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### Reflections of Ayurvedic Practitioners on Using Online Herbal Drugs

Dr. Paluri Bharathi

Asst. Professor , Department of Journalism

St. Ann's College for Women, Mehadi Patnam, Hyderabad, India.

7989187932

Email: [shailibharathi@gmail.com](mailto:shailibharathi@gmail.com)

Prof. P. Vijaya Lakshmi, Ph.D

Professor of Communication & Journalism and Former Registrar

Sri Padmavati Mahila Visvavidyalaya (Women's University)

Tirupathi 517502, India

09399920125

Email: [vijaya.cj@gmail.com](mailto:vijaya.cj@gmail.com)

Herbal medications have a long history in India, and the country is the world's greatest producer of medicinal plants. The use of herbal drugs as supplementary medicine has improved over the years for various reasons which include the wide coverage of Ayurveda products, acknowledgment of modern science, disparities in the healthcare system, and government efforts. The increase in use of the internet and the availability of more herbal products online have also greatly influenced consumers' purchasing decisions for herbal products.

Herbal products are one of the most extensively utilized supplemental and alternative medicine therapies worldwide. Traditional and complementary medicine (T&CM), according to the World Health Organization, can make a substantial contribution to the aim of universal health care by being incorporated in the delivery of essential health services. India exports medicinal herbs to 164 nations in total. Herbal remedies can be made from over 8,000 medicinal plants. Ayurveda, Siddha, and Unani are three historic Indian medicinal systems. Medical systems are described in the Vedas and other ancient religions. Between 2500 and 500 BC in India, the Ayurvedic philosophy emerged and developed. Because the ancient Indian system of health care focuses on ideas of man and his ailment, Ayurveda literally means "science of life."

The traditional medicine market is set for substantial growth in the coming years. The increasing acceptance of traditional medicine practices in developed regions is expected to propel market expansion. Furthermore, a rising consumer preference for natural and plant-based remedies is a key market driver. Additionally, escalating healthcare costs will likely encourage consumers to turn to more affordable traditional therapies. (Neha Joshi, 2024).

Today, herbal products that combine modern scientific techniques with traditional knowledge are finding increased applications in drug discovery and development. There is a growing global demand for herbal drugs, which are widely used around the world. Herbal medicines are preferred by many due to their higher therapeutic effects and fewer side effects. A significant portion of the population favors herbal medicine. (Santosh, Dighe et al., 2023).

The modern Digital information media has become an essential part of life. Like in every industry, digital marketing is replacing traditional marketing techniques in the pharmaceutical industry. This is mainly to give relief of interaction with end users, it is not a time-consuming engagement and is cost-effective too (Dhara, et al, 2016). In addition, digital marketing made doctors use social media and other digital tools.

There are a lot of commercial websites available on the Internet, which declare that herbal medicines have no side effects. The manufacturers of herbal medicines carry out various marketing strategies and their sales representatives publicized these products into the greater limelight. According to a study increases in health awareness, changing trends of self-grooming, lifestyle changes, confidence and trust in Ayurvedic medicine as a supplementary system, and increased broadcast of mythological series on air are some of the factors that have led to a boom in the herbal products industry (Unnikrishnan, 2019).

Studies conducted by MICA reveal that there is an increasing preference by consumers for herbal or natural products over other cosmetic products, and an increasing acceptance of Indian herbal products in the international market is seen. (Apsara Wijenayake et al, 2021).

#### **Online herbal marketing and purchasing habits:**

With new developments in technology, herbal products, and services are being offered to customers in a number of ways. The products can be spotlighted as medicines or food supplements or food products. They can be therefore sold through herbal specific pharmacies, general pharmacies, store and non-store (on-line and social media) retail formats. Herbal products are sold through both organized or formal and unorganized or informal retail formats. In recent times, sale of herbal products through e-commerce is an increasing trend. A manufacturer can show their products as Ayurveda, herbal, natural or organic based on the market demand. The market demand is surging for all these categories and tough competition has been seen among them. Majority of companies are using technology to offer herbal services and few of them provide both products and services.

