

An Analytical Study of Consumer Awareness and Adoption of Herbal Products for Sustainable Public Health in India.

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ABSTRACTS

In the post-covid period, consumer behaviour in our country has shifted significantly towards herbal and natural products. It seems that people are showing their interest towards health awareness and growing trust in traditional healthcare systems of Ayurveda. Consumers are increasingly preferring eco-friendly and plant-based alternatives. It also well supported by digital awareness, rising income levels, and the expansion of e-commerce platforms. Government initiatives promoting AYUSH systems have further enhanced accessibility and awareness across the country. This study is based on secondary data collected from research journals, government reports, and market analyses (2020–2025). It aims to analyze consumer awareness and adoption of herbal products and examine their role in promoting preventive healthcare and sustainable public health. The study finds that higher awareness among people leads to increased adoption of herbal products, contributing to improved health outcomes. However, challenges such as lack of standardization and limited scientific validation remains a cause to worry about.

Keywords: Consumer Awareness, Herbal Products, Consumer Behaviour, Public Health Sustainability, Post Pandemic Trends.

INTRODUCTION

Herbal items are things made from plants that are used to promote health, prevent illness, and improve overall well-being. These include herbal medicines, natural vitamins, and plant-based personal care items. In recent years, such products have grown in popularity because to their natural composition, lower risk of adverse effects, and environmental sustainability Herbal products are typically seen as safer and more compatible with the human body than synthetic counterparts, increasing customer acceptability. The introduction of COVID-19 has had a huge impact on consumer behavior globally, particularly in India. The epidemic raised global awareness about the value of antibodies and preventive healthcare. As a result, people have grown more health-conscious and are actively looking for natural ways to strengthen their immune systems. This transition has resulted in a significant increase in demand for herbal and natural goods, as customers prefer preventive measures than reactive therapies.

India has a rich heritage of ancient times systems, particularly Ayurveda, which focuses on natural healing and holistic wellness. Following the pandemic, there has been a renewed interest in such traditional techniques. Consumers are increasingly relying on herbal medicines and incorporating them into their regular routines. This tendency is boosted

by the Ministry of AYUSH's efforts to promote the use of traditional medical systems and increase their availability throughout the country.

Despite the increasing popularity of herbal products, some obstacles persist. Lack of standards, inadequate scientific validation, and worries about product authenticity continue to undermine consumer confidence. Misleading ads and insufficient regulatory procedures further confuse users. As a result, this study focuses on determining the level of consumer knowledge and adoption of herbal goods in India. It also attempts to better understand their function in promoting preventive healthcare and improving long-term public health. The study is crucial because it sheds light on changing consumer tastes and demonstrates the potential of herbal products in creating a healthier and more sustainable society.

REVIEW OF LITERATURE

Sharma and Kumar (2021) found that consumers have moderate to high awareness of herbal products, mainly influenced by digital media and advertisements. Consumers prefer these products due to their safety and natural benefits, and higher awareness leads to increased adoption.

Gupta, Verma, and Singh (2022) found that post-COVID, consumers in India have shifted significantly towards herbal and natural products due to increased health awareness and preference for preventive healthcare, leading to higher adoption of such products.

The World Health Organization (2023) emphasizes that traditional and herbal medicine systems play a vital role in improving global health and promoting sustainable healthcare through preventive and natural treatment approaches.

The Ministry of AYUSH (2022) reports that the AYUSH sector has expanded significantly through increased government investment, establishment of drug testing labs, and support for hospitals and dispensaries. The report highlights large-scale patient coverage and quality control measures, indicating the growing role of traditional medicine in strengthening public healthcare in India.

The India Brand Equity Foundation (2023) reports that India's Ayurveda and herbal industry has grown rapidly, with the market increasing from \$2.85 billion to \$18.1 billion and expected to reach \$16.27 billion by 2028. The growth is driven by rising demand for natural healthcare, widespread use of Ayurveda among the population, and strong government and global market support.

The Ministry of Statistics and Programme Implementation (MOSPI) provides reliable data on income and consumption patterns through large-scale surveys such as the NSS and Household Consumption Expenditure Survey. The data shows rising consumption levels and changing spending patterns, with a decline in food expenditure share and growth in non-food items. The upcoming Household Income Survey (2026) aims to improve understanding of income distribution and inequality in India.

NITI Aayog (2023) provides evidence-based policy insights to strengthen India's public health system. It uses large-scale data platforms and surveys to improve health, nutrition, and healthcare access. The institution supports national health policies and promotes affordable, accessible, and data-driven healthcare development in India.

Murugan, S. (2025) The study found that consumers in India have a high level of awareness and preference for herbal and Ayurvedic products, especially among educated and middle-income groups. Factors such as health consciousness, age, and gender significantly influence buying behaviour, while limited awareness in rural areas remains a challenge. The research highlights that improving product knowledge and availability can further increase adoption of herbal products.

