrpp.v12.iss4.2023.309-323>



Research

Assessment of Knowledge, Attitude, and Utilization of Herbal Home Remedies in Malabar Region, Kerala, India

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 Check for updates	Abstract
Published on: 07 Dec 2023	<p>Purpose: To determine the knowledge attitude and utilization of herbal home remedies in Malabar remedies in Malabar region of Kerala.</p> <p>Methods: This was a descriptive cross-sectional study conducted over 4 months and included a structured and validated questionnaire. It was conducted among people of different age groups in the Malabar region of Kerala, India.</p> <p>Result: About 52.5% of the total study population use herbal home remedies and 44.7 % of them use it along with allopathic medicine. The study results show that the majority of the population uses herbal home remedies for minor ailments such as cough (64.4%), and cold (54.6%) and cosmetic purposes such as hair care (58.4%) and skin care (51.7%). Easy availability, greater efficacy, and fewer side effects are the main factors driving people to herbal home remedies. The majority of participants are unaware of herb-herb and herb-food interactions and the severity of medical complications associated with the use of herbal home remedies. Social media also promotes the use of herbal home remedies. The purpose of using herbal home remedies of the study participants was mainly for treatment and curative purposes.</p> <p>Conclusion: The study found a high prevalence of the use of herbal home remedies among the population of the Malabar region. Depending on the interests of the population, more attention should be paid to skin and hair care and formulation of cough, cold, and fever. There is a need to increase public awareness and education on the risks and complications of using herbal home remedies.</p>
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	Keywords: Herbal home remedy, knowledge, attitude, side effects, utilization

INTRODUCTION

Treatment of disease and maintenance of health using herbal home remedies is the oldest and most popular form of health care practice that has been practiced by all cultures throughout the history of civilization. Herbal remedies are plants which used as medicine. People use herbal home remedies to prevent or cure diseases

because of their safety, accessibility, and the ease with which they can be prepared and used. In our country, the majority of the population is still following herbal home remedies as their primary healthcare option.

There are multiple reasons why people prefer herbal remedies. In conditions like a cold, sore throat, bee sting, it is often used because of the unavailability of professional care, too inconvenient, costly, or time-consuming.

In rural areas, there are additional cultural factors that encourage the use of herbs, such as environment and culture. In India, most area of rural area has no access to modern medicine. Many of the primary health care centers that are which are intended to serve rural areas lack staff, diagnostic facilities, and adequate supply of drugs. Natural plant products were perceived to be healthier than manufactured medicine. In addition to that reports of adverse effects of conventional medicines are found in lay press at a much higher rate than reports of herbal toxicities.

The use of herbal medicines for therapeutic purposes is now widely acknowledged to be a safe and effective method. Many drugs commonly used today in developing countries are of herbal origin and about all modern prescription drugs contain at least one active ingredient derived from plant parts, either obtained from plant extracts or synthesized to imitate natural plant compounds. Most of the pharmaceutical products currently available to Physicians have a long history of use as herbal remedies [1].

In India there are different forms of herbal medicines are used. Ayurveda is of in which commonly practiced and used among the Indian population for various purposes. According to some studies, Ayurveda originated in India and has been practiced here for more than 5,000 years. This system predominantly used herbs and minerals as preventive and curative agents. Although more than 70% of the Indian population primarily use herbal medicines, there is a lack of research and development on this medicine [2].

One has to be careful when using an herbal remedy without any consultation. Herbal remedies are only a type of dietary supplement not medicines. Here are some things we should know about herbals:

- Herbals are not controlled like medicines.
- They do not require to be rigidly tested before they are sold.
- Herbals may not work as expected.
- They do not require any labels that are approved by any authority and may not list the correct amount of ingredients.
- There may be chance of having ingredients or contaminants that are not on the label.

Most of the people think that using plants to treat illness is safer than taking other prescribed medicine. People have been using plants in traditional medicine for centuries. So, it is easy to see the appeal. Yet "natural" does not mean it is safe. Also, some herbals can interact with other medicines or can be toxic at high doses, unless taken as directed. And, some may cause side effects. Even though some herbals have been tested and work well for their intended purpose and are safe, the word "natural" will not tell you which ones are safe and which ones are not safe [3,4].

Herbal medicines are part of complementary therapies, which used as self-medication and also prescribed by some general practitioners. WHO defines herbal medicine as plant-derived material and products which have therapeutic and other positive effects on human health and contain raw or processed ingredients from one plant or a combination of different plants. Many research studies carried out on herbal medicines have proved scientifically that they are effective for the treatment of various diseases and also used for improving overall health and beautifying purposes.

In our country, the use of herbal medicine is very common, probably due to the belief that all herbal preparations are safe. However, this belief is not really true. Nowadays, such behaviours are also observed among general practitioners who prescribe herbal medicines for the treatment of common diseases. Herbal medicines belong to over-the-counter medicines (OTC), so they are easily available in pharmacies. Many people use herbal medicines alone or in combination with other conventional medicines without informing the doctor, and this may lead to serious diseases. Plants have been used for medicinal purposes since ancient times and form the basis for many modern medicines [5].

