

## THE IMPACT OF HERBAL IMMUNOMODULATORS ON HEALTH AMONG VILLAGE PEOPLE OF KERALA

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### ABSTRACT

Immunity is the body's ability to defend against infections. Our body come into contact with many pathogens on a daily basis yet only a number of them cause illness. Thus, immunity is a defence mechanism that our body can produce antibodies to fight these pathogens and shield the body from illness. Immunomodulators are certain medications alter the immune system inorder to cure a condition. Many herbal immunomodulators are available such as Ashwagandha, Tulsi, Turmeric, ginger, Shankupushpi, Amla enhances our body's immunity or cures disease condition. Now a days people are more preferring natural herbs due to their fewer side effect. Aim of our study is to conduct an online survey on "The impact of herbal immunomodulators on health among village people of kerala" and to find out most commonly used medicinal herbsand their effectiveness to enhance body's immunity. From this study, we concluded that the large number of populations depends on natural medicine as herbal immunomodulator to prevent body from illness or to cure disease condition in which Tulsi, Turmeric, Moringa leaves and neem were the most commonly used one.

**KEYWORDS:** Herbal immunomodulators, Immunity enhancement, Tulsi, Turmeric, Village people of Kerala.

### INTRODUCTION

Our bodies are designed to defend us against infections and other external invaders like bacteria. A system that assists in fighting these invaders and maintains homeostasis in an organism is called an Immune system. The immune system of the body distinguishes between self and non-self-cells in an organism. Immunomodulators are a natural or synthetic substance which modulates the immune response through suppression stimulation or modulation. They are also known as disease modifying drug DMDs. The plant produces an enormous array of many Organic Chemicals that are referred to as biologically active constituents, these metabolites have been used in different sectors at Industrial and commercial levels.<sup>[1]</sup> According to WHO about three fourth of world's population uses traditional-home remedies to cure health related problems. Plant extracts have been highly potent to cure multiple alignment and diseases. Application of traditional knowledge with updated technologies in an interdisciplinary practice could lead to new drug Discovery.<sup>[2]</sup> Plant-based immunomodulators can be used as an alternative therapy to conventional therapies.<sup>[1]</sup> All these medicinal remedies have low side effects and cost-effective than allopathic drugs.

Medicinal herbs and spices have been utilized throughout human history for their therapeutic powers and their quality-of-life advantages. Recent years, immunomodulating activity of many traditionally used herbs and spices has gained more attention. A nutritious diet rich in plant- based foods is one of the primary strategies used by all traditional medical systems to maintain health and wellness while also preventing disease. Herbs and spices are highlighted in this diet because they can help the immune system work in a healthy and balanced manner. In this regard, research has shown that nutrition affects the immune system's numerous internal and extrinsic components. All civilizations around the world have traditionally used herbs and spices in their natural diets.<sup>[3]</sup> Many different components of these plants, including flavonoids, polysaccharides, lactones, alkaloids, diterpenoids, glycosides, and others, have been linked to their immunomodulatory effect.<sup>[4]</sup> The main aim of our study was to find outthe common herbs and formulations used by the village people of Kerala as herbal immunomodulator to prevent or cure disease condition.

## MATERIALS AND METHODS

A descriptive cross-sectional design was used in this study to assess the effect of herbal immunomodulators on the health of Kerala rural residents. To gather data, a structured questionnaire was created and distributed via Google Forms. A link to a Google form was distributed via WhatsApp to prospective participants in different village groupings. There were both multiple-choice and descriptive questions in the poll. The dates of the online survey wereset for April 21, 2024, to May 17, 2024. The questionnaire was provided in Malayalam to accommodate participants, as the study's primary target population consisted of rural residentsin Kerala.