RESEARCH GAP

Existing research mostly focuses on consumer behavior and market growth for herbal products, particularly after COVID-19. However, there is little study into the direct relationship between customer knowledge and actual adoption. There are also few research that link the use of herbal products to preventive healthcare and long-term public health results. Furthermore, issues such as lack of uniformity and scientific validation are not fully investigated. As a result, this study seeks to close these gaps by giving a comprehensive analysis in the Indian context.

OBJECTIVE OF THE STUDY

1. To study about sustainable public health.
2. To analyze the level of consumer awareness and purchase preference towards herbal products in India (post covid period).
3. To evaluate the role of herbal products in promoting preventive health care and sustainable public health.

RESEARCH METHODOLOGY

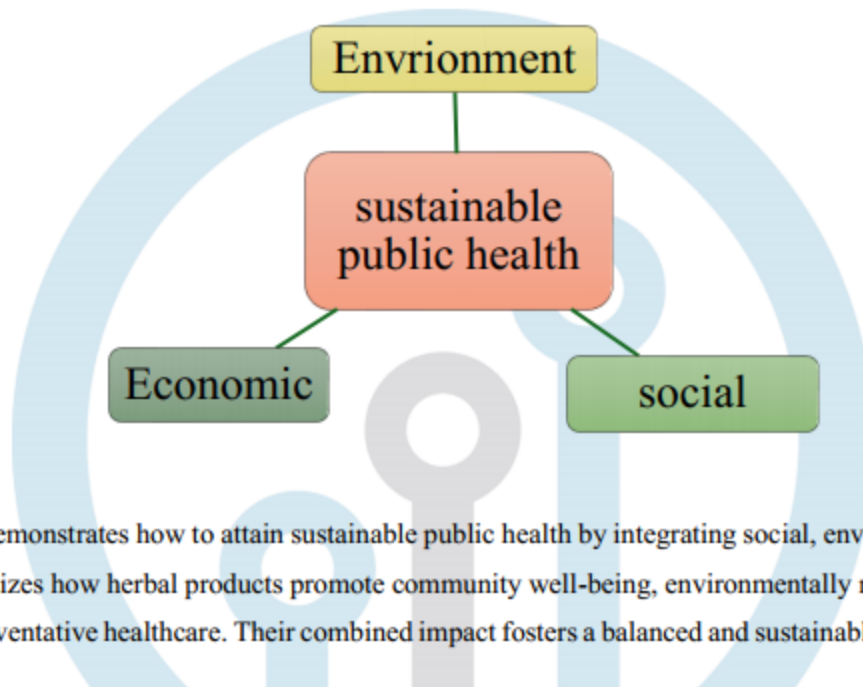
The current study is analytical and descriptive in nature, with the goal of examining consumer knowledge and acceptance of herbal goods in India. The research is solely based on secondary data gathered from credible and legitimate sources. These sources include scholarly journals, government papers issued by organizations such as the Ministry of AYUSH and the World Health Organization, and company reports from major herbal product manufacturers such as Dabur, Patanjali Ayurveda and Himalaya Wellness. In addition, several market analysis reports have been used as supporting data. The study spans 2020 to 2025, with an emphasis on post-pandemic patterns. Techniques for data analysis include trend analysis, comparison analysis, and percentage-based interpretation. Graphical representation has also been used when appropriate to show the data in a clear and intelligible manner.

DATA ANALYSIS & INTERPRETATION

Sustainable Public Health: Concept and Dimensions

Sustainable public health is a long-term, integrated approach to improve population health that does not jeopardize future generations' requirements. It stresses preventive care, health promotion, and resource efficiency. The World Health Organization defines health as a condition of complete physical, mental, and social well-being, rather than simply the absence of sickness. Sustainability requires a significant transition from curative to preventive healthcare. Early diagnosis, lifestyle change, and immune improvement are all preventive methods that serve to lessen disease burden. Herbal products play an essential role in this context because of their natural composition, low risk of adverse effects,

and environmental sustainability. In the post-COVID-19 period, the use of herbal and Ayurvedic products has increased significantly, reflecting a growing preference for preventive and sustainable healthcare practices.



The framework demonstrates how to attain sustainable public health by integrating social, environmental, and economic factors. It emphasizes how herbal products promote community well-being, environmentally responsible behaviors, and cost-effective preventative healthcare. Their combined impact fosters a balanced and sustainable health system consistent with SDG 3.

Consumer Awareness and Purchase Preference towards Herbal Products (Post-COVID Period)

The post-COVID-19 period has substantially altered consumer behavior in India, with a focus on preventative and herbal healthcare practices. According to recent studies, over 95% of the Indian public is aware of AYUSH and herbal systems, indicating a widespread understanding of traditional treatment. However, actual utilization remains at roughly 53%, indicating a significant gap between awareness and adoption. The epidemic served as a catalyst for raising awareness, as evidenced by an increase in online searches for immunity-boosting herbs including Tulsi, Giloy, and Ashwagandha. In terms of buying preference, approximately 60% of customers now prefer herbal products, owing to their perceived safety and low side effects (50.4%), as well as great trust in their efficacy (72.1%) and cultural acceptance (58.1%). The Ministry of AYUSH has launched steps to boost customer confidence and increase adoption. Furthermore, a huge transition from curative to preventative healthcare is occurring, as people increasingly employ herbal medicines to boost immunity, rejuvenate, and promote long-term wellness. This development suggests that herbal goods have progressed from a niche market to a popular choice in India.

In conclusion, while knowledge is extremely high, purchasing preference is driven by safety, efficacy, and the growing demand for natural and chemical-free products, hence supporting the role of herbal products in long-term public health.

Table 1: Consumer Awareness and Purchase Preference towards Herbal Products in India (Post-COVID Period)

Parameter	Key metric/ Percentage	Primary Driver/ Factors
Consumer Awareness	95.4%	Government initiative (AYUSH) digital media traditional knowledge
Purchase Preference	60.2%	Shift towards chemical – free and natural formulations
Actual Utilization	53.0%	Preventive care chronic illness management rejuvenation
Trust Factor (Efficacy)	72.1%	Positive past experiences and reliability of Ayurveda
Safety Perception	50.4%	Minimal side effects compared to synthetic drugs
Cultural Faith	58.1%	Deep – rooted belief in traditional systems.

Source: *Compiled by Author based on NSS (2022-23) and Rana et al. (2025)*

Interpretation:

The table indicates that while consumer awareness of herbal products is significantly high (95.4%), actual utilization remains comparatively lower (53%), highlighting a gap between awareness and adoption. Purchase preference (60.2%) is mainly influenced by the growing demand for natural and chemical-free products. Factors such as trust in effectiveness (72.1%), safety perception (50.4%), and cultural faith (58.1%) play a crucial role in shaping consumer behaviour in the post-COVID period.

Role of Herbal Products in Promoting Preventive Healthcare and Sustainable Public Health

The incorporation of herbal items into Indian consumers' everyday health regimens represents a shift from a curative- to a preventive-centric healthcare strategy. According to **Rana et al. (2025)**, a large amount of Ayush utilization (45.4%) is devoted to 'rejuvenation' and 'prophylactic' (preventive) therapy. This suggests that herbal products are no longer considered solely as alternative treatments for chronic illnesses, but as critical instruments for long-term wellness. The widespread use of immunity-boosting botanicals such as *Tinospora cordifolia* (Giloy) and *Withania somnifera* (Ashwagandha) following COVID-19, as highlighted in the **JYANAVI (2026)** study, demonstrates how herbal interventions act as a primary shield against infectious diseases, reducing the burden on mainstream public health infrastructure. Herbal usage has economic and environmental benefits that contribute to long-term public health. The Ministry of Ayush Annual Report (2024-25) underlines that herbal medicines are a cost-effective alternative, directly fulfilling SDG 3.8.2 by lowering out-of-pocket health care costs for vulnerable groups. Furthermore, as **Wanyenze et al. (2023)** note, maintaining 'planetary limits' is necessary for sustainable health Herbal medications, being biodegradable and plant-based, offer an environmentally responsible alternative to synthetic pharmaceuticals, which have a significant chemical footprint.

Role of Herbal Products in Preventive Healthcare:

Herbal products are increasingly being integrated into regular health practices in India, reflecting a move from curative to preventive healthcare. According to Rana et al. (2025), roughly 45.4% of AYUSH usage is devoted to preventative care and rejuvenation, demonstrating that herbal medications are increasingly being utilized for long-term wellness rather than only treating ailments. The post-COVID-19 increase in the usage of immunity-boosting herbs like Giloy and Ashwagandha emphasizes their importance in decreasing disease burden and reliance on traditional healthcare systems.

Herbal products contribute to Sustainable public health is achieved through economic and environmental benefits. They are cost-effective, promoting Universal Health Coverage by lowering out-of-pocket expenses, and environmentally friendly due to their plant-based and biodegradable composition. This is consistent with the broader goals of sustainable healthcare and SDG 3 (Good Health and Wellbeing).

However, issues such as lack of standardization, inadequate scientific validation, and quality concerns limit their usefulness. Finally, herbal medicines contribute significantly to preventative healthcare and long-term public health by providing an economical, culturally acceptable, and ecologically sustainable healthcare alternative. To optimize their usefulness, they must be strengthened by scientific validation and regulation.

Table 2: Impact of Herbal Interventions on Public Health Sustainability

Sustainability Dimension	Herbal contribution	Public Health Outcome
Preventive Impact	Immunity boosting & Rejuvenation (45.4%)	Lower morbidity and reduced hospital load
Economic Impact	High affordability and local availability	Progress toward universal health coverage (UHC)
Safety & Quality	50.4% preference due to low side-effects	Long-term wellness without drug-induced toxicity
Environmental Impact	Bio-based and eco-friendly production	Alignment with planetary health and sustainability

Source: Compiled by the Author based on Rana et al. (2025), Ministry of AYUSH (2024–25), and other secondary sources.

The table emphasizes the multifaceted significance of herbal products in ensuring sustainable public health. The preventative impact is strong, with 45.4% used for rejuvenation, resulting in a reduced disease load. Economically, their affordability supports Universal Health Coverage (UHC) by improving accessibility. The safety aspect, reflected in 50.4% preference due to low side effects, ensures long-term wellness. Additionally, their eco-friendly nature aligns healthcare with environmental sustainability. Overall, herbal products contribute effectively to a balanced and sustainable public health system in India.

FINDINGS OF THE STUDY

The survey found that while consumer awareness of herbal products in India is high (about 95%), actual utilization (53%) remains low, demonstrating a gap between awareness and uptake. Purchase preference (60.2%) is mostly motivated by safety, efficacy, and cultural faith in Ayurveda, particularly following COVID-19. Herbal products serve an important role in preventive healthcare, with 45.4% of users focusing on rejuvenation and immunity to reduce disease burden. They also promote sustainable public health by being affordable (supporting universal health coverage) and environmentally friendly. The survey found that while consumer awareness of herbal products in India is high (about 95%), actual utilization (53%) remains low, demonstrating a gap between awareness and uptake. Purchase preference (60.2%) is mostly motivated by safety, efficacy, and cultural faith in Ayurveda, particularly following COVID-19.

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CHALLENGES / ISSUES

Despite the growing popularity of herbal products, a number of problems prevent their effective incorporation into mainstream treatment. One important difficulty is a lack of standardization and quality control, which results in differences in product composition and effectiveness.

Another major worry is the lack of scientific validation and clinical data, which reduces the credibility and acceptance of herbal products among modern healthcare experts.

Furthermore, deceptive marketing and inaccurate claims cause consumer uncertainty and undermine confidence. The availability of unregulated and counterfeit items on the market raises worries about safety and authenticity.

Furthermore, limited knowledge in rural regions, insufficient labeling, and a lack of correct dosage guidelines limit informed use.

Overall, these concerns limit herbal products' capacity to promote preventive healthcare and long-term public health.

CONCLUSION

The study shows that post-COVID-19 customer behavior in India has evolved dramatically from curative to preventative healthcare. Although awareness of herbal and AYUSH products is high (about 95%), actual utilization (53%) is rather low, demonstrating a gap between awareness and uptake.

The data show that herbal products play an important role in promoting preventive healthcare, with a sizable proportion of consumers (45.4%) utilizing them to boost immunity and rejuvenate. These goods also help to promote sustainable public health by providing a low-cost, culturally acceptable, and environmentally responsible healthcare option, so supporting Universal Health Coverage (UHC) and Sustainable Development Goal 3 (Good Health and Well-Being). However, issues such as lack of standardization, inadequate scientific validation, and quality concerns limit their usefulness. Overall, herbal products have emerged as an important component of India's sustainable healthcare system.

Strengthening regulatory frameworks, quality control, and scientific research is critical to increasing long-term acceptance and efficacy.

SUGGESTIONS / RECOMMENDATIONS

To increase the uptake and effectiveness of herbal products, the following measures are suggested:

Strengthening Standardization: To prevent counterfeit items and assure batch-to-batch uniformity, the government and regulatory organizations should implement tougher quality control standards and "Ayush Mark" certifications.

Bridging the Awareness-Utilization Gap: Targeted awareness campaigns should go beyond basic information and give specific education on dosage, safety, and evidence-based benefits, especially in remote areas.

Investment in R&D: Increased financing for clinical studies and scientific validation is required to acquire the trust of modern medical practitioners and include herbal medicine into mainstream integrative healthcare.

Digital Transparency: E-commerce platforms and producers should provide transparent labeling and QR-code-based traceability to assist consumers in determining the purity and provenance of herbal substances.

Policy Integration: Integrating herbal preventative care into national health systems (like as Ayushman Bharat) can help to reduce out-of-pocket costs while also promoting long-term public health sustainability.

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