



Role of Medicinal Plants in Ayurveda

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ABSTRACT:

Introduction: Ayurveda is the traditional Indian system of medicine that has been utilized for thousands of years. It is based on plants that are good for you. These plants have many healing properties and are often used to stop and treat illnesses. As more and more people throughout the world are interested in herbal and natural medicines, it is more vital than ever to learn how Ayurvedic practitioners use and know about medicinal plants.

Aims and Objectives: To look into how important medicinal herbs are in Ayurveda and see how much the participants know about them, how they use them, and how effective they think they are.

Materials and Methods: A descriptive observational study was done in the Department of Dravyaguna (Ayurveda) at Doon Ayurvedic Medical College and Hospital in Sunderpur, Saharanpur, Uttar Pradesh. The study included around 150 participants. Data were collected via a standardized questionnaire focusing on demographic characteristics, awareness, commonly used therapeutic plants, and perceived effectiveness. We used descriptive statistics to put together and look at the data we had collected.

Result: Most of the participants who took part were between the ages of 18 and 30 (30%), while the next most were between the ages of 31 and 40 (25.3%). There were only 8.7% of those who were above 60. 54.7% of the people that took part were men, and 45.3% were women. 42.7% of the people who took part knew a lot about medicinal herbs. The three most popular medical herbs were Tulsi (34.7%), Turmeric (27.3%), and Neem (18.7%). Almost 48% of the persons who took part thought that medicinal herbs worked very well, and 36% thought they worked rather well.

Conclusion: The study demonstrates that medicinal plants are very significant in Ayurveda and that the people who took part in it knew a lot about them and liked them. Promoting understanding, empirical evidence, and the prudent application of medicinal plants will facilitate the integration of Ayurvedic herbal therapy into contemporary medical practice.

INTRODUCTION

Medicinal plants are a big part of traditional healing systems all around the world. They are also particularly essential in Ayurveda, an ancient Indian system of medicine that has been utilized for more than 3,000 years. The Sanskrit words "Ayur" (life) and "Veda" (knowledge) join together to form the word "Ayurveda." The goal is to maintain the body, mind, and soul in balance. In this case, medicinal plants are the most common sort of medicine used to prevent, enhance health, and treat a wide range of problems. The Charaka

Samhita, Sushruta Samhita, and Ashtanga Hridaya are examples of classical Ayurvedic texts that talk about hundreds of medicinal plants and how to employ them. This shows how much ancient doctors understood about plants [1,2]. These plants can be used in several ways, such as powders (churna), decoctions (kwatha), oils (taila), pastes (lepa), and fermented preparations (arishta and asava) [3]. The method they are used depends on the illness and the therapeutic activity that is needed.

Ayurveda states that medicinal plants function by using natural bioactive substances such flavonoids, alkaloids,



glycosides, tannins, terpenoids, and phenolic compounds. These plant compounds have a lot of different pharmacological properties, such as being anti-inflammatory, antioxidant, antibacterial, immunomodulatory, and adaptogenic [4]. Some of the most common Ayurvedic medicinal plants include *Withania somnifera* (Ashwagandha), *Azadirachta indica* (Neem), *Curcuma longa* (Turmeric), *Ocimum sanctum* (Tulsi), and *Tinospora cordifolia* (Guduchi). They have been extensively researched for their potential health benefits in both traditional and contemporary medicine [5]. Turmeric, for example, contains curcumin, which is known for its significant anti-inflammatory and antioxidant effects. On the other hand, ashwagandha is known for its adaptogenic properties, which assist the body handle both physical and emotional stress [6].

The World Health Organization (WHO) has said that traditional medicine and medicinal plants are very important for basic healthcare, especially in underdeveloped countries where many people use herbal remedies to get better [7]. Ayurveda is still a big element of healthcare in India, and Ayurvedic pharmacology focuses on herbs that can be used as medicine. More than 7,000 plant species have been described as having therapeutic benefits in traditional systems of medicine on the Indian subcontinent, which is regarded to be one of the richest regions for medicinal plant biodiversity [8]. Herbal medicine and natural goods are becoming more and more popular around the world. More scientific research has been done on Ayurvedic medicinal herbs since then, with the purpose of showing that they work as they have been used for centuries through pharmacological and clinical trials [9].

Combining traditional knowledge with modern scientific methods has helped make sure that herbal medications are safe, effective, and of high quality in recent years. Standardization, phytochemical research, and clinical trials are increasingly utilized in Ayurveda to demonstrate the safety and efficacy of therapeutic plants. Medicinal plants are also very important to protect since they are being overharvested and their homes are being destroyed. To protect this vital part of traditional medicine, it's important to grow medicinal plants in a way that doesn't affect the environment, preserve accurate records, and use them properly [10].

The goal of this study is to look at the role and medical importance of medicinal plants in Ayurveda. The goals are to find out which Ayurvedic medicinal plants are most often used, learn about their pharmacological qualities, and figure out how important they are for preventing disease, promoting health, and traditional healthcare based on ancient Ayurvedic principles.

MATERIALS AND METHODS

Study Design: Descriptive observational study.

Department: Department of Dravyaguna (Ayurveda).

Study Place: Doon Ayurvedic Medical College and Hospital, Sunderpur, Saharanpur, Uttar Pradesh.

Study Population: Approximately 150 participants attending the hospital and associated outpatient departments.

Study Duration: Conducted over a defined study period during the research work.

Inclusion Criteria: Participants willing to participate and having knowledge or use of medicinal plants in Ayurvedic treatment.

Exclusion Criteria: Participants unwilling to provide consent or incomplete responses.

Statistical Analysis: We put the data into Microsoft Excel and then used SPSS software version 27.0 (SPSS Inc., Chicago, IL, USA) and GraphPad Prism version 5 to look at it. Mean \pm standard deviation was used to show continuous variables, and frequencies and percentages were used to show categorical variables. The unpaired t-test was utilized to examine continuous variables between independent groups, whereas the paired t-test was employed for comparisons within the same group. The Chi-square test or Fisher's exact test was used to look at categorical variables, depending on which one was better. A p-value of less than 0.05 was seen to be statistically important.

RESULT

Table 1: Age Distribution of Study Participants

Age Group (Years)	Number of Participants	Percentage (%)	p values
18–30	45	30	0.17



31-40	38	25.3
41-50	32	21.3
51-60	22	14.7
>60	13	8.7
Total	150	100

(Withania somnifera)		
Guduchi (Tinospora cordifolia)	12	8
Total	150	100

Table 2: Gender Distribution of Participants

Gender	Number of Participants	Percentage (%)	p values
Male	82	54.7	0.25
Female	68	45.3	
Total	150	100	

Table 3: Awareness of Medicinal Plants in Ayurveda

Awareness Level	Number of Participants	Percentage (%)	p values
Good Awareness	64	42.7	0.007
Moderate Awareness	52	34.7	
Poor Awareness	34	22.6	
Total	150	100	

Table 4: Commonly Used Medicinal Plants

Medicinal Plant	Number of Participants	Percentage (%)	p values
Tulsi (Ocimum sanctum)	52	34.7	0.005
Turmeric (Curcuma longa)	41	27.3	
Neem (Azadirachta indica)	28	18.7	
Ashwagandha	17	11.3	

Table 5: Perceived Effectiveness of Medicinal Plants

Perceived Effectiveness	Number of Participants	Percentage (%)	p values
Highly Effective	72	48	0.002
Moderately Effective	54	36	
Less Effective	18	12	
Not Effective	6	4	
Total	150	100	

Figure 1: Commonly Used Medicinal Plants

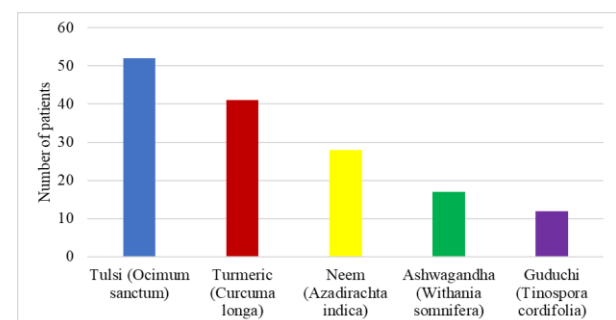


Figure 2: Perceived Effectiveness of Medicinal Plants

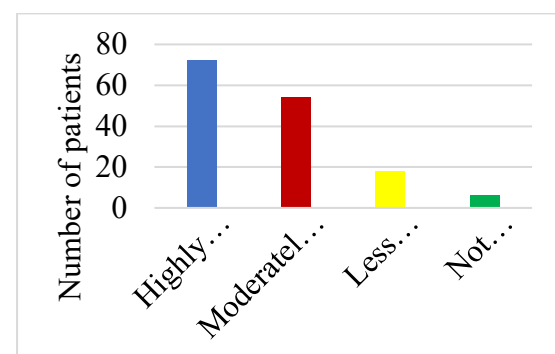




Table 1: Age Distribution of Study Participants

The study comprised 150 people, and most of them were between the ages of 18 and 30, with 45 people (30%) in that age range. There were 38 participants (25.3%) in the 31–40 years age group, which came next. There were 32 people (21.3%) in the 41–50 years age group, and 22 people (14.7%) in the 51–60 years age group. The smallest group was made up of those over 60 years old, with only 13 people (8.7%). The statistical analysis showed that the way participants were spread out among age groups was not statistically significant ($p = 0.17$).

Table 2: How Many Men and Women Took Part

There were 150 people in all, and 82 of them (54.7%) were men and 68 of them (45.3%) were women. The results show that there were a few more men than women in the study population. However, statistical analysis indicated that the disparity in gender distribution was not statistically significant ($p = 0.25$).

Table 3: Knowledge of Ayurvedic Medicinal Plants

A survey of how much people knew about Ayurvedic medicinal herbs showed that 64 people (42.7%) had a good level of knowledge, while 52 people (34.7%) had a moderate level of knowledge. Also, 34 of the participants (22.6%) didn't know much about medicinal plants and how to use them to treat illnesses. There was a statistically significant difference ($p = 0.007$) in the levels of awareness among the participants, which means that the study population had different levels of knowledge of Ayurvedic medicinal plants.

Table 4: Plants that are often used for medicine

The research examined the frequently utilized therapeutic plants among participants. Tulsi (*Ocimum sanctum*) was the plant that most people utilized the most, with 52 people (34.7%) saying they did. Next was Turmeric (*Curcuma longa*), which 41 people (27.3%) used, and then Neem (*Azadirachta indica*), which 28 people (18.7%) used. Seventeen people (11.3%) took Ashwagandha (*Withania somnifera*), and twelve people (8.0%) used Guduchi (*Tinospora cordifolia*). The variations in the utilization pattern of medicinal herbs were determined to be statistically significant ($p = 0.005$).

Table 5: How well people think medicinal plants work

Seventy-two people (48%) thought that Ayurvedic medicinal plants were very successful, while fifty-four participants (36%) thought they were only moderately effective. Additionally, 18 participants (12%) thought they were less effective, and 6 persons (4%) thought they weren't effective at all. The research showed that the distribution of perceived efficacy was statistically significant ($p = 0.002$), which means that most of the participants thought that medicinal herbs in Ayurveda were helpful for their health.

DISCUSSION

The current study looked at how well participants at Doon Ayurvedic Medical College and Hospital knew about and used medicinal herbs in Ayurveda. Most of the people who took part (30%) were between the ages of 18 and 30. The next biggest group (25.3%) was between the ages of 31 and 40. Only 8.7% of people were above 60 years old. The age distribution did not reach statistical significance ($p = 0.17$). Sharma A et al.'s study indicated that younger people were more inclined to take part in studies about medicinal plants because they were more educated and interested in traditional medicine. These results are in line with that study. Patel R et al. also discovered that individuals in younger and middle-aged demographics were more inclined to utilize herbal medicines compared to their older counterparts. This could be because they learned more about them at school and online. [11,12].

In the present study, males constituted 54.7%, while females constituted 45.3%, with the difference being statistically insignificant ($p = 0.25$). Singh V et al.'s ethnobotanical survey revealed a similar gender distribution, with more males than females participating. This is because males were more active in making decisions about healthcare and community issues. On the other hand, Gupta S et al. observed that more women used herbal medicine because women are more likely to be active in home-based healthcare and preparing herbal remedies. [13,14].

In this survey, 42.7% of people knew a lot about medicinal plants, 34.7% knew a little, and 22.6% didn't know anything at all. There was a statistically significant difference ($p = 0.007$). These results are in



line with what Kumar N et al. found, which was that roughly 40–45% of participants knew enough about Ayurvedic medicinal herbs that are regularly used. Tiwari P et al. also found that people's levels of awareness were greatly affected by their education, cultural norms, and access to Ayurvedic treatment facilities. This suggests that community-based education programs are very crucial for teaching people about plants that can help them.[15,16].

The current study identified that Tulsi (34.7%) was the most utilized medicinal plant, succeeded by Turmeric (27.3%), Neem (18.7%), Ashwagandha (11.3%), and Guduchi (8.0%), with a statistically significant difference ($p = 0.005$). These results are similar to those of Joshi B et al., who found that Tulsi and Turmeric are the most often utilized medicinal plants in Indian homes because they are well-known for their ability to kill germs and reduce inflammation. In the same way, Pandey A et al. found that Tulsi and Neem were commonly used in traditional medicine to treat respiratory, cutaneous, and metabolic problems [17,18]. Regarding the perceived efficacy of medicinal plants, the majority of participants in this survey regarded them as highly effective (48%), while 36% indicated moderate effectiveness, 12% viewed them as less effective, and merely 4% deemed them ineffective. The correlation was statistically significant ($p = 0.002$). These results align with the findings of Verma H et al., who indicated that the majority of participants held favorable views of the therapeutic advantages of Ayurvedic medicinal herbs, attributing this to their natural nature and limited adverse effects. Chaudhary K et al. also found that patients were quite happy with herbal therapies, especially for long-term ailments such as digestive problems, respiratory diseases, and metabolic disorders [19,20].

Overall, the results of this study are in line with those of various prior ethnobotanical and Ayurvedic investigations. This shows that medicinal plants are still important in traditional healthcare systems. More people are aware of Ayurvedic institutions, they are easier to get to, and there is more global interest in natural medicines. These things have all helped keep the use of medicinal plants in both preventive and therapeutic healthcare.

CONCLUSION

The present study highlights the significant role of medicinal plants in Ayurveda and their continued relevance in traditional healthcare practices. The findings demonstrated that a large proportion of participants, particularly those in the younger and middle-aged groups, showed considerable awareness and utilization of Ayurvedic medicinal plants. Although the age and gender distribution of participants was not statistically significant, the level of awareness regarding medicinal plants showed a statistically significant association, indicating variability in knowledge among the study population. Commonly used medicinal plants such as Tulsi, Turmeric, Neem, Ashwagandha, and Guduchi were widely recognized and utilized by participants for their therapeutic benefits. Furthermore, the majority of participants perceived Ayurvedic medicinal plants to be highly or moderately effective in managing various health conditions. These findings emphasize the importance of promoting awareness, scientific validation, and sustainable utilization of medicinal plants. Strengthening education and community-based initiatives can further enhance the acceptance and integration of Ayurvedic herbal medicine in modern healthcare systems.

REFERENCES

1. Sharma PV. *Dravyaguna Vijnana*. Varanasi: Chaukhambha Bharati Academy; 2005.
2. Agnivesha. *Charaka Samhita*. Varanasi: Chaukhambha Sanskrit Series Office; 2009.
3. Tripathi KD. *Essentials of Medical Pharmacology*. 8th ed. New Delhi: Jaypee Brothers; 2019.
4. Kumar S, Pandey AK. Chemistry and biological activities of flavonoids. *Scientific World Journal*. 2013;2013:162750.
5. Mukherjee PK. *Quality Control of Herbal Drugs*. New Delhi: Business Horizons; 2010.
6. Gupta RK, Sharma A. Medicinal properties of turmeric (*Curcuma longa*). *Indian J Clin Biochem*. 2012;27(1):1-7.
7. World Health Organization. *Traditional Medicine Strategy 2014–2023*. Geneva: WHO; 2014.
8. Pandey MM, Rastogi S, Rawat AK. Indian herbal drug for general healthcare. *J Ethnopharmacol*. 2013;147(1):1-13.



9. Ekor M. The growing use of herbal medicines. *Front Pharmacol.* 2014;4:177.
10. Patwardhan B, Vaidya AD, Chorghade M. Ayurveda and natural products drug discovery. *Curr Sci.* 2004;86(6):789-799.
11. Sharma A, Kumar R, Sharma S. Awareness and utilization of medicinal plants in traditional healthcare practices. *J Ethnopharmacol.* 2015;162:134-139.
12. Patel R, Shah K, Patel M. Ethnobotanical study of medicinal plants used in rural communities. *Int J Herbal Med.* 2016;4(2):45-49.
13. Singh V, Mishra A. Gender differences in the use of herbal medicines in traditional healthcare. *Indian J Tradit Knowl.* 2014;13(3):567-572.
14. Gupta S, Sharma P. Utilization pattern of herbal medicines among rural populations. *J Complement Integr Med.* 2017;14(2):1-6.
15. Kumar N, Singh A. Knowledge and awareness of Ayurvedic medicinal plants among community populations. *Ayurveda Res Pract.* 2018;12(1):23-28.
16. Tiwari P, Kumar B. Ethnopharmacological survey of medicinal plants used in traditional medicine. *J Herbal Med.* 2019;15:100-105.
17. Joshi B, Lekhak S, Sharma A. Antibacterial property of different medicinal plants. *J Ethnopharmacol.* 2009;121(2):190-194.
18. Pandey A, Tripathi S. Concept of standardization, extraction and pre-phytochemical screening strategies for herbal drug. *J Pharmacogn Phytochem.* 2014;2(5):115-119.
19. Verma H, Singh R. Clinical evaluation of Ayurvedic herbal medicines in common diseases. *J Ayurveda Integr Med.* 2017;8(4):257-261.
20. Chaudhary K, Singh M. Patient perception and effectiveness of traditional herbal therapies. *Int J Ayurveda Res.* 2016;7(3):150-155.