With the emergence of the digital growth wave, digital penetration through better internet access, improved security of payments gateways, e-commerce adoption, and Cash on Delivery (CoD) options are the main reasons of the increasing of online market for herbal drugs and changes in consumer behavior also lead to more online herbal market. This is demonstrated in a recent FMCG segment, which shows that within the personal care market alone, the growth of natural product sales is 2.2 times greater than that for non-naturals. (Nielsen Report, 2021).

Children are being encouraged to use herbal products for their nutritional values to facilitate healthy growth and development; Young people for their ecstatic effects and to cope with daily stress and to avoid or slow the onset of aging; older people for their anti-aging or rejuvenating effects and women for slimming and beauty magnifying effects (Parle, 2020).

A study on herbal and alternative medicines from 2015-16 showed even greater rates of quality problems. The 2015-16 data shows an 80% non-compliance rate overall, primarily due to labeling, advertising, and evidence problems (Harvey, 2016). While some herbal medicines have promising potential and are broadly used, the majority of them remain untested and their use is also not monitored. Several advertisements on digital media have noticeably increased consumers' awareness and given herbal products have unproven respectability and credibility (Bansal, 2019). The dearth of suitable quality controls, inadequate labeling, and the absence of appropriate patient information and the safety of most herbal products is further compromised (Raynor et al., 2021).

With the digitalization of Ayurveda, there is much greater transparency and sharing of information. Quality control standards that have been introduced by the Ministry of AYUSH are also helping raise consumer confidence, as manufacturers can now ask for certification with labels like AYUSH Premium Mark and AYUSH Standards Mark. Now, consumers and patients can also communicate directly with qualified experts and with manufacturers to learn more about product ingredients, applications, and dosages (Bali, 2018).

Herbal medicines are shown to be free from side effects. This is a myth. A study from 2015-16 found even higher rates of quality problems in herbal and alternative medicines. "The 2015-16 data shows an 80% non-compliance rate overall, primarily due to labelling, advertising and evidence problems" (Harvey, 2019). A lot of commercial websites can be found on the internet, which insist that herbal medicines have no side effects. In underdeveloped and developing countries, there are no specific laws for herbal practitioners and companies marketing herbal products. People are attracted by such companies and begin using herbal products in the false belief that herbal products are free from side effects.

The third area of concern is the filling of prescriptions generated by online physicians who obtain patient information solely from online questionnaires that may have checkboxes that are preselected for the response that helps the patient obtain the medication in question. This blueprint of care is concerning because patients may use these online physician services to obtain medications for symptoms that they may not have disclosed to their local provider. On the other hand, cyber doctors provide medication via the Internet that addresses their complaints.

As resource centers for herbal, ayurvedic or natural information, the leading herbal e-commerce platforms also provide a rich repertoire of herbal knowledge, along with information on on-going studies and research. This helps strengthen consumer confidence and keeps patients informed about what really works and what doesn't. When it comes to the digital market for herbal products, one of the most significant features that increases transparency is the easy access to patient

testimonials and reviews. With better user engagement and two-way communication, manufacturers also benefit, as they are able to review, update, and introduce products, based on user feedback

Bonding to our prescription usually entails taking our drugs as directed by our doctors, in the correct dose, at the correct time, in the correct manner, and with the appropriate regularity. These are the basic actions to do; failing to take our medicine as recommended by a doctor or as directed by a pharmacist may result in our sickness worsening, hospitalisation, or sometimes lead to death.

So, it is very important to take suggestions for consuming any health products either prescribed or herbal drugs. So, for the study to be more aware of online herbal drugs and supplements, in-depth interviews were conducted with Ayurvedic doctors in Hyderabad and Tirupati to draw opinions and suggestions on online herbal pharmacy marketing.

The Ayurvedic doctors were chosen to provide perspectives on online herbal drug promotion practices. In the interview, the doctors have given valuable suggestions and information to consumers about the online herbal products and supplements. From the in depth interviews the following suggestions were drawn.

### **Herbal products and supplements:**

A plant or plant part utilised for its aroma, flavour, or therapeutic characteristics is known as a herb. One sort of dietary supplement is herbal medicine. Tablets, capsules, powders, teas, extracts, and fresh or dried plants are all available. Herbal remedies are used by people to try to maintain or improve their health.

The vast majority of individuals believe that "natural" products are always safe and beneficial to them. This isn't entirely correct. Herbal remedies are not subjected to the same rigorous testing as pharmaceuticals. Some herbs have the potential to inflict serious harm. Some plants have the potential to interact with prescription or over-the-counter drugs.

Herbal supplements are meant to help people stay healthy or treat illnesses. They are not, however, controlled by CDSCO. Herbal supplements are considered food by the Central Drugs Standard Control Organization (CDSCO), not drugs. The label of a herbal supplement can state how it may benefit, but it cannot claim to be a cure for a condition or ailment.

### **Digital doctors and patients :**

Accessibility: In addition to scarcity of doctors and hospital beds, 60% of hospitals, 75% of dispensaries and 80% of doctors in India are located in urban areas servicing about 28% of population causing severe accessibility problem. Over 48% of Indians in rural areas need to make overnight trips

for Health & Medical reasons. Accessibility is not just a rural, tier II or tier III issue. Even in Tier 1 cities, it takes an average of one to two hours to consult a good doctor due to heavy traffic and long wait times at the clinic or hospital. This leads to postponing or neglecting one's health issues which over time get exacerbated into serious diseases.

Telemedicine can reduce the time it takes to consult a doctor to 10-15 min in both rural and urban areas by cutting wait times through optimal utilization of doctors and by avoiding the need to travel to a clinic or hospital, at a fraction of the cost of current healthcare systems. Electronic Medical Records (EMRs) can digitalize patient's information coming from various sources at one place helping doctor to make an accurate prognosis in a shorter time

As Telehealth services continue to become more popular across the world researchers are beginning to explore the effectiveness of virtual doctor's visits as opposed to a traditional clinical appointments.

In 2018, telemedicine has expanded in India. It has undertaken a new way for doctor consultations. This sector is at an ever-growing stage with high scope of development. This rapid growth in the last year presents telemedicine as the next frontier in the healthcare. The year 2019 will be an important year for telemedicine industry. Health data is useful in many ways and one of them is AI (Artificial Intelligence). In future, this will help in identifying issues related to medical health. Through IOT (internet of things) perspective medical emergencies like Asthma attack, heart failure, diabetes can be monitored via connected devices.

Telemedicine is the roadmap for improved medical care in rural areas. NITI Aayogya states that, the National Health Stack (NHS) is a virtual digital platform for healthcare in the country. NHS study aims to have digital health records for all citizens by 2022 to make telemedicine and E-Health easy. However, with the introduction of Ayushman Bharat Scheme, a biggest health financing scheme, Indian government has come up with ICT (Information and Communication Technology) focusing on the development of health sector in the country. This scheme includes Tele-health development ideology for long distance medical care to make a safe, effective, efficient, patient-centered and timely health management environment. This integrated market of telemedicine platform will have a mix approach in the coming year. In a developing country like India, there is a lot of room for development. With the communication industry evolving at such a rapid pace, telemedicine sector is bound to develop too.

### **Safety information about online herbal drugs and supplements**

Because herbs come from nature, they aren't always safer than the components in over-the-counter (OTC) and prescription medications. Several prescription drugs are substances that have been refined

from natural sources. Although herbal health supplements and products are labeled as "natural," their contents aren't always natural to the human body. They could have a major impact on your body.

In various parts of the world, herbal drugs and medicinal plant products have been widely used for thousands of years. Medicinal plants compose a source of raw material for both traditional and modern systems of medicine.

About 60% of the world's population uses alternative medicine. The rural masses use these medicines for their primary healthcare in developing countries, but it is also seen that these are also used in developed countries which are dominated by modern medicines (Ballabh and Chaurasia, 2017).

### **Herbal products and Prescription medicines**

Herbal products or supplements can, without a doubt, influence how the body processes medications. It's possible that your medicine won't operate properly as a result of this. The drugs may not be absorbed in high enough levels to help the health issues for which they were given if this happens. This can lead to major issues. Before using any herbal health product or supplement, consult your doctor if you are taking any OTC or prescription medications.

### **Online marketing and herbal products purchasing:**

Worldwide there is a growing demand for Ayurveda and other traditional forms of medicine (World Health Organization, 2012). In India, about 80% of the rural population uses medicinal herbs or indigenous systems of medicine (Mukherjee and Wahile, 2016). It is estimated that nearly 960 plant species are used by the Indian herbal industry, and the turnover of the industry is more than Rs 80 billion. Herbal exports include medicines of AYUSH (Ayurveda, Unani, Siddha and homoeopathy) products, which occupy a share of 3% of total Indian pharmaceutical export. Seventy percent of export from the herbal sector consists largely of raw materials and is estimated to be Rs. 10 billion per annum. Thirty percent of the export consists of finished products, including herbal extracts (Government of India Planning Commission. Eleventh Five Year Plan (2007–2012)).

### **Adverse effects of herbal drugs and supplements**

The majority of individuals believe that all herbal medicines are safe and beneficial. However, while many herbal medicines have evidence-based good efficacy safety profiles, one must be careful of numerous negative effects such as toxicity, overdose, and herb contamination.

### **Highlights of the Doctors opinions on effects of online herbal drugs on consumers**

Against this backdrop, we interviewed Ayurveda Practitioners in Tiruapti, Hyderabad, in-depth. The purchase habits of consumers who buy herbal drugs online and its effects on their health have been discussed by ayurvedic practitioners. These are some of the significant issues that the practitioners of ayurveda have addressed.

General Physician, M.D. (Ayurveda), Sri Venkateswara Ayurvedic Hospital. Tirupati.

*“Although many herbs are primarily of historical interest, thousands of herbal products are available over the counter and commonly used by patients. Therefore, an understanding of the composition, regulation, safety and efficacy of herbs may assist doctors in advising patients about the use of these products”.*

A Private Ayurvedic Practitioner M.D. Ayurvedalaya, Hyderabad

*“The unethical publicity have led to fake advertisements about the safety and efficacy of the herbs reaching the public today more so than at any other time. Herbal products are advertised in magazines, newspapers and books, on radio and television and through the Internet. Herbs are suggested for treatment on the basis of unproven, word-of-mouth traditions and beliefs. In Some advertisements can described that the featured product is “doctor recommended,” “the world’s most powerful,” “patented,” or “now presented without a prescription”*

General Physician MD Ayurveda Govt. Ayurvedic College,

*“Ayurvedic medicines are India's oldest and a traditional medical system for treating illnesses. These medicines are referred to in ancient writings which majorly consist of plant product and may include animal product, metal, and mineral. So, without consulting the physicians using of herbal/ ayurvedic drug is not safe”.*

Ayurveda Physician, M.D. Ojus Ayurvedic Center Hyderabad.

*“In general, herbal drugs are safe but sometimes they may cause side effects. These can include stomach upsets, sleeplessness, and pains in your muscles or joints. Some herbals may also interact with your prescribed drugs. If you are thinking of using these herbals drugs ,always buy them from a trusted manufacturer to make sure they are a quality product either in stores or online and discuss their use with your doctor first”*

Ayurvedic Physician, M.D. Ayurveda Dathu Ayurvedam, Hyderabad

*“Since herbs are plants, they are often perceived as “natural” and therefore safe. however many herbs may show side effects from biologically active constituents from herbs, side effects caused by contaminants and herb–drug interactions. So, when ever purchasing online herbs or from stores everybody should be more cautious and conscious”.*

General Physician, BNYS Hyderabad

*“Herbal medicines are easily available in market and can be purchased without prescription. These products are advertised on media as a miracle treatment without any side effects to attract people. Online companies selling these products misguide people and claim their product totally free from adverse effects. Even there is no period mentioned, some people continue for months or years, which in long term can be harmful for patient’s health”.*

Physician BUMS, MD – Medicine, AYUSH, Unani, Hyderabad

*'It is very important that consumers do not self-diagnose any health problems, and that any drug, whether herbal or not, is used under the supervision of a competent and qualified practitioner.'*

Ayurvedic Doctor, BAMS, Tirupati.

*"Many herbal products did not carry adequate warning labels about side effects and drug interactions. Pharmaceutical companies are required to list all side-effects and possible drug interactions on their products."*

Doctor, Prakruti Ayurvedic Medicals. Tirupati

*"Not all herbal medicines that are sold are safe. Always buy from a source that stocks products from a reputable manufacturer or supplier, such as health food stores, supermarkets, pharmacies or from a reputable brand websites."*

Senior Consultant Expert In StriRoga& Shalya, Hyderabad .

*Many individuals assume that "all natural items are safe," and that "natural herbals are absolutely risk-free." Patients who take herbal products and other medications at the same time, as is common, sometimes fail to inform their doctors about their herbal medicine use. Patients rarely tell their herbal medicine providers about any other prescriptions they're taking, either. As a result, it will have numerous negative consequences. Patients frequently become confused when purchasing or using herbal drugs online, and as a result, they abruptly stop using them."* Consultant Expert in Ayurvedic Internal Medicine & Panchakarma, Hyderabad

*"Bewareful about purchasing herbal medicines online un regulatedherbal medicines from overseas may not be manufactured to the same quality and standard as regulated medicines. In some cases, products purchased online have been found to have dangerous levels of metals or arsenic, which can cause serious health problems. Many patients use these herbals without physician's consultation, but dosage is more important but all consumers ignore the dosage of the herbals which is worthless"*

The doctor from Sri Venkateswara Ayurvedic Hospital. Tirupati.in the study opined that*"Because herbal pharmaceuticals are derived from nature, they are not always safer than the components in over-the-counter (OTC) and prescription drugs. Several prescription drugs contain substances that have been refined from natural sources. Although herbal health supplements and products are labeled as "natural," their contents aren't always natural to the human body. They could have a significant impact on your body. They can also have negative consequences."*

A private Ayurveda physician, explained that in general every medicine, even herbal drugs are also show side effects in some patients. Any herbal doctors should not suggest such herbal drugs for patients without knowing or checking patients personally. As per charakasamihita, after checking the nadi (pulse) of the patient and based on the patient's body tatva (vata, kappa and dosha), only doctor should suggest the drug.

A private ayurveda practitioner about the baby herbal products online “*Opined that it was not good to use such soaps or hair oils and skin oils for body massage which may produce lots of side effects for babies like irritation, rashes or skin allergies*”.

*When buying and using herbal drugs from internet vendors, customers should keep in mind the following advice provided by the Ayurvedic practitioners..*

### **Precautions when choosing herbal drugs or herbal supplements**

- Herbal drugs and supplements can interact with prescription medications or have significant side effects. Do not try to diagnose yourself. Before taking herbal supplements, consult your doctor.
- Get as much information as possible about the plants you're taking by talking to your doctor and contacting herbal supplement producers.
- If you take herbal supplements, read the label carefully and only take the recommended dosage. Never take more than the recommended dosage, and find out who should not use the supplement.
- Keep an eye out for negative side effects. Reduce the dosage or stop using the herbal supplement if symptoms such as nausea, dizziness, headache, or upset stomach occur. Also, talk to your family doctor about it.
- Be aware of the firm from which you are obtaining your herbs. All herbal supplements are not made equal, so it's best to stick with a well-known brand.

### **Questions to ask doctor about herbal drugs or herbal supplements :**

- How do I know when and how to take herbal medications?
  - How do I know how much herbal medicine or supplement I should take?
  - Are there any herbal supplements that would be good to me?
  - Will any natural drugs or supplements interact with any of my current medications?
  - Are there any adverse effects from natural medications or supplements?
  - Is there anyone who should avoid taking herbal medications or supplements?
  - How can I pick the best natural medicines and supplements?
  - Can I take herbal medicines or supplements if I'm pregnant or breastfeeding?
  - Are there any natural medicines or supplements that are safe for children?

Herbal medicines are known by many names in various nations. As a result, even if the titles may sound similar, we cannot be certain that the packages contain the same contents.

If we are unsure about a medicine, see a medical specialist, go to the pharmacy, or compare the active ingredients to a medicine you're familiar with.

**CONCLUSION**

This study uncovered information about customers' online purchases of herbal drugs and supplements, as well as their interactions with doctors about these issues. Doctors' discussions on online herbal medicine use tend to be rare, and the main limiting issues identified appear to be a lack of awareness of the importance, as well as doctors' failure to ask, explain, and be approachable.

The reasons for obtaining herbal medications and supplements online were revealed as a result of this study. The majority of customers are unaware of herb-drug interactions and the need to report side effects, which is a major problem.

The truth is that the terms "safety" and "natural" are not interchangeable. As a result, It is necessary to standardize and enhance global regulatory policies on herbal medicines. Relevant regulatory agencies in various countries throughout the world must take aggressive steps to protect public health by ensuring that any herbal medicines licensed for sale online are safe and of acceptable quality.

Healthcare providers like Doctors, nurses, and pharmacists, sometimes lack expertise and understanding of how online herbal medications affect their patients' health. Many of them also have limited knowledge of these products and how they are used. Since most patients are nearly always on different sorts of prescription or non-prescription online herbal drugs, adequate training is now very important.

Self-medication is highly popular in India, and it is becoming a growing concern for health care practitioners. Health providers must devote additional time to educating patients on the subject. Improved self-medication knowledge and comprehension may lead to more reasonable use and, as a result, a reduction in emergent microbial resistance concerns.

As discussed earlier online herbal market has a few advantages to offer such as online consultation, safety information about side effects and security of the drug description, ingredients, time saving, reduced drug prices, increased availability, and widened choices of medicines or delivery at home are major factors that are influencing the consumers to choose the online herbal drugs.

This study examines how customers use herbal items obtained over the Internet and their perceptions of their safety and hazards. The study's findings highlight the critical need for consumers to be more aware of the risks of purchasing herbal items over the Internet. There is also a need to educate consumers about reputable licensed herbal pharmacy websites where they can purchase herbal products. The majority of respondents bought herbal items and supplements online, citing inexpensive prices, convenient online access, a broad selection of products, and customer privacy as the primary reasons.

Based on the report of the consumers in the survey, it was found that the information was confusing and unclear with less description so, the physicians should help the consumers to know more details about online herbal drugs.

To avoid becoming victims of false or propaganda information on herbal pharma websites, consumers will need to learn information literacy skills and critical understanding in examining the content of information on herbal pharma websites.

Consumers should be educated about internet herbal drug ads, according to proponents of online health drugs. They claim that these commercials increase market competition, lowering prices and that the educational benefits enable customers to make better decisions, so increasing public health and lowering healthcare expenditures.

Self-medication is a frightening thought, the study looked at how customers used online herbal remedies for self-medication, how safe they are, and why they used them. As a doctor in the study explained, *it would be safe if those who use it were aware of the dose, timing of consumption, and side effects of overdosing; nonetheless, a lack of understanding can result in major side effects such as skin problems, hypersensitivity, and allergy.*

Consequently in the study, doctors suggested that a holistic strategy be adopted to address this problem, which includes proper awareness and education about self-medication as well as stringent enforcement of online herbal drug laws. Thus collaborations at the global, national, and state levels, as well as among health professionals, society, and patients, are required to address the considerable threat posed by the increased ease of access to online herbal purchases

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