# An Overview of Ayurveda

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## Abstract

Ayurveda distinguishes "The oldest medical system known to man and the oldest and greatest comprehensive spiritual edification in the universe". Ayurveda is founded on the fundamental principle of equilibrium among body and the mind. It supports the patient to get to recognize his body and mind and know the profits of a close relationship with nature. There are cures in the Ayurvedic literature for age-related diseases such as memory loss, osteoporosis and wounds caused by diabetes, and so on. There is an effective drug available in modern medicine, while Ayurveda has a good literature track record, the irony is that it has a very low share (0.5%) in the global pharmaceutical market. Ayurvedic medicines must make Ayurveda available on the international market. It is available in a standardized form, which is the minimum requirement to place a product on the western market. Ayurvedic preparations should be standardized with fingerprints based on the active substance or main compounds. There are numerous possibilities where India is becoming a global leader in the traditional medicine market by exporting quality products from the Ayurvedic pharmaceutical system. This review article delivers a summary of Ayurveda - the old-style system of Indian medicine. It also clarifies the principle of Ayurvedic medicine. According to Charaka, "The science of life can never take final form, so it must be humility and tireless industry, it Indicate our efforts and attitude towards knowledge. Ayurveda is a complete arrangement of natural well-being care that invented in the ancient Vedic periods of India. Its chief prominence is on treatment of illness and protection of health. It also delivers dealing for disease. Ayurveda came from 'Science of Life,' and it discourses all features of life, including consciousness/mind, physiology, behavior, and environment. This review article will focus on the nutritional aspects of Ayurveda in relation to the overall all health.

Keywords: Ayurveda; Traditional Medicinal Systems; Ayurvedic Drugs

## Introduction

At the beginning of the First Age AD, there were only three primary systems of medicine: Ayurveda, Greek and Chinese medicine. His essential view of the relation of man and nature was relatively similar, but his description of the human body and its physiology, pathology, and medicine differed in some ways. Of the three ancient systems of medicine, Ayurveda has emerged as a remarkably holistic a roach, both in its fundamental ideas and therapeutic measures [1]. The present article attempts overview of-Ayurveda.

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**Review Article** 

Ayurvedic system of medicine in India has been in existence since the Vedic period and from the beginning of human civilization. Although Ayurveda has undergone many changes over its long history, it remains the mainstay of medical aid for a large part of the country's population. Due to urbanization and degradation in forests, the Vaidya is no longer an independent entity that collects and prepares its medicines as it once was. They now have to depend on newly formed units for collection and distribution of raw medicines and secondly for mass production of medicines in commercially run Ayurvedic medicine units. In view of the new trends in the field of Ayurvedic medicine, the Government of India considered it a ropriate to use the existing Drugs and Cosmetics Act 1940 and amend the Act to control Ayurvedic, Siddha and Unani medicines to some extent. The Avurvedic Pharmacopoeia Committee, (APC) constituted under the erstwhile Department of AYUSH (vide letter No. 5-5/CCRAS-2006/Tech/APC/Hqrs. dated 12th March, 2009) Ministry of Health and Family Welfare [2].

As a science of self-healing, Ayurveda encompasses diet and nutrition, lifestyle, exercise, rest and relaxation, meditation, breathing exercises, and medicinal herbs, along with cleansing and rejuvenation programs for healing body, mind, and spirit. Numerous adjunct therapies such as sound, color, and aromatherapy may also be employed. The purpose of this book is to acquaint you with these natural methods, so you can make the lifestyle choices and learn the self-healing modalities that are right for you in order to create, maintain, or restore health and balance.

The message of the Vedas is simple: Find our place in all areas of life, including health. Not everyone can choose to strive for immortality, but everyone suffers from some sort of illness in their life. Since each person is born with unique characteristics and specialties, each person needs individual treatment. So, the sages imparted "the wisdom of longevity" with remedies that could be tailored to anyone's needs, from Ayurveda and Yoga to Tantra and beyond. There is little room for the individual in a world made for the masses, which underscores its urgency [3]. Sushruta Samhita focuses on regular healthy living and different medical practice. There are over 100 types of instrument tools including giant, cinch, pinch, speckle, etc. Ready with this stuff. Defense and air control have been activated. There are 650 films on a variety of topics.

#### History of the Ayurveda

Rendering to our Indian mythological belief, Ayurveda is derived from the Brahma, the God of creation. Hindu legend states that Brahma wanted to alleviate the sufferings of his creation by imparting Ayurvedic knowledge to the Gods. Dhanvantari was one of the deities who brought this scientific

# Journal of Natural & Ayurvedic Medicine

knowledge to the contemporary world. Dhanvantari is wellthought-out the "Father of Ayurveda". The origins of Ayurveda generally trace back to the Atharvaveda (i.e. around 1500) which is a series of hymns dealing with practical and scientific information on various topics of benefit to humanity, such as health, disease, anatomy, philosophy, engineering and astrology [4].

The word "AYURVEDA" is a combination of two words - 1. Ayur (means life) 2. Veda (means science).

- **Ayur**: We all want to live a healthy life. Mostly and generally, we were healthy from birth but due to the weather, food, living and we got engaged to some important factors by our mother and father with some physical, mental and physical problems. Definitely we want to heal ourselves, so we try to find solutions for healthy Life. The main classical Ayurvedic books are Charaka Samhita, Sushruta Samhita, Ashtan Hridayam. We can usually tell them Greater. Ayurveda is also called the fifth Veda. What does it mean; Ayurveda is an important part of Atharvaveda.
- Veda: The meaning of Veda is very simple science. A complete resource that helps to know the disease and cure it in a proper way. According to Ayurvedic philosophy the individual is the bundle of the 'soul', the desire to express itself, the personal use of consciousness or sattva to express the senses and the mind.

The art of Ayurveda had spread only in the 6th century BC, when Buddhist monks visiting many countries like Tibet, China, Mongolia, Korea and Sri Lanka. Although not much remains of its original form, its influences can be seen in the various New Age concepts that arose from there. The innovative information base of Ayurveda is sign constructed. Ayurveda is not just a group of traditional practices. Ayurveda expects judgement and resistant of causality in every therapeutic result. Ayurveda has its foundations laid by the ancient schools of Hindu Philosophical teachings named Vaisheshika and the school of logic named as Nyaya. It is also connected to the earance framework, famous as Samkhya, and it was established in the similar historical when schools of Nyaya and Vaisheshika succeeded.