Although herbal remedies have all the above-mentioned properties, we cannot avoid the fact that they also contain side effects and contraindications like all other medicines. The majority of our population has no idea about it. There are drug-food interactions that can lead to complications such as insomnia, stomach upset, diarrhea, and pain in joints and muscles. Moreover, there are few studies on the knowledge, attitude and practice of various complementary and alternative medicine practices, especially in the rural societies of the country, and as far as the knowledge of the researchers is concerned, no such study has been conducted in the study area. In this context, the present study was conducted to investigate the knowledge, attitude and use of herbal home remedies in the Malabar region of Kerala.

A home remedy (sometimes also referred to as granny cure) is a treatment to cure a disease or ailment that employs certain spices, herbs, vegetables, or other common items. They use them to get relief from symptoms, boost energy, relax, or lose weight. Herbal remedies are not regulated or tested like medicines. People gravitate towards home remedy because they believe it's better than taking a pill.

Home remedies are often touted as safe to use, free of side-effects, herbal in nature and full of beauty benefits for the skin. Even so, people at times have complained of skin allergies, pimples, boils, etc. on their skin after using natural home remedy. They may also produce negative effects such as rashes, asthma, headache, dizziness, agitation, dry mouth, seizures, fatigue, tachycardia, nausea, vomiting and diarrhoea. Some commonly used herbal home remedies are as follows,



Fig 1: Some commonly used herbal home remedies

Peppermint

Peppermint is a hybrid species of mint, a cross between water mint and spearmint. Indigenous to Europe and Middle East, the plant is now widely spread and cultivated in many regions of the world. It is occasionally found in the wild with its parent's species. Mint has been used for hundreds of years as a health remedy. Peppermint oil might help with irritable bowel syndrome, a long-term Condition that can cause cramps, bloating, gas, diarrhoea and constipation. It is also used for headache. It works as a strong antioxidant. It has pain killing effects. It shows anti-allergenic potential. It displays anti-tumour actions in lab studies.

Honey

Honey is a sweet and viscous substance made by several bees, the best-known of which are honeybees. Honey is made and stored to nourish bee colonies. Bees produce honey by gathering and then refining the sugary secretions of plants or the secretions of other insects, like the honeydew of aphids. Honey is used as an anti-inflammatory, antioxidant and antibacterial agent. People commonly used honey orally to treat coughs and topically to treat Burns and promote wound healing. It strengthens immune system. Useful in weight management, nourishes skin and face, boosts memory. It acts as a natural sleeping aid. It is a natural home remedy for dandruff.

Turmeric

Turmeric plant is a perennial, rhizomatous, herbaceous plant native to the Indian subcontinent and Southeast Asia that requires temperatures between 20 and 30°C and high annual rainfall to thrive. Plants are gathered each year for their rhizomes, some for propagation in the following season and some for consumptions. Turmeric powder has a warm, bitter, black pepper like flavour and earthy, mustard like aroma. Turmeric is widely used in cooking. It is used in inflammation, degenerative eye condition, and metabolic syndrome. This helps in variety of conditions like arthritis, fatty liver, healing ulcers, and helping with skin rashes. It was traditionally used for disorders of skin, upper respiratory tract, joints, and digestive system and also it helps to lower cholesterol.

Ginger

Ginger is a flowering plant whose rhizome, ginger root or ginger, is widely used as a spice and folk medicine. It is a herbaceous perennial which grows annual pseudo stems about one meter tall bearing narrow leaf blades. It is used in better digestion, improves immunity, alleviates PME symptoms, weight loss aid. It is used to treat stomach aches, diarrhoea, nausea, and vomiting. It might help with menstrual cramps. It may also cause tummy trouble, heartburn, diarrhoea and gas.

Green tea

Green tea is a type of tea that is made from *Camellia sinensis* leaves and buds that have not undergone the same withering and oxidation process which is used to make oolong teas and black teas. Green tea originated in China, and since then its production and manufacture has spread to other countries in East Asia. This comforting drink does more than keep you awake and alert. It's a great source of some powerful antioxidants that can protect your cells from damage and help you fight disease. It may lower your odds of heart disease and certain kinds of cancer, like skin, breast, lung, and colon. It is high in polyphenols which protect the body against disease. It is a natural stimulant, including caffeine, may enhance brain function. It boosts metabolism. It has beneficial effect on blood sugar control, reduced risk of heart disease.

Garlic

Garlic is a species of bulbous flowering plants in the genus *Allium*. It is native to South Asia, Central Asia, and northeastern Iran and has long been used as a seasoning worldwide, with a history of several thousand years of human consumption and use. It has been used as both a food flavouring and a traditional medicine. It may lower blood cholesterol and blood pressure levels. It helps to boost body immune system. It helps with prevention of cancer. Garlic has antibiotic properties. It may prevent Alzheimer's and Dementia. It can improve athletic performance. It detoxes your body. It improves bone health. It prevents and treat cold.

Cinnamon

Cinnamon is spice obtained from the inner bark of several tree species from the genus *Cinnamomum*. Cinnamon is used mainly as an aromatic condiment and flavouring additive in wide variety of cuisines, sweet and savoury dishes. The aroma and flavour of cinnamon derive from its essential oil and principal component, cinnamaldehyde as well as numerous other constituents including eugenol. It has antioxidant, anti-inflammatory, anti-bacterial, anti-fungal and anti-viral properties. It may help lower blood sugar and reduce the risk of type-2 diabetes. It may improve insulin sensitivity.