### These were the inquiries we included in the survey

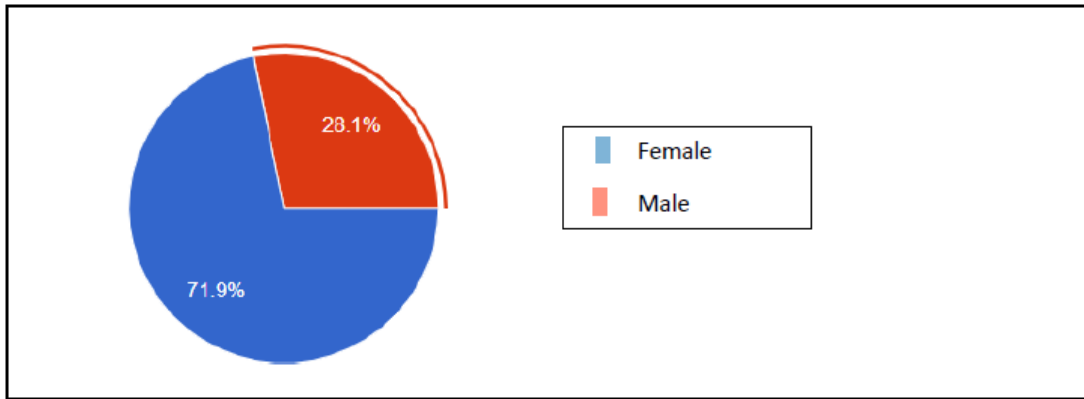
1. Name
2. Gender
3. Age
4. Residence area
5. Do you use any herbs for enhancing immunity or preventing diseases.
  - Yes
  - No
6. Which herbal immunomodulators do you have used.
  - Ashwagandha
  - Shathavari
  - Shankupushpi
  - Brahmi
  - Tulsi
  - Garlic
  - Turmeric
  - Ginger
  - Amla
  - Liquorice
  - Moringa leaf
  - Neem
7. Whether you are using single or combination of herbs.
  - Single
  - Combination
8. Do you felt any side effects by using this herbal immunomodulators
  - Yes
  - No
9. Have you used along with Allopathic medication.
  - Yes
  - No
10. How long you have been taken this natural remedy.
  - Days
  - Weeks

- Months
  - Years
11. Have you taken any ayurvedic formulations for strengthening immunity.
    - Yes
    - No
  12. Which of the following ayurvedic formulations have you been taken.
    - Chyavanaprash
    - Ashwagandha choorna
    - Triphala choorna
    - Syrup
    - Capsule
    - Others
  13. Have you felt any improvement in your body or in your diseased condition by using these herbal immunomodulators.
    - Yes
    - No
  14. Have you felt use of natural or herbal remedies is other methods.
    - Yes
    - No

## RESULT AND DISCUSSION

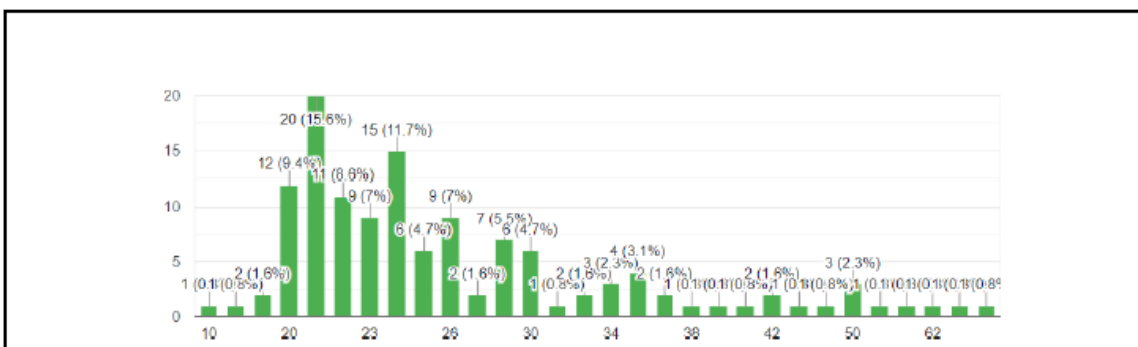
The survey collected basic demographic details such as name, gender and residence area to ensure a representative sample of the village population. The focus was on understanding the community's approach to enhancing immunity and preventing diseases through herbal means.

A total of 128 responses were analysed, in which 71.9% were females and 28.1% were males (figure1).



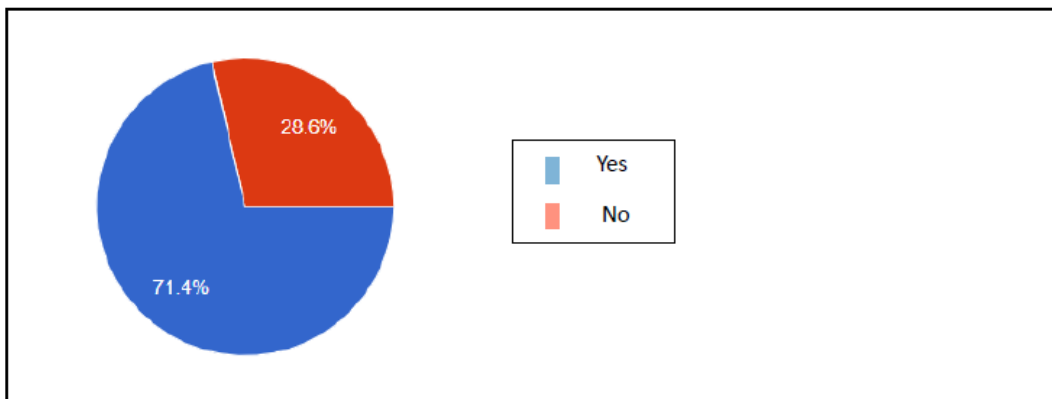
**Fig. 1: Pie chart showing the percentage of male and female respondents.**

The participants who responded to the questionnaire belong to the age group of 10 to 62 years (figure 2).



**Fig. 2: Histogram showing the age group of participants.**

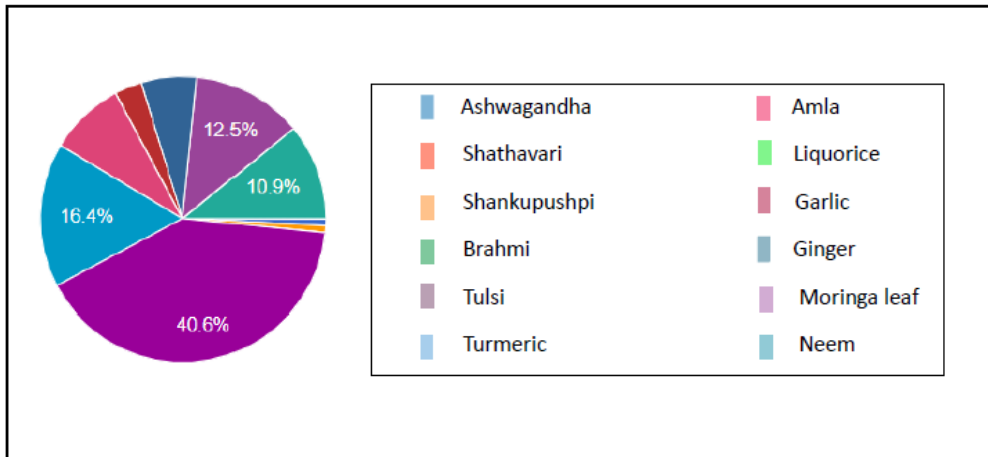
Out of the total response, more than half of the people were using herbs for enhancing immunity or preventing diseases (figure 3).



**Fig. 3: Pie chart illustrating the proportion of participants that use herbs to boost immunity.**

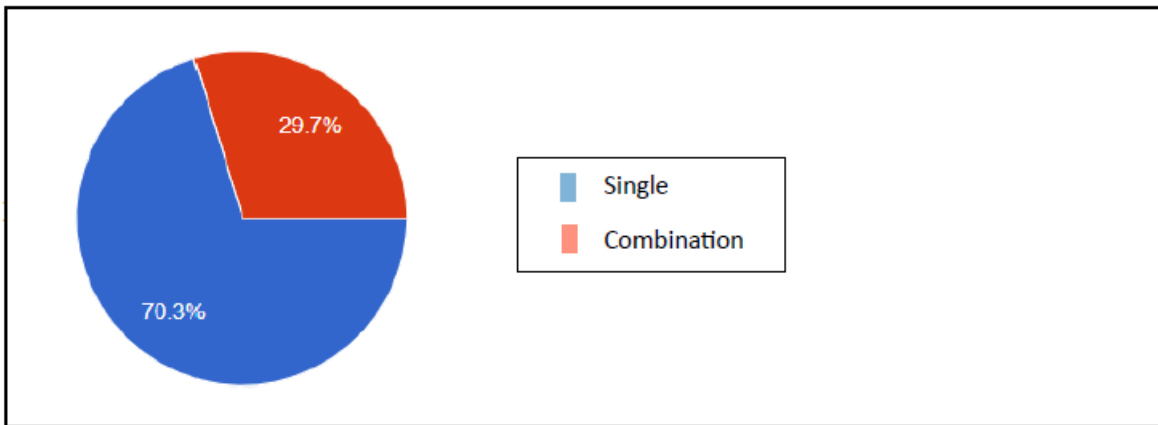
According to the survey Tulsi, Turmeric, Moringa leaves, Neem, Amla, Ginger, Garlic etc. are the common herbs used among the village people of Kerala for enhancing

immunity or preventing diseases. Among these herbs majority of people use Tulsi as herbal immunomodulator (figure 4).



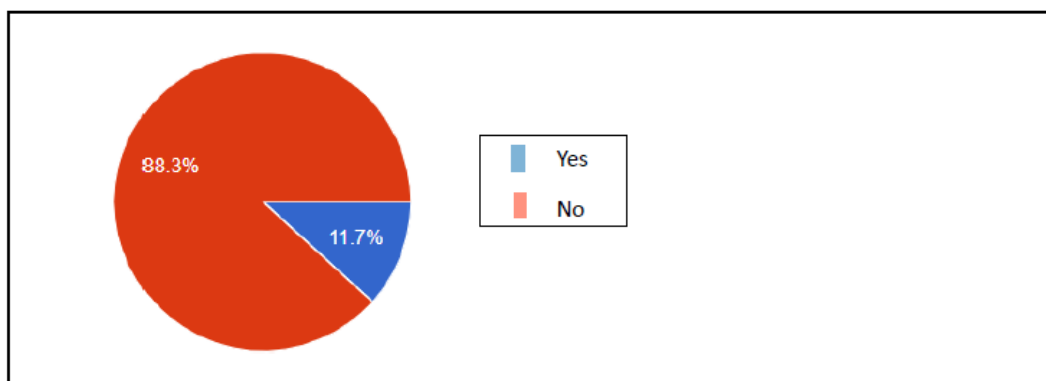
**Fig. 4: Pie chart showing the percentage of different herbs used as immunomodulator.**

Most of people took single herb rather than combination of herbs (figure 5).



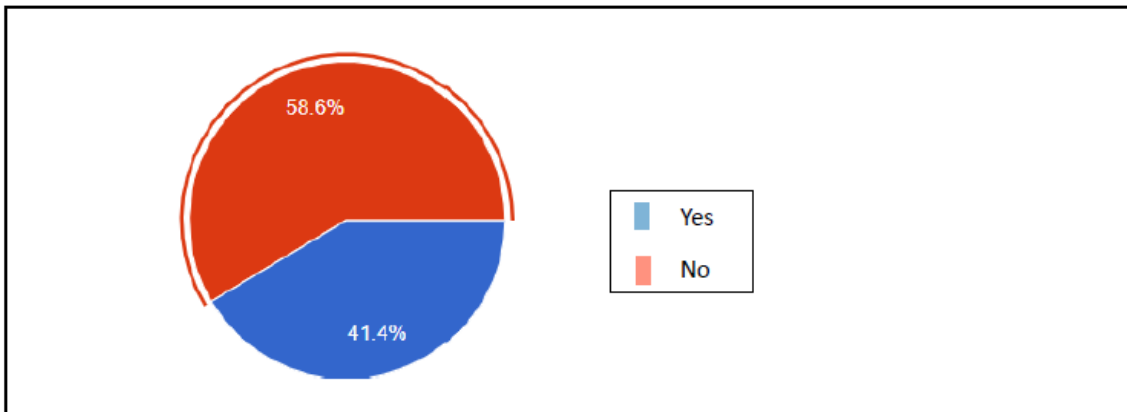
**Fig. 5: Pie chart showing the percentage of population using herbs alone or in combination.**

From the total response only small percentage of people causes side effects by using herbal immunomodulators (figure 6).



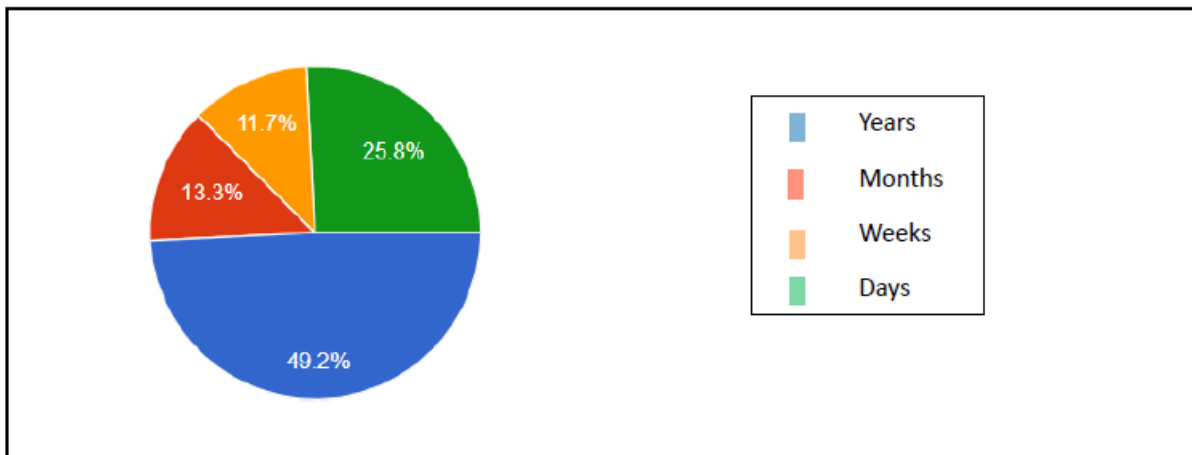
**Fig. 6: Pie chart showing percentage of population experiences side effects by using herbal immunomodulators.**

Out of total response less than half of population took herbal immunomodulators along with allopathic medication (figure 7).



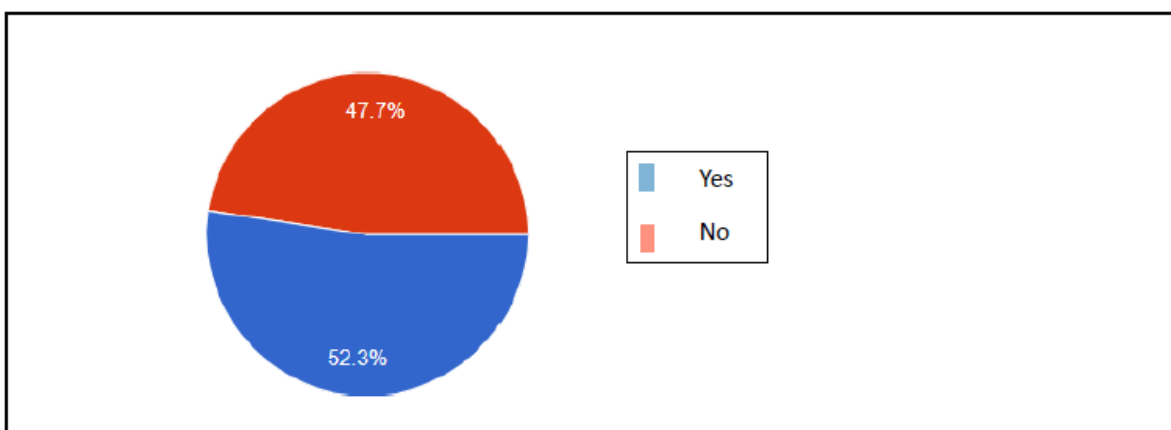
**Fig. 7:** pie chart showing percentage of population using herbal immunomodulators along with allopathic medications.

Majority of the respondents have been utilized these herbal immunomodulators for a long time (figure 8).



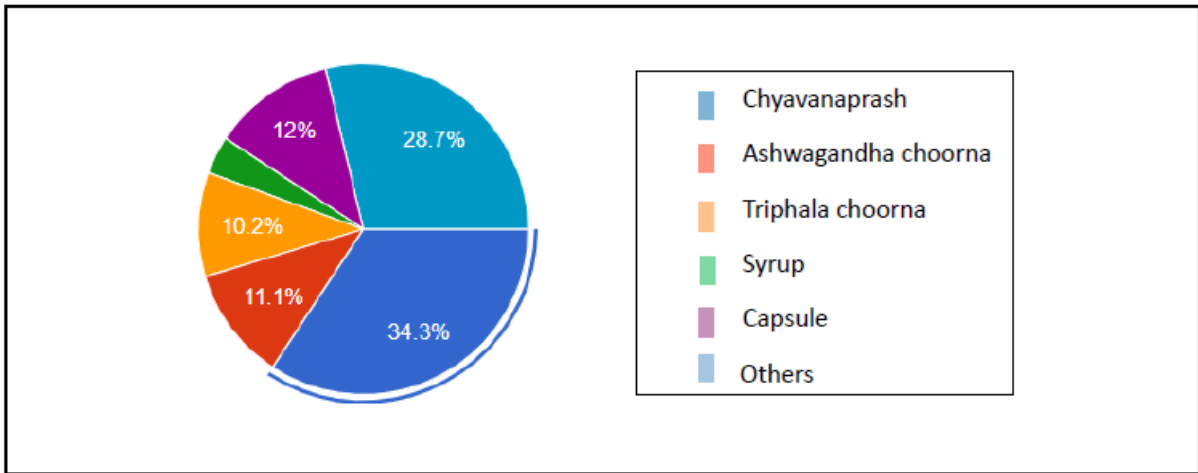
**Fig. 8:** Pie chart showing the duration of usage of herbs as Immunomodulators.

From the response, more than 50% of the respondents were uses ayurvedic formulations for strengthening immunity (figure 9).



**Fig. 9:** Pie chart showing the percentage of respondents using Ayurvedic formulations for strengthening immunity.

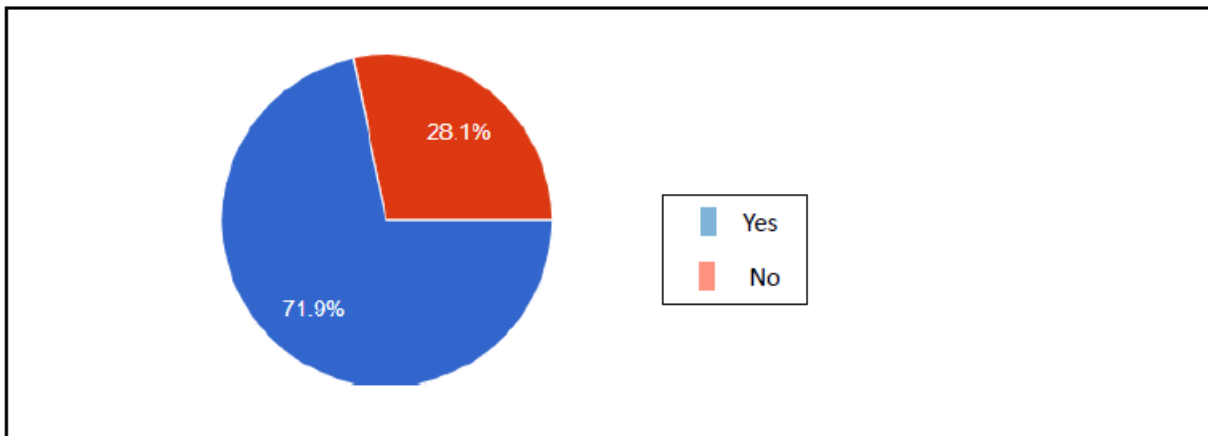
In addition to individual herbs, respondents prefer Ayurvedic formulations for strengthening immunity. Ayurvedic formulations like Chyavanaprash, Triphala choorna and Ashwagandha choorna are frequently used (figure 10).



**Fig. 10: Pie chart showing the usage of Ayurvedic formulations.**

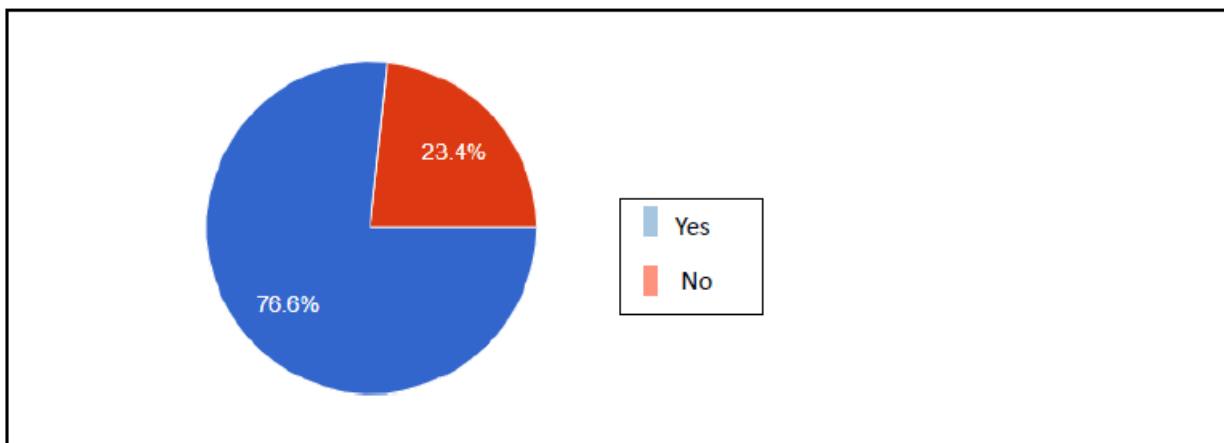
Based on the information gathered, using these herbal immunomodulators consistently improves disease

conditions and strengthens the body's defences against illness (figure 11).



**Fig. 11: Pie chart showing the percentage progress of body's immunity or disease condition by following the use of herbal immunomodulators.**

Natural medications are preferred by the majority of respondents as a better option (figure 12).



**Fig. 12: Pie chart showing the preference of natural medicine is a better choice.**

**CONCLUSION**

Herbal immunomodulators offers a prospective option for boosting the health and well-being of village peoples

in Kerala. By lowering the incidence of illnesses and enhancing general vigor, their use promotes a healthy lifestyle and highlights the importance of traditional

knowledge in contemporary medical procedures. They often utilize herbs like tulsi, turmeric, ginger, garlic, amla, neem, and moringa leaves to boost immunity. Among these herbs majority of people use Tulsi as herbal immunomodulator. These peoples also prefer Ayurvedic formulations for strengthening immunity. Formulations like Chyavanaprash, Triphala choorna and Ashwagandha choorna are frequently used. The knowledge gathered from this study emphasizes how critical it is to conduct more studies and provide instruction on the safe and efficient use of herbal immunomodulators. Understanding natural medicines significance in promoting health and preventing disease is becoming more and more important as they continue to gain popularity.

#### ACKNOWLEDGEMENT

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