As per the fundamental basis of Ayurveda, all objects and living bodies are composed of five basic elements, called the Pancha Mahabhootas, namely: Prithvi (earth), Jal (water), Agni (fire), Vayu (air) and Akash (ether).

### Sources of Ayurvedic Literature

Atharvaveda was the oldest authentic text of Ayurveda which discussed the nature of existence, health and disease. Principles of pathogenesis and treatment. It also talks about the use of herbs to cure the tridoshas and diseases of the body

and mind. The knowledge of the Vedas was collected and systematically arranged to form the "Samhita" that became the core text of Ayurveda, and is still used by students and practitioners today. Charaka and Sushruta Sarnita are classic Ayurvedic texts, in which the Charaka Samhita (-900 BCE) deals with internal health and therapeutic methods. Sushruta Samhita (-600 BC) describes about surgical orientation and details of operations and instruments [5]. The last of the 'Big Three' of Ayurveda, Ashtangahridaya was developed by Vagbhata. These books cover all aspects of life, health, disease and healing. The Samhita portion of the 'Great Three' was considered the Golden Age of Ayurveda, refined and taught and practiced throughout India. The Madhava Nidana (-800-900 A.D.) was another well-known Ayurvedic effort in ancient literature on the diagnosis of diseases [6].

### **Principle of Ayurveda**

The principle of Ayurveda is founded on the idea of the five basic essentials and the Tridosha. Ayurveda believes that there are three elementary types of energy in the body mainly Vata, Pitta and Kapha [7]. Vata is the energy of motion. That it controls body functions related to movement, including blood flow, respiration, blinking, muscle and nerve movements, heart rate, and cytoplasmic and cellular movements. A balanced state of Vata energy will result in creativity and vitality. In an unbalanced state, Vata creates fear and anxiety. Pitta is the energy of digestion and metabolism. It regulates the body's metabolic system, including digestion, absorption, assimilation, nutrition, metabolism and temperature. Pitta also gets satisfaction in a balanced state when the mind is unbalanced; Pitta causes ulcers and generates anger. Kapha is the energy of lubrication and composition. This force controls the growth of the body. It hydrates all parts of the body, hydrates the skin, lubricates the joints and bones and protects the immune system. Showing the love and forgiveness needed for a balanced state of Kapha [8].

Balancing the doshas and their governing factors is essential for proper health, which is the fundamental tenet of Ayurveda. Everyone has a unique composition of three doshas in the body. Usually one of the doshas will be dominant, the other will be balanced and the third will be the least prominent. Vata is more dominant in a normal state and controls the other two energy principles, pitta and kapha [9]. Any imbalance in dosha will result in all sorts of diseases (vikritis) and their symptoms. Food (Aahar), medicine (Aushadha) and lifestyle (Vihara) are important factors for maintaining balance in the human body (Bhushan P, 2009). An imbalance in the central dogma of Ayurveda can be caused by external factors such as: Poor nutrition, bad habits, too much mental stress and climate change. Balance or moderation is found to maintain health in Ayurveda by practicing a modern lifestyle, healthy diet and

using herbal medicines. All herbal extracts contain various compounds that together provide better effects on the skin. An herbal extract may show antioxidant, anti-inflammatory, emollient, melanin-inhibiting, antimutagenic, anti-aging, etc. properties. Curcumin is one of the most extensively investigated phytochemicals with regard to its medicinal value. Curcumin is a yellow pigment obtained from the turmeric rhizome (Curcuma longa, Linn), and is known for its medicinal values since ancient times. Its medicinal values have been described in 'Ayurveda' [10].

According to Ayurveda, the whole universe consists of five basic elements (Panchamahabhut). The entire universe includes the physical world, the plant kingdom, and all other living things. In other words, these five elements together form the basis of all matter. There are five elements - Akash (Ether), Vayu (Vayu), Agni (Fire), Jal (Water), Prithvi (Prithvi).

The global diversity of Ayurveda has been classified in different ways by different novelists. Difference between 'Modern Ayurveda' and 'Global Ayurveda'- The author describes 'Modern Ayurveda' as the emergence in the Indian subcontinent with the professionalism and institutionalization of Ayurveda. It is characterized by "a tendency towards secularization of Ayurvedic knowledge and adaptation to biomedicine, as well as efforts to formulate a unitary theory based on principles found in classical Ayurvedic texts".

#### **Branches of Ayurvedic**

For all or majority of us, the understanding of Ayurveda is limited to herbal remedies and hot oil massage, but the science of Ayurveda has an astonishingly broad scope for looking at a person's overall health and includes everything from internal medicine. From paediatrics to geriatrics, resuscitation, surgery and even sexual health.

There are eight major disciplines in Ayurveda that are collectively known as Ashtanga Ayurveda or the Eight Branches of Ayurveda:

**Kayachikitsa internal medicine:** The word 'kaya' stands for 'agni' - digestive fire in the body. Kaya also means the body itself and thus the digestive system is said to be as important as the life of the body. It is responsible for the metabolism in the body. Inconsistencies in the 'fire' rule are the cause of many diseases. Discipline of Kaya Chikitsa is associated with the treatment of diseases such as fever, diarrhoea, cough, skin diseases, pneumonia and osteoporosis, by making Agni equal.

History of charaka samhita: The most important and authorized function of the branch of Kaya medicine, and

### the research of Ayurveda on the issue, is Charaka Samhita, presented by Charaka Rishi - the saint of the Ayurveda sage. Charaka Samhita is the body of theoretical knowledge of Ayurveda with a focus on Kaya therapy. Charaka Samhita includes a wide range of medicinal and non-surgical aspects of Ayurvedic medicine, including personal diet, hygiene, lifestyle and wellness. This article discusses the causes of disease, diagnosis, human body, mental, physical, and medical and Panchakarma (five cleansing procedures), the main points and medical science in Ayurveda.