Lavender oil

Lavender oil is an essential oil obtained by distillation from the flower spikes of certain species of lavender. There are over 400 types of lavender worldwide with different scents and qualities. Lavender oil has been used as a perfume, aroma therapy, and skin application. It increases sleep quality, reduce anxiety, promotes hair growth, assist in wound healing, migraine headache relief, treatment of head lice and antimicrobial action.

Aloe

Aloe vera is a succulent plant species of the genus *Aloe*. It is widely distributed, and is considered as an invasive species in many world regions. There are many products containing Aloe Vera including skin lotions, cosmetics, ointment, and gels for minor Burns and skin abrasions. It is used to treat skin injuries like burns, cuts, insect bites, and eczemas. It also helps in digestive problems because its anti-inflammatory, antimicrobial, and wound healing properties. It heals psoriasis lesions, gum infections. Also used for eye irritation.

METHODOLOGY

Design and sample size

This descriptive cross-sectional study was conducted over a period of four months from March 2023 to June 2023 among the general public of Malabar region of Kerala by using a self-assessed and validated online questionnaire through many social media platforms and through individual personal e-mail (Google form link <https://forms.gle/2Lbyyw12KKM1R1ML6>). Males and females above 18 years of age were included in the study, while those below 18 years of age and those who were not from the Malabar region of Kerala were excluded from the study [6]. Data were collected from college, public institutions, neighbours, friends and families [1]. The snowball technique was used for data collection, in which a person invited to complete the survey provides multiple references. The information provided by the study participants in the questionnaires was kept confidential and only the data collected were processed for assessing their outcomes [6].

The study area is between the western ghats and the Arabian sea of the southern part of India, The Malabar region covers the geographical area, north of the Bharathapuzha river, stretching over parts of Thrissur, Palakkad, Malappuram, Kozhikode, Wayanad, Kannur and Kasaragod districts of Kerala.

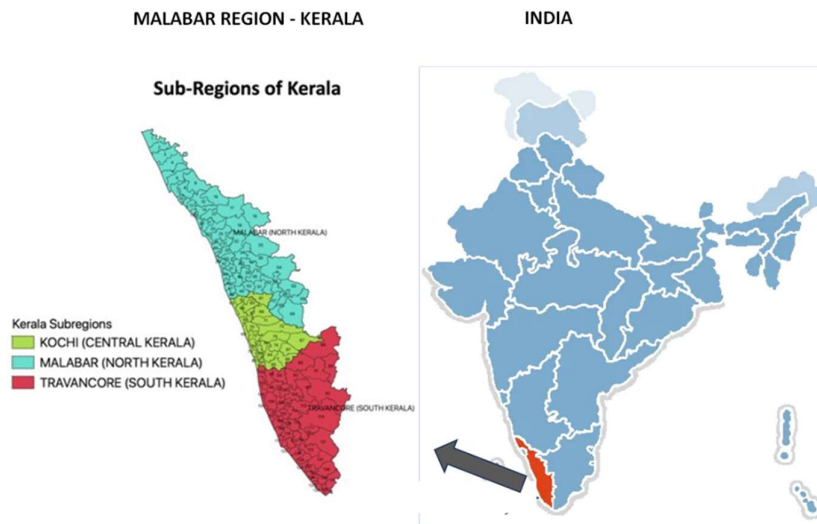


Fig 2: The location of the study area is provided on the map.

Development of Questionnaire

The questionnaires were prepared in English and contained sociodemographic information (4,5,6,7,8,9,10) about the study participants and a series of questions categorised by knowledge, attitude (12,13,14,15,16,17,18,19,20,21,22,23,24,25) and utilization (15,16,18,22,23,25) of herbal home remedies. To check the validity of the questionnaires, a pilot study was conducted at Devaki Amma Memorial College of Pharmacy, Chelembra, under the supervision of the lead researcher and HoD of the Department of Pharmacognosy to assess the responses of the subjects, measured the validity of the questionnaire, tested the study instrument, and chosen the best way to collect and administer the data in a short span of time, The pilot study was conducted over a period of 15 days and included 7 participants. Any necessary additions or changes to the study instrument were made. The results of the pilot study were included in the main study. The structured questionnaire was prepared and submitted to subject matter experts for comments. According to their comments or suggestions of the subject matter experts, changes were made to the questions for getting better outcome of our study ^[1,6]

Questioner Distribution, Collection and Analysis of Data

The validated questionnaires were distributed to people in the study area, i.e., in college premises, families, and public places. The project team informed the participants about the study. The questionnaire was distributed to each person individually and the responses were collected. The target population of this study was residents of Malabar region aged 18 years and above. Data were collected online using Google forms. Only a single response is allowed from a mobile number and mail to ensure that the given data is genuine. An invitation to participate in the study was sent via social media (WhatsApp) and email to family members, friends, and the general population, with a link to survey. Participants were informed of the objectives of the study. The information provided by the study participants in the questionnaires was kept confidential, and only the data collected were processed. Based on the responses from the questionnaires, the results were tabulated and analysed^[7, 8, 9, 10, 11].

The completed KAP (Knowledge, Attitude and Practice) questionnaires were evaluated and controlled for the following variables:

1. Sociodemographic data
2. Knowledge, attitude, and practise related to herbal home remedies

Data from the KAP questionnaires were analysed using descriptive statistics (total number, percentage, and mean). Microsoft Excel and Word were used to create charts, tables, etc.

RESULT

Age

786 responses

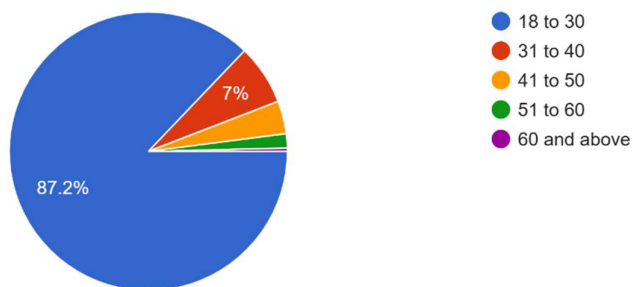


Fig 3: Age group of the study participants

Gender

786 responses

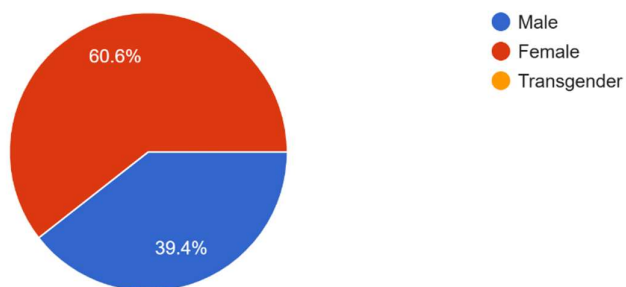


Fig 4: Gender of the study participants

Demographic profile Out of 786 participants, 60.60% were female and 39.40% were male. 87.2 % of the total respondents were aged between 18-30 years, 7.0 % were aged between 31-40 years, 3.80% were aged between 41-50 years, 1.7% were aged between 51-60 years and 0.4% were from 60 and above aged. Among those study population 37.50 % are married and 62.5% are unmarried (Picture 1, 2 & 3).

Marital status

786 responses

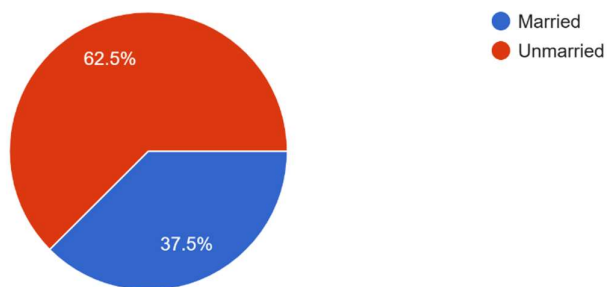


Fig 5: Marital status of the study participants

Total number of persons living in your house?

786 responses

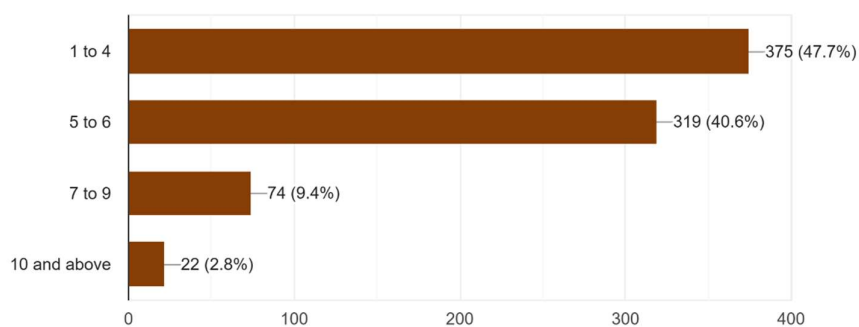


Fig 6: Total members of their family of study participants

Education Qualification

786 responses

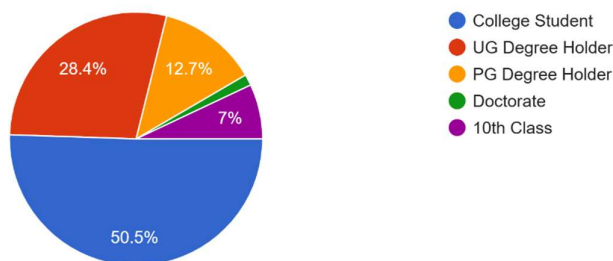


Fig 7: Education qualification of study participants

Area or which part of Malabar you live?

786 responses

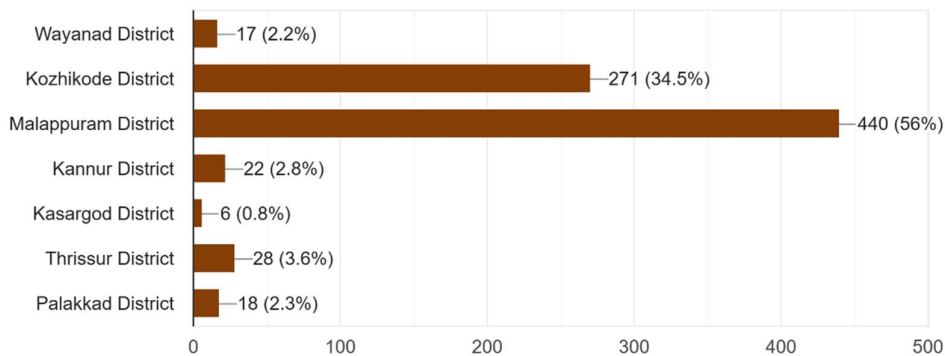


Fig 8: Region of study participants

Resident of ?
786 responses

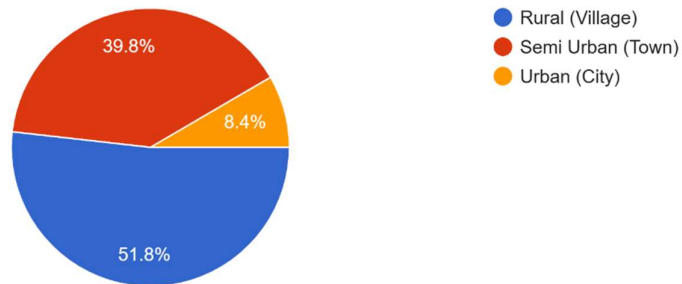


Fig 9: Residing cluster of study participants

Religion
786 responses

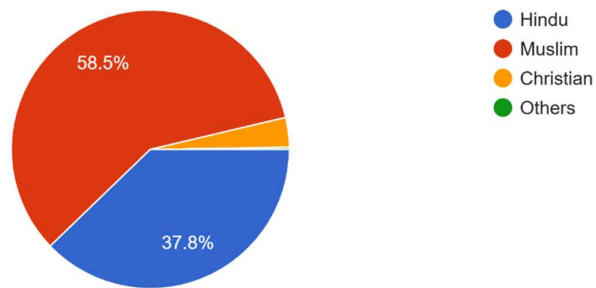


Fig 10: Religion of study participants

Your Profession?
786 responses

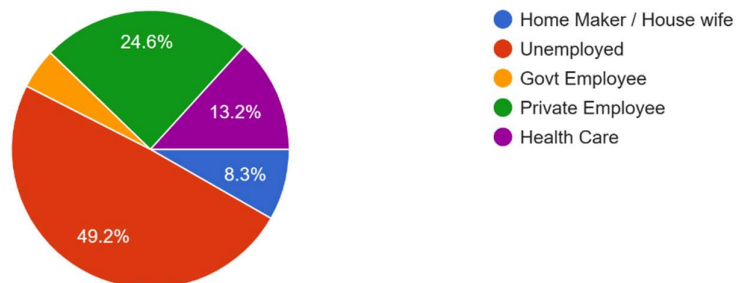


Fig 11: Profession of study participants

Are you using herbal home remedies ?

786 responses

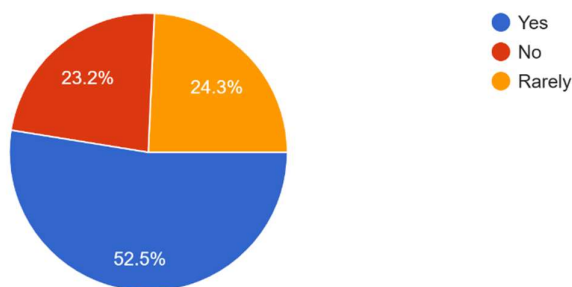


Fig 12: Usage level of herbal home remedies of study participants

Are you using herbal home remedies along with allopathic medicines

774 responses

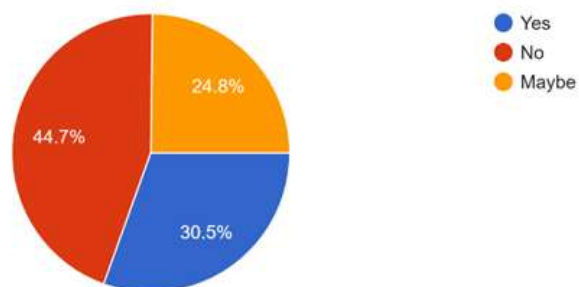
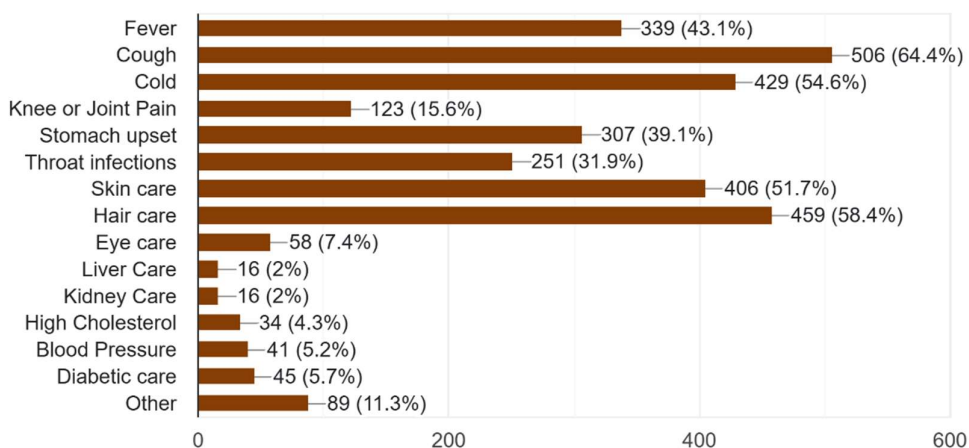


Fig 13: Usage of herbal home remedies with allopathic medicine of study participants

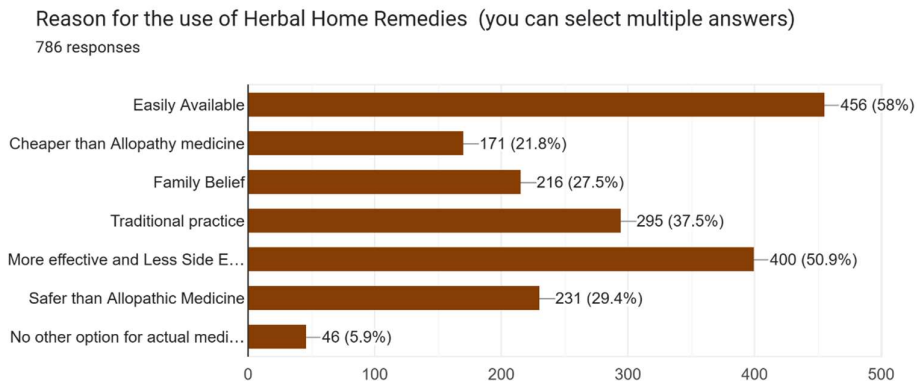
Which medical condition do you prefer herbal home remedies? (you can opt with multiple options)

786 responses



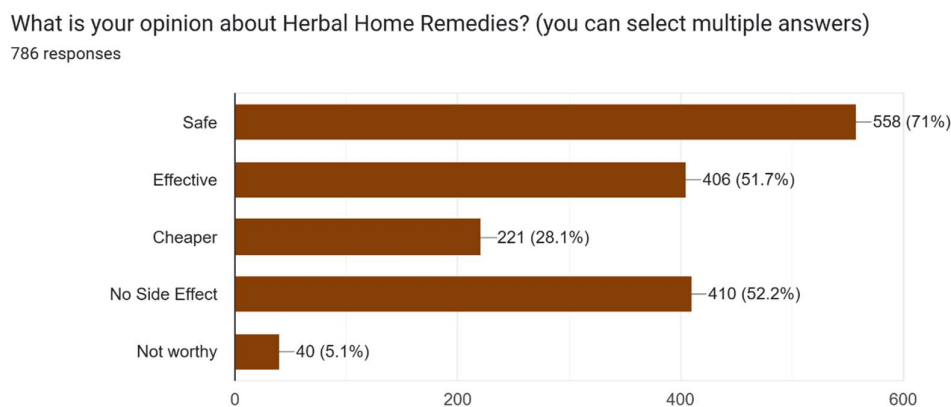
* In few medical conditions the total score was increased due to multiple options provided by the participants.

Fig 14: Preferable usage condition of herbal home remedies of study participants



* in few reasons the total score was increased due to multiple options provided by the participants.

Fig 15: Reason for usage of herbal home remedies of study participants



* In few opinions the total score was increased due to multiple options provided by the participants.

Fig 16: Opinion about herbal home remedies of study participants

What action will you prefer if you identify any adverse effect or reaction while taking herbal home remedies?

786 responses

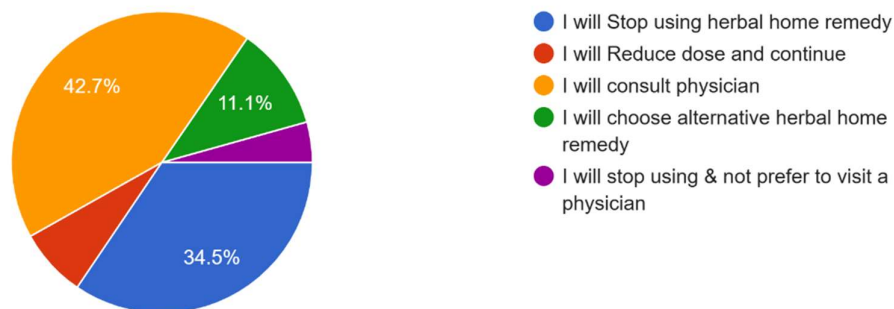


Fig 17: Action plan of herbal home remedies towards adverse effects of study participants

Are you aware about Herb-Herb Interaction?

786 responses

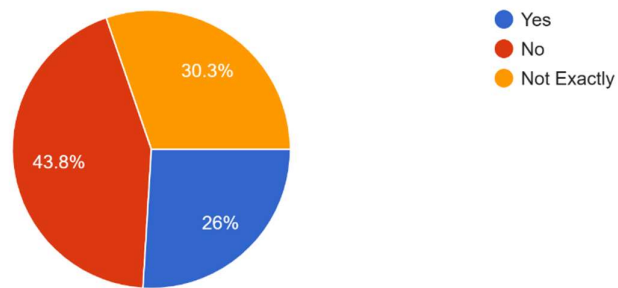


Fig 18: Awareness about herb-herb interaction of study participants

Are you aware about Herb-Food Interaction ?

786 responses

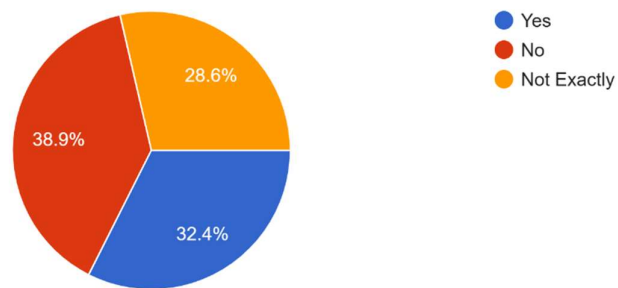


Fig 19: Awareness about herb-food interaction of study participants

Are you aware about the severity of medical complications in using Herbal Home Remedies without expert consultation?

786 responses

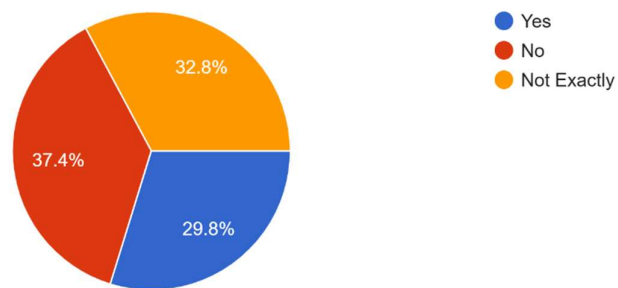


Fig 20: Awareness about severity of medical complications in using herbal home remedies

Do the herbal home remedies make you stop using modern medicine?
786 responses

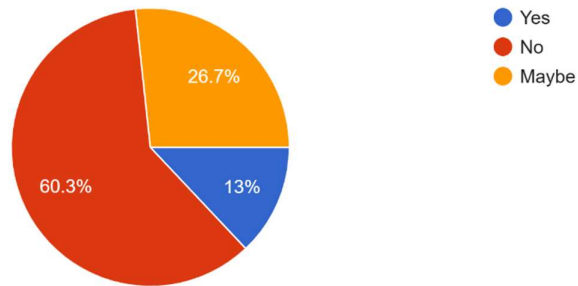


Fig 21: Usage herbal home remedies makes stop using modern medicines of the study participants

Do you believe in Social media information promoting the usage of herbal home remedies is working well with your body safely ?
786 responses

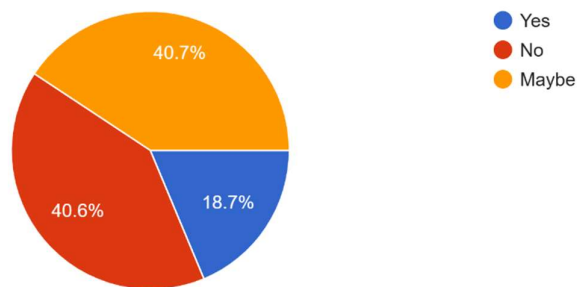


Fig 22: State of acceptance of social media information of the study participants

What is your source of information about Herbal Home Remedies ?
786 responses

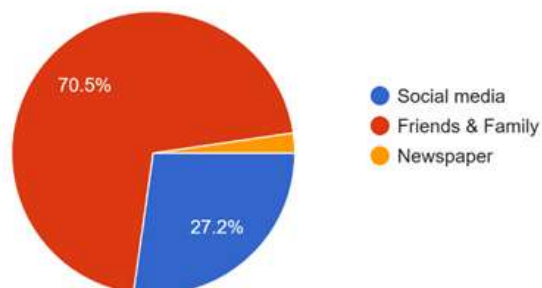
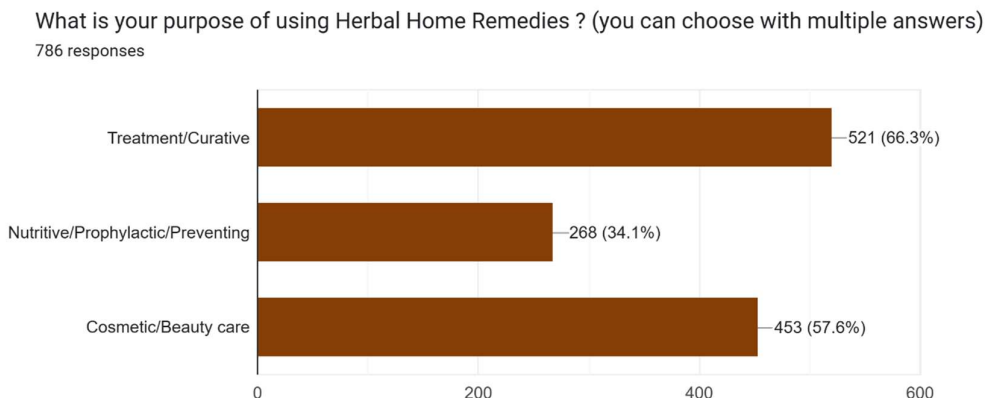


Fig 23: Source of information about herbal home remedies of the study participants



* For a few purposes the total score was increased due to multiple options provided by the participants.

Fig 24: Purpose of using herbal home remedies of the study participants

DISCUSSION

The present study investigated the knowledge, attitude, and practice of herbal home remedies among the general public of the Malabar region. A total of 786 participants were selected for this study and the sample size was 786.

Demographic Information

For the total samples collected, age was taken into account by dividing them into 5 age groups, each held about 10 years apart. 87.2 % of the total respondents were aged between 18-30 years, 7.0 % were aged between 31-40 years, 3.80% were aged between 41-50 years, 1.7% were aged between 51-60 years and 0.4% were from 60 and above aged (Fig 1 & 2). of 786 participants, 62.5% were unmarried and 37.5% were married. The result shows that 47.7% of the participants lived in a house with 1 to 4 people and 40% with 5 to 6 people. Of the 786 participants, 50.5% were college students, 28.4% had a college degree (UG), 12.7% had a graduate degree (PG), and 7% had completed the 10.56% of the respondents were from Malappuram district, and 34.5% were from Kozhikode district. 51.8% of the respondents were from rural areas (villages), 39.8% were from semi-urban areas (towns) and 8.4% were from urban areas (cities). of the total population, 58.5% were Muslims and 37.8% were Hindus. Of the 786 respondents, 49.2% were unemployed, 24.6% were private employees, 13.2% were healthcare workers, and 8.3% were housewives or househusbands.

Knowledge and Attitude-based Information

Of the 786 responses, 52.5% of respondents consume herbal home remedies, 24.3% of respondents use them infrequently, and 23.2% of respondents do not use herbal home remedies. 44.7% of the respondents do not use herbal home remedies together with allopathic medicines, but 30.5% of the respondents use them together (Figure 12 and 13).

The majority of respondents reported using herbal home remedies to relieve cough (64.4%), hair care (58.4%), cold (54.6%), skin care (51.7%), fever (43.1%), upset stomach (39.1%), and throat infection (31.1%). Here, the results show that most people do not use the herbal home remedies for major health problems (Figure 14).

Most people use herbal home remedies because they are easily available (58%), have more effect and few side effects (50.9%), and also used as a traditional practise (37.5%), like a family belief (27.5%). Their use is also better because they are cheaper than allopathic medicine (21.8%) and also safer (29.4%). Out of 786 people, 71% think that herbal home remedies are safe. They are also used because of their effectiveness and fewer side effects (Figures 15 and 16).

The results of the survey show that 42.6% of the respondents would consult a doctor if they experienced adverse effects while taking herbal home remedies. 34% of participants would stop taking them and 11% of participants chose alternative home remedies (Figure 17).

Of the total population, only 43.8% do not know about the interactions between herbs and plants and only 30.3% are aware of them. 38.9% of the respondents are not aware of any interaction between plants and food, and only 32.4% are aware (Figures 18 and 19)

37.4% of respondents are unaware of the severity of medical complications associated with the use of herbal home remedies without expert advice. Only 29.8% are aware of this (Figure 20). 60.3% of the participants said that the use of herbal home remedies did not affect their choice of treatment by allopathic medicine. however, 13% of them said that they stopped using modern medicine because of this (Figure 21). Few (18.7%) participants thought that information from social media promoted the use of herbal home remedies. The main source of information about herbal home remedies was family and friends (70.5%). 27.2% used social media as a source of information, as the use of the Internet and social media expands information worldwide (Figure 22, 23). Many of the participants, namely 521 (66.3%), use herbal home remedies for treatment and healing, and 453 (57.6%) for cosmetic purposes. Only 268 (34.1%) use them for nutritive prophylactic purposes (Figure 24).

SUMMARY AND CONCLUSION

The results of the study indicate different knowledge, attitudes, and use of participants regarding the use of herbal home remedies in the study setting. The study found that people use herbal home remedies in a variety of ways. Most people use local herbal remedies along with conventional medications. People use herbal home remedies only, when necessary for treatment, immunity prevention, and cosmetic purposes. They found that consuming herbal home remedies relieved their symptoms without complications or adverse effects, making them safer and more effective for various ailments over conventional medications. People use herbal home remedies to treat minor ailments such as cough, cold, fever, hair, and skincare. According to the public interest, more focus should be given to this area for further developing herbal formulations.

Although most participants felt that herbal medicines were safe, there is an urgent need for effective strategies to evaluate the safety, efficacy, and quality of herbal medicines being used as home remedies by the public of the Malabar region. Authorities of the health and family welfare department, Government of India, or Kerala state government should give awareness programs on social media or conduct events on the ward/village level through panchayat officials or health workers to minimize the herbal drug interactions and adverse drug reactions etc. Finally, the study covered all three important aspects of KAP (Knowledge, Attitudes, and Practices) related to herbal medicines and revealed associations with several demographic categories.

Declarations and Acknowledgement

The authors did not receive any funds, grants or financial support from any organization for the submitted work. The authors are thankful to our study participants for giving their quality time in assessing our study data from their valuable information.

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