Shalya chikitsa-surgery: The sage physician Acharya Sushruta has recorded the first surgery in one of the oldest books of Ayurveda, the Sushruta Samhita. He is known as the father of surgery in Ayurveda for his contribution in the field. In his book Ayurveda Simplified, Drs. Nisha Manikantan, Senior Physician of Ayurveda, explains, "During his newborn son's surgery in Europe, Acharya Sushruta performed rhinoplasty (surgery using skin flaps) and other procedures. Ancient Indians were pioneers in many complex surgeries such as intestinal perforation, obstructed energy, how prosthetic surgery to replace organs, cosmetic surgery of the nose and other areas, caesarean section and even cranial surgery. These practices were found to have been completed between 3000 and 5000 years ago. Sushruta is also known to have performed the first cosmetic surgery in India. Dr. A.S. Manikantan who is their surgical treatment for trichiasis can be combined with some routine ophthalmic procedures. Sushruta said that surgery came into picture when kayachikitsa failed with his treatment. It is ideal for surgery to treat wounds or tumors, lymph node rupture, bacteria, mammary glands, stone removal, rectal infections, and more.

Surgical procedures include fine tools, bandages or sutures used for special procedures, including preoperative procedures, postoperative procedures, general procedures, energy words (marmas) procedures and techniques of anesthesia same gives details of these tools are generally made of stone, wood, broad leaves.

**Bala chikitsa- pediatrics**: The foundation of Pediatrics or Kaumarabhritya to a sage by the name of Maricha Kashyapa who was one of the pioneers of the school of pediatrics in Ayurveda. His disciple Vriddha Jivaka helped to write and encode his master's experience of child care in the famous book Kashyapa Samhita.

Unlike adults, children or infants can't express their grievances. Their dosage differs from that of adults and medications should be avoided on their body. These differences require a separation of the herbs called Kumarabhritya or Bala Chikitsa in the area of Ayurvedic science. Pediatrics is a specialist in Ayurvedic science, which

## Journal of Natural & Ayurvedic Medicine

deals with the diagnosis, treatment and a roval of diets, herbs and herbs for a variety of diseases affecting children and infants, including digestive disorders, teething problems, bone health and nutritional needs. In covering the overla ing sections of gynecology and pediatrics, she also discusses the art of patient care, pregnancy, maternal psychiatry and its implications for health of the infant.

**Graha chikitsa- bhoot vidya**: Psychiatry Graha therapy is the mental field of Ayurveda that deals with diseases and disorders of the heart or diseases associated with psychosomatic roots. Psychosomatic disorders are those that have no symptoms but are inherent in mental illness. This area is concerned with their a lication as herbicides and insecticides and their ability to be effective in the air. It refers to herbs, diet, the use of special mantras, pranayama or breathing techniques, meditation techniques, and yoga therapy to heal the mind.

Urdhvanga chikitsa shalakya chikitsa (EENT): Treatment of eyes, ears, nose, throat and head Shalakya Tantra deals with the treatment of diseases and disorders of the body by the shoulders through healing, cleansing and herbal remedies. Shalakya Tantra is an EENT (otorhinolaryngology) and ophthalmology equivalent field of Ayurveda that deals with the conditions of the eyes, ears, nose, lips, brain, central nervous system, bones. head. head and throat. This field is divided into Nethrachiktsa (ophthalmology), Karnachikitsa (otology), Nasachikitsa (rhinology), Mukharogachikitsa (including dental and laryngology), and Shirorogachikitsa (craniology). Shalakya Chikitsa finds a general description of the work of the physician and sage Sushrut in his celebration and respect of Ayurveda called Sushrut Samhita [11].

Damstra chikitsa- agad tantra -toxicology: Damastra Chikitsa or Agada Tantra is a branch of toxicology in Ayurveda that deals with the treatment and protection of interfering toxins in the body. Before the Reformation came and there were many wilderness environments where people lived, were taken over by animals, birds, insects or cockroaches. Thus, drug research evolved to provide a solution to the lethal toxins caused by these events, in the form of damastra or agada system. It is associated with poisoning by animals, plants, vegetables, or by metal or chemical reactions. But more importantly, this branch of Ayurveda also considers air and water pollution as a type of poison that must be kept clean for the health and well-being of the father, as transmission is often the cause of serious transmission. Ayurveda gives as much importance to the purity of air, water, earth and space as to the quality of food, environment and life.

**Jara chikitsa- rasayana- gerentorology**: This branch of Ayurveda studies diseases and disorders related to old age as well as longevity and regeneration. It intervenes in health

prevention, advice, treatment, herbs (rasayana) to improve the quality of life and lead to a healthier, haier life. Positive and strong. Geriatrics (also known as degeneration) is associated with degenerative diseases regardless of age. This branch of Ayurveda deals with different types of rasayana such as aushadha rasayana (drug based), sahara rasayana (diet), and achar rasayana (ethical discipline). Geriatrics includes treatments to achieve longevity, improved memory, youthfulness, sharpness, positive thinking and virtues, strength, protection and growth. Works to correct rasayana dosha imbalances, rekindle the digestive fire, and improve health with diet and herbs.

The goal of Ayurveda is not only to alleviate the symptoms, but it also focuses on ameliorating the disease and Rasayana therapy or rejuvenation therapy is one way in which Ayurveda achieves the goal of prevention block supervision.

There are three branches of Rasayana therapy – Naimitika Rasayana (rehabilitation), Ajasrika Rasayana (health and wellness promotion) and Kamya Rasayana (longevity, fertility and memory improvement).

> **Naimittika rasayana:** is a discipline that examines and uses herbs, herbs and their potency to recover from pre-existing conditions or diseases.

> **Ajasrika rasayana:** is dedicated to the study of health and includes everything from diet, herbs, dairy products, exercise and lifestyle to spiritual well-being, spirit, mind and body. It outlines the advantages and disadvantages of all that nature contributes to improving human health.

**Kamya rasayana:** is a discipline that deals with the biochemistry of the mind (Kama), it is also concerned with the study of the energy, memory and intelligence of prana or life and how these can be improved with life.

According to Ayurveda, the whole life is made up of five main elements called Panchamahabhutas that generate three vital bio-energy to govern many working lives. Our bio-energy is called dosha- pitta dosha (fire and water), vata dosha (air and sky) and kapha dosha (earth and water). In a person usually one or two of them predominate and form the basis of our physical mental law called Prakriti. The aim of chemotherapy is to remove the differences in these doshas to heal and rejuvenate our body and mind.

### Vrishya chikitsa- vajikarana- aphrodisiacs

These branches include promoting men's and women's health and improving fertility. It focuses on the health and well-being of children or people with genetic disorders. It

# Journal of Natural & Ayurvedic Medicine

is a branch that deals with sexual function, virility, potency, energy, arousal, strategy, diet, diet, herbs and medical care for pregnancy, and diseases such as sexual dysfunction, infertility, premature ejaculation and erectile dysfunction.

Herbs and herbs regulated as per Vajikaran Vigyan are of high quality and value. For example, herbs called sucrala, including ashwagandha, muesli, sarakara, shatavari, have been recommended to increase sperm count; UkraRecaka is administered to improve ejaculation content which includes milk, meat, fruit pulp or amalaki; Fruits like Jatiphala are eucalyptus herbs that increase the time of intercourse; And Sucrasoca herbs like haritaki help to regulate sperm production,

According to Ayurveda, everything in the world consists of Panchamahabhutas - etheric space, Vayu (air), Prithvi or Agni (fire), Jal (water) and Prithvi (Prithvi). They are omnivores, mixed in proportion to an infinite number of species. So, all the problems are common. Although each concept has a similar purpose, only a few have been tested under specific conditions. They create a state of dynamic flow that moves the world on a regular and contradictory basis.

In a simple way, for example, a cell provides many worlds by giving it a date. Water is present in the cytoplasm or fluid in the cell membrane. Helps regulate the metabolic processes that control the. While the predominance of gases in it is air. The address provided by SAIL means ACASA.

For example, in complex multicellular diseases, such as human, it can be easily placed in the body (heart, lungs, stomach, etc.); describes air movement (importance of muscles and skills); Agni regulates the function of enzymes (intelligence, digestive system, metabolism); This site tests all body fluids (e.g., diarrhea, saliva, digestive juices); And the world in the material of the body (pack, muscle, flesh, hair, etc.). Panchamahabhuta is therefore the basis of all illness and healing in Ayurveda and has become the most important basis for doctors to complete the healing and healing of the body. and higher.

**Indian system of medicine:** It is well acknowledged that traditional medicine has always played an important role in meeting the medical needs of the world. They do so now and will continue to play an important role in the future. A group of medicine believed to be of Indian origin or a group of medicine that came to India from abroad and was incoporated into Indian culture is called Indian system of medicine [12]. Example- Acorus calamus Linn. an indigenous medicinal plant used in asthma [13]. Sandhika, an Ayurvedic medicine used in the treatment of rheumatoid arthritis, shows significant anti-inflammatory activity when tested against carrageenan-induced paw edema and cottonseed

granuloma. The possible mechanism of action may be by free radical scavenging activity [14,15].

Pharmacopoeia Commission for Indian Medicine & Homoeopathy (PCIM&H) is an autonomous organization under Ministry of AYUSH, Govt. of India with a primary mandate to develop pharmacopoeial standards for drugs/ formulations used under Ayurveda, Siddha, Unani and Homoeopathic systems of medicine. Indian system of medicine is the culmination of the Indian awareness of medicine which characterizes a healthy lifestyle with a long and exclusive cultural history. It also includes the best effects of contact with other civilizations, whether from Greece (who pioneered Unani medicine), Germany (homeopathy) or our sages (who gave us Ayurveda, Siddha and the science of voga and naturopathy). An indigenous structure is a natural form of medicine outside the mainstream of Western or allopathic medicine that is practiced by most physicians around the world nowadays. These systems are Ayurveda, Siddha, Unani, Yoga and Homeopathy [2].

## The Concept of Health in Ayurveda

In India, Ayurveda is regarded not only as a national science, but also as a holistic healing system that takes into account the physical, mental, philosophical, moral and spiritual well-being of human beings. It emphasizes on living in harmony with the universe and living in harmony with nature and science. This comprehensive and comprehensive a roach makes it a unique and unique medical system. This system emphasizes the importance of maintaining a proper lifestyle to maintain good health. This rule has been used for more than two thousand years and modern doctors have now discovered the reason. It is not surprising that the WHO's concept of modern health is very close to the concept of health defined in Ayurveda [16]. World Health Organization (WHO) has formulated international guidelines for standard clinical research [17]. A major challenge faced by traditional herbal medicinal system today is the loss of genetic biodiversity or risk of extinction Lucy H [18].

**Dietics in ayurveda:** Ayurveda places great emphasis on diet. According to Ayurvedic thought, food has a profound effect on a person's physical, temperament and mental development. Food is the basic ingredient for the body's production and distribution of vital substances called rasa. The race turns into a part of the body and su orts all kinds of life functions.

**Diagnosis and treatment:** In India, there are a number of drug regulations outlined in standard manuals along with some other standards and requirements. These monographs should be construed, wherever a licable, in accordance with the restrictions imposed by these regulations. Standardized

drugs in market will enhance safety and trust level in people, which in turn enhance the global market of ayurvedic drugs [19].

In over-all, the Drugs and Cosmetics Act, 1940; Dangerous Drugs Act 1930; Poisons Act 1919; Drugs and Drugs (Objectionable Advertisement) Act, 1954; the Narcotic Drugs and Psychotropic Substances Act 1985 and the Biodiversity Act 2002; Rules made thereunder as well as rules amended from time to time should be consulted to ensure compliance with the provisions of such rules.

The Ayurvedic medicine of India, represented by its parts and components, is a standard manual on its contents and those standards are authoritative. If These standards may be amended as deemed necessary and the Pharmaceutical Committee for Indian Medicine and Homeopathy is authorized to issue such amendments. Whenever such amendments are issued, the specific Ayurvedic Pharmacopoeia of India for the purpose shall be deemed to have been modified accordingly [2]. The global pharmaceutical market is expected to reach \$1.1 trillion in 2014, according to a report by IMS Health. The market size is expected to grow to around \$300 billion over the next five years. According to the World Health Organization (WHO), three-quarters of the world's population relies on traditional remedies (mainly herbs) for health care.

The success of Ayurvedic treatment lies in diagnosis and selection of herbal remedies. The Ayurvedic system recognizes the fundamental importance of examining the patient through direct perception. An Avurvedic practitioner should have a good knowledge of the scriptures and be able to analyze the major symptoms and relate them to the imbalance of the doshas [8]. The therapist must employ all the senses to identify the disorder. Diagnosis can be made by questioning, inspection, palpation, listening to bowel sounds and looking at the tongue, and more. Systematic questioning with the patient helps the physician to get a clear picture about the history of the disease and its environmental aspects. Even though there is no mention about Nadi Nidan in classical Ayurvedic texts, it is widely used today by physicians to identify the nature and extent of doshas [1]. If the diagnosis is seen as an imbalance in the doshas, treatment should be started immediately. Avurvedic medicine starts with simple measures such as lifestyle and dietary changes to correct dosha imbalance errors. According to Avurvedic texts, the Ayurvedic system, also known as Ashtanga Ayurveda, has eight branches: Kayachikitsa (internal medicine); surgical device (surgery); Alakya Tantra (ophthalmology and ENT); Kaumara Brahya (Pediatrics, Obstetrics and Gynaecology); advance system (toxicology); chemicals (elderly and diet); Vajikaran (sexual prediction); Bhoot Vidya (psychiatry and demonology) [12] and [20].

The condition of the disease can also be due to other reasons. For example, an external factor such as a microorganism, a change in climatic conditions, can lead to the accumulation of doshas leading to dosha balance and erosion of doshas. The concept is that faults are usually transmitted through macro and micro channels called sources. Sources are the vital medium through which the tissues of the body get their nutrition as well as the excretion of metabolic products from the tissue. If blockade (sartorodha) occurs due to accumulation of doshas, the bi-directional flow of nutrients and end products (mala) is affected. Accumulated doshas in the area react with doshas (pratikaras - in this case tissue) resulting in a condition known as dosha dushya samarchana - this affects the body's metabolism. Ama, a semi-processed intermediate product of metabolism, gets accumulated. The prodromal symptoms of the disease become manifest at this stage. Thus, disturbances in the bio-channels are considered to be the main cause of manifestation of diseased state of an organ or system.

The fact that the Vedic people were aware of many types of fevers and their pathogenetic aspects, from glandular abscesses to epilepsy, ascites, is revealed by the careful observation of the disease by the priests. But their treatment was expected on primitive lines - the magical power of amulets, the 'expulsion' of disease-causing demons through atonement and exorcism. A fire surrounded by a moat filled with hot water, 'traning' the disease demon by sprinkling water after a ceremonial offering or reciting so-called healing mantras, and invoking a deity or deities considered particularly beneficial for healing are, used for a particular disease [1].

Traditional systems of herbal medicine play an important role in the delivery of health care to large segments of the population, especially in developing countries. The Indian system of medicine is one of the well-known global traditional medicine systems.

India has the unique distinction of having six recognized systems of medicine. They are:

- Ayurveda
- Proven
- Greek
- Yoga

## Journal of Natural & Ayurvedic Medicine

- Homeopathy
- Naturopathy

Treatment includes dealing with disturbed humor by regulating diet, correcting life cycle and behavior, giving medication, and resorting to non-medical preventive treatments known as "panchakarma" (five processes) and "rasayana" (renewal) treatments involves restoring the balance of (dosha). Before starting treatment, several factors are taken into consideration, such as the condition of the tissues and end products, environment, vitality, timing, digestive and metabolic strength, physique, age, psyche, body's adaptability, food consumed type of ayurvedic drug. More than 13,000 plants have been investigated during the past 5 years. Number of medicinal plants have been shown to possess important pharmacological activities in pre-clinical testing however the generated leads have not been adequately followed up with double blind, placebo controlled clinical trials. Curcuma longa Linn, Boswellia serrata Roxb. Ex Coleb., Picrorhiza kurroa Royle ex Benth, Terminalia chebula Retz., Emblica officinalis Gaertn., Bacopa monnieri (Linn.) Pennel, Boerhavia diffusa Linn, Phyllanthus niruri Linn, Celastrus paniculatus, Ocimum sanctum Linn, Gymnema sylvestre R.Br., Momordica charantia Linn, Commiphora wighti (Arn.) Bhandari, Withania somnifera (Linn.) Dunal, Pterocarpus marsupium Roxb., Tinospora cordifolia (Willd). Miers. Ex Hook.f. & Thomson, Trichopus zeylanicum, Terminalia arjuna (Roxb.) Wight & Arn etc have great potential to develop in to drugs of global importance [14], Sharma PC, et al. [21-27], Sharma V (2017) [7]. In 1961, the Central Council of Ayurvedic Research, Government of India organized a conference of eminent Ayurvedic doctors to prepare a list of the most useful Ayurvedic plants. In this way a list of 190 medicines was prepared for one plant. This was followed by a comprehensive drug research program designed by the Ministry of Health in collaboration with the Medical Council of India and the Council of Scientific and Industrial Research. The aim of the program was to engage the country's leading scientists involved in Ayurvedic and Modern Dietetics, Pharmacology, Pharmacology and Chemistry in an effort to examine ancient claims in the context of modern scientific knowledge. The results are briefly presented [28-30], Sharma, H [9] and [30] Table 1.

Botanical name	Parts used	Therapeutic uses
Acorus calamus Linn (Araceae)	Rhizome	Nervine tonic, anti-spasmodic
Aegle marmelos (L.) Corr. (Rutaceae)	Fruit	Hypoglycemic; chemopreventive
Allium sativum Linn (Alliaceae)	Bulbs	Anti-inflammatory; anti-hyperlipidemic, fibrinolytic
Aloe barbadensis Mill., and Aloe	Gel	Skin diseases- mild sunburn, frostbite,
vera Tourn. Ex Linn. (Alliaceae)		scalds; wound healing

Andrographis paniculata (Burm.f.)	- Whole plant	Cold; flu – hepatoprotection
Wallich ex Nees (Acantahceae)		
Asparagus racemosus Willd (Alliaceae)	Roots	Adaptogen, galactogogue
<i>Bacopa monnieri</i> (L) Pennel (Scorphulariaceae)	Whole plant	Anti-oxidant; memory enhancing
Berberis aristata DC (Berberidaceae)	Bark, fruit, root, stem, wood	Anti-protozoal, hypoglycemic, anti-trachoma
Boerhavia diffusa L. (Nyctaginaceae)	Roots	Diuretic; anti-inflammatory and anti-arthritic
Boswellia serrata Roxb. (Burseraceae)	Oleo resin	Anti-rheumatic; anti-colitis and anti- inflammatory,anti-cancer.
Butea monosperma (Lam.) Taub	Bark, leaves,	Adaptogen; abortifacient, anti-oestrogenic,
(Fabaceae)	flowers, seeds and gum	anti-gout, anti-ovulatory
Calotropis gigantea (Linn) R. Br.	Flowers, whole	Anti-inflammatory, spasmolytic, asthma
(Asclepiadaceae)	plant, root, leaf	Anti-milanmatory, spasmolytic, astima
Callicarpa macrophylla Vahl. (Verbenaceae)	Leaves, roots	Uterine disorders
<i>Cassia fistula</i> Linn (Leguminosae)	Resin	Laxative, anti-pyretic, worm infestation
Celastrus paniculatus Willd (Celastraceae)	Whole plant	Brain tonic; memory enhancer; in the treatment of depression
<i>Centella asiatica</i> (Linn) Urban (Umbelliferae)	Whole plant	Tranquilizer; memory enhancer; wound healing
Chlorophytum boriavillianum Santapau & RR Fernandus (Alliaceae)	Roots	Aphrodisiac
Cissus quadrangularis L (Vitaceae)	Whole plant, root, stem and leaf	Bone fracture; inflammation
<i>Clerodendrum serratum</i> (Linn) Moon (Verbenaceae)	Root, leaf, Stem	Malaria; anti-asthmatic, anti-allergic
Commiphora mukul (Hooker Stedor) Engl. (Burseraceae)	Resin	Hypolipidemic; obesity, rheumatoid arthritis
Crateva nurvala Buch-Ham (Capparidaceae)	Stem bark, leaf	Urinary disorders including stones
Crocus sativus Linn (Iridaceae)	Stigma	Aphrodisiac, anti-stress, anti-oxidant
<i>Curculigo orchioides</i> Gaertn. (Amaryllidaceae)	Root stock	Spermatogenesis enhancer
Curcuma longa Linn (Zingiberaceae)	Rhizome	Anti-inflammatory, wound healing enhancer; chemopreventive agent; anti-oxidant, anti-cancer
Desmodium gangeticum (Linn) DC (Papillionaceae)	Root	Anti-oxidant; anti-rheumatic
Eclipta alba (Linn) Hask (Compositae)	Whole plant	Hepatoprotecive / promotes hair growth
Emblica officinalis Gaertn. (Euphorbiaceae)	Fruit	Adaptogen, anti-oxidant
<i>Eugenia jambolana</i> Lam. (Myrtaceae)	Seed, bark, leaf	Hypoglycemic, anti-inflammatory, anti-diarrhoeal, anti-pyretic.
<i>Ficus religiosa</i> Linn (Urticaeae)	Bark	Anti-ulcer (gastric ulcer); anti-inflammatory, hypoglycemic agent
<i>Gymnema sylvestre</i> R. Br. (Asclepiadaceae)	Roots and leaves	Anti-diabetic; anti-hyperglycemic

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Gloriosa superba Linn (Liliaceae)	Tuber	Spasmolytic, oxytocic; source plant for colchicine
<i>Glycyrrhiza glabra</i> Linn (Papillionaceae)	Stem	Expectorant; peptic ulcer treatment
Hedychium spicatum Buch- Ham. Ex. Smith (Zingiberaceae)	Rhizome	Soothening, Expectorant, anti-tussive Anti-asthmatic
Hippophae rhamnoides L (Elaeagnaceae)	Fruits	Extensively used in the treatment of circulatory disorders, wound healing enhancer, duodenal ulcer etc.
Holarrhena antidysenterica (Linn) Wall ex DC (Apocynaceae)	Stem bark, leaf, seed	Anti-spasmodic, anti-colitis, hypoglycemic.
Inula racemosa Hk.f (Asteraceae; Compositae)	Roots	Used in gastro intestinal disorders, diuretic, expectorant and allergic disorders etc
<i>Leptadenia reticulata</i> (Retz.) Wt. & Arn. (Asclepiadaceae)	Root, leaf, fruit	Galactogogue, vasodilator, anabolic.
Momordica charantia Linn (Cucurbitaceae)	Root, leaf, fruit, seed	Anti-diabetic
Mucuna pruriens (Linn.) DC (Fabaceae; Papilionaceae)	Seeds, root, leaf	Parkinson's disorder, Male sexual disorders.
Myristica fragrans Houtt (Myristicaceae)	Seed, aril, oil	Aphrodisiac, hypolipidemic, anti-inflammatory
Ocimum sanctum Linn (Lamiaceae)	Whole plant, root, leaf, seed	Adaptogen; anti-oxidant, hypoglycemic, immunomodulator, radio-protector
<i>Oroxylum indicum</i> (Linn) Vent. (Bignoniaceae)	Root, root bark, leaf, fruit, seed	Anti-inflammatory, Diuretic
Phyllanthus amarus Schum. And Thonn. (Euphorbiaceae)	Whole plant	Hepatoprotective
<i>Picrorhiza kurroa</i> Royle ex. Benth (Scorphulariaceae)	Tubers	Hepatoprotective; adaptogen.
Piper longum Linn (Piperaceae)	Fruit, root	Cough, asthma, fever
Piper nigrum Linn (Piperaceae)	Fruit	Cough, asthma, fever
Plumbago zeylanica Linn (Plumbaginaceae)	Root, root bark	Anti-pyretic, anti-cancer, anti-coagulant, cytotoxic.
Pterocarpus marsupium Roxb. (Fabaceae)	Bark, leaves, gum, flower	Hypoglycemic, anti-fungal.
Pueraria tuberosa (Roxb. Ex Willd). DC (Fabaceae)	Tuberous root	Anti-implantation, estrogenic, anti-inflammatory, dysmenorrhoea, DUB.
Rubia cordifolia L (Rubiaceae)	Root	Anti-inflammatory, anti-tumor, hypoglycemic etc.
Rauvolfia serpentina Benth (Apocynaceae)	Root	Hypertension; mental disorders
<i>Saraca asoca</i> (Roxb.) de Wilde (Caesalpiniaceae)	Stem bark, flower, seed	Post-menopausal syndrome and Gynecolo-gical disorders.
<i>Saussurea lappa</i> (Decne,) Sch. Bip (Asteraceae)	Roots	Analgesic; aphrodisiac; asthma
Solanum xanthocarpum Sch. And Wendl. Syn S. virginianum Linn (Solanaceae)	Whole plant	Asthma and related respiratory disorders
Swertia chirata Buch- Ham (Gentianaceae)	Whole plant	Anti-malarial; hypoglycemic; febrifuge etc
Symplocos racemosa Roxb. (Symplocaceae)	Bark	Anti-diarrhoeal
Taxus baccata Linn (Taxaceae)	Source of taxol	Used in the treatment of metastatic breast cancer
<i>Tecomella undulata</i> (Sm.) Seem. (Bignoniaceae)	Bark, seeds	Anti-bacterial, hypoglycemic, hepatoprotective

<i>Terminalia arjuna</i> (Roxb.) Wt. & Arn. (Combretaceae)	Bark	Heart diseases
<i>Terminalia chebula</i> Retz., and Terminalia bellerica Roxb. (Combretaceae)	Fruits	Laxative, anti-oxidants
<i>Terminalia arjuna</i> (Roxb.) Wt. & Arn. (Combretaceae)	Bark	Heart diseases
<i>Tinospora cordifolia</i> (Willd.) Hook.f. and Thoms., (Menispermaceae)	Stem	Adaptogen, immunomodulator
Tribulus terrestris Linn. (Zygophyllaceae)	Whole plant	Diuretic, anti-urolithiatic, cytoprotective
Vetiveria zizanioides (L.) Nash (Poaceae)	Root	Vetiver oil for cosmetics.
<i>Vitex negundo</i> Linn (Verbenaceae)	Leaves, root, bark, flowers, seed	Anti-inflammatory, anti-arthritic, immunodmodulator
Withania somnifera (Linn.) Dunal (Solanaceae)	Root	Adaptogen, anti-rheumatic etc.
Zingiber officinale Rosc (Zingiberaceae)	Rhizome	Fever, cough, asthma; anti-emetic

Table 1: Some well-known Indian medicinal plants and their uses [12].

## **Globalization of Ayurveda**

The globalization of Ayurvedic practice has accelerated in the last two decades. Ayurvedic medicines are used as food in the United States, the European Union and Japan. Many doctors around the world practice Ayurveda. Resources are available in countries such as United States, Argentina, Australia, Brazil, New Zealand, South Africa, Czech Republic, Greece, Italy, Hungary, Netherlands, Russia, United Kingdom, Israel, Japan, Nepal, Sri Lanka or imparting short and longterm training in Ayurveda [16], Subbaraya BV [1], [31].

## Conclusion

Despite India's rich traditional knowledge and heritage, its share of the international market is very negligible. Ayurveda is becoming one of the best alternatives to modern medicine. Many practitioners began to integrate modern systems and Ayurvedic systems for the benefit of both systems. Yoga, martial arts, food, medicine, Surya Namaskar (Surya Namaskar), new age medicine, fasting etc. They are part of Ayurvedic knowledge. In short, Ayurveda deals not only with diseases and health problems. It is an integrated concept of health which includes psychology, sociology, anthropology, spirituality, tradition, custom, ritual, profession, diet, family and social relations etc [32-37]. Demand for traditional medical systems is growing in the current global market. Ayurveda's Materia Medica, and other similar repositories of international recognition, represents important resources not only for the development of medicinal preparations, but also for the use of surgical and cosmetic instruments according to the needs of this generation [38-45]. To compete in the global market for traditional medicine, India needs to put more emphasis on standardizing and proving the quality of its medicines. The idea of the Golden Triangle, which comprises Ayurveda, modern medicine and science Develop new, safe and effective treatments. It would not be an exaggeration to say; India will be an herbal revolution in the global pharmaceutical market [46,47]. The challenge before India is to become a market leader in medicines and herbs and to become a global leader in herbal medicines, develop and patent its valuable products and maintain the rich heritage.

## **References**

- 1. Subbaraya BV (2001) The roots of ancient medicine: an historical outline. J Biosci 26(2): 135-144.
- 2. Ayush AG (2016) The Ayurvedic Pharmacopoeia of India. 1st (Edn.), Part-1, Pharmacopoeia Commission for Indian Medicine & Homoeopathy New Delhi, pp: 1-182.
- Svoboda RE (2014) The Hidden Secret of Ayurveda. Albuquerque, New Mexico: The Ayurvedic Press, pp: 1-71.
- 4. Valiathan MS (2009) An Ayurvedic View Of Life. Current Science, 96(9): 1186-1192.
- 5. Dev S (1999) Ancient-Modern Concordance in Ayurvedic Plants: Some Examples. Environ Health Perspect 107(10): 783-789.
- 6. Majumdar R (1971) A Concise History of Science in India. Indian National Science Academy, pp: 213-273.
- 7. Sharma V, Khan J (2017) Studies on Medicinal Plants used in Ayurveda Systems of Medicine, available in

District Poonch J & K. International Journal of Advance Research in Science and Engineering 6(09): 1391-1395.

- 8. Lad V (2003) Ayurveda: A brief Introduction and guide. Ayurvedic Institution.
- 9. Sharma H (2010) Contemporary Ayurveda, in Fundamentals of Complementary and Alternative Medicine.
- Baliga MS (2006) Mechanisms and pre-clinical efficacy of plants in preventing UV-induced skin damage: Current status and Future prospects. In: Sharma RK, Arora R, et al. (Eds), Herbal Drugs: A twenty First century Perspective.. JAYPEE Brothers New Delhi, pp: 497-521.
- 11. The Ayurvedic Pharmacopoeia of India (1989). Part-I and Volume-I. New Delhi: Ministry of Health and Family Welfare, Govt. of India. Anonymous
- Ravishankar B, Shukla VJ (2007) Indian Systems of Medicine: A Brief Profile. Afr J Tradit Complement Altern Med 4(3): 319-337.
- 13. Bose BC, Vijayavargiya R, Safi AQ, Sharma SK (1960) Some aspects of chemical and pharmacological studies of Acorus calamus Linn. J Am Pharm Assoc Am Pharm Assoc 49: 32-34.
- 14. Dahanukar SA (2000) Pharmacology of Medicinal Plants and Natural Products. Indian J Pharmacol 32(4): 81-118.
- 15. Dahanukar SA, Rege NN, Thatte U (1997) Adaptogens. Medicinal plants, their bioactivity, screening and evaluation; Proceedings of the International Workshop, CDRI, Lucknow (India) 2-5: 143-163.
- Krup PVN (2004). Ayurveda- A potential Global Medical system, 1<sup>st</sup> (Edn), Scientific Basis for Ayurvedic Therapies, pp: 1-14.
- 17. Levine RJ, Gorvitz S (2000) Biomedical Research Ethics: Updating International Guidelines. Geneva, Switzerland: World Health Organization, Council for International Organization of Medical Sciences.
- 18. Lucy H, Da Silva EJ (1999) Medicinal plants: a reemerging health aid. Electron J Biotechnol 2(2): 56-70.
- 19. Gurib FA (2005) Medicinal plants: Traditions of yesterday and drugs of tomorrow. Mol Aspects Med 27(1): 1-93.
- 20. Kumar S, Singh J, Shah NC, Ranjan V, Hasan SA (1997) Marketing Directory, Lucknow, India: Central Institute of Medicinal and Aromatic Plants, 49.
- 21. Sharma PC, Yelne MB, Dennis TJ (2000c) Data base on

Medicinal Plants used in Ayurveda. 1<sup>st</sup> (Vol.), Central Council for Research in Ayurveda and Siddha. Shallaki (*Boswellia serrata*), New Delhi PP: 404-417.

- 22. Sharma PC, Yelne MB, Dennis TJ (2000f) Data base on Medicinal Plants used in Ayurveda. 1<sup>st</sup> (Vol.), Central Council for Research in Ayurveda and Siddha. Mandooka parni (*Centella asiatica*), New Delhi PP: 264-279.
- 23. Sharma PC, Yelne MB, Dennis TJ, (2000a) Data base on Medicinal Plants used in Ayurveda. 1<sup>st</sup> (Vol.), Central Council for Research in Ayurveda and Siddha, Shallaki (*Boswellia serrata*), New Delhi PP: 404-417.
- 24. Sharma PC, Yelne MB, Dennis TJ, (2000d) Data base on Medicinal Plants used in Ayurveda. 1<sup>st</sup> (Vol.), Central Council for Research in Ayurveda and Siddha. Palasha (*Butea monosperma*), New Delhi PP: 336-347.
- 25. Sharma PC, Yelne MB, Dennis TJ, (2000b) Data base on Medicinal Plants used in Ayurveda. 1<sup>st</sup> (Vol.), Central Council for Research in Ayurveda and Siddha. Raktapunarnava (*Boerhavia diffusa*), New Delhi PP: 360-377.
- 26. Sharma PC, Yelne MB, Dennis TJ, (2000e) Data base on Medicinal Plants used in Ayurveda. 1<sup>st</sup>, Central Council for Research in Ayurveda and Siddha. Alarka (*Calotropis gigantea*), New Delhi PP: 1-10.
- 27. Sharma PC, Yelne MB, Dennis TJ (2002g) Bhunimba (*Andrographis paniculata*). Data base on Medicinal Plants used in Ayurveda. Central Council for Research in Ayurveda and Siddha, New Delhi 4: 34-60.
- 28. Satyavati GV, Gupta AK, Tandon N (1987a) Medicinal plants of India, Indian Council, Indian Council of Medical Research, New Delhi 2: 282-289.
- 29. Satyavati GV, Gupta AK, Tandon N (1987b) Pterocarpus Jacq. Medicinal Plants of India. New Delhi: Indian Council of Medical Research 2: 530-539.
- 30. Satyavati GV, Raina MK, Sharma M (1976) Medicinal Plants of India, New Delhi: Indian Council of Medical Research 1: 18-22.
- 31. Suguna L, Sukumar P, Chandrakasan G (1996). Effects of *Centella asiatica* extract on dermal wound healing in rats. Indian J Exp Biol 34(12): 1208-1211.
- 32. Gopalakrishnan DN (2008) Ayurvedic Drugs: The Chemistry and Something Beyond. Indian Institute of Scientific Heritage: Thiruvananthapuram.
- 33. Gilani AH, Rahman AU (2005) Trends in ethnopharmacology. J Ethnopharmacol 100(1-2): 43-49.

- 34. Dixit PP, Londhe JS, Ghaskadbi SK, Devasagayam TPA (2006) Anti-diabetic and related beneficial properties of Indian medicinal plants. In Herbal Drugs: A twenty First century Perspective. In: Sharma RK, Arora R (Eds), Jaypee Brothers, New Delhi, pp: 377-395.
- 35. Doshi T (1991) The study on the Medhyarasayna drugs (Vacha and Jyotishmati) with special reference to their effect on depression". M.D. (Ayu) Dissertation submitted to Gujarat Ayurved University, Jamnagar. India.
- Vasantha Kumar T (2001) Natural Remedies. Bangalore, India: Production Technology of Medicinal and Aromatic Crops 1(1): 90-91.
- 37. Lad V (2003) Ayurveda: A brief Introduction and guide. Ayurvedic Institution.
- 38. Lad V (2005) Ayurveda: the science of self-healing: a practical guide.
- Manohar R (2010) Evidence and clinical research for Ayurveda from India. European Journal of Integrative 2(4): 170-171.
- 40. Prasad LV (2002) Indian System of Medicine and Homoeopathy Traditional Medicine in Asia. In: Ranjit Roy C, Muchatar RU, et al. (Eds). New Delhi: WHO-Regional Office for South East Asia, pp: 283-286.
- 41. Korać RR, Khambholja KM (2011) Potential of herbs in

skin protection from ultraviolet radiation. Pharmacogn Rev 5(10): 164-173.

- Rastogi RP, Dhawan BN (1982) Research on Medicinal plants at the CDRI (Central Drug Research Institute) Lucknow. Indian J Med Res 76: 27-45.
- 43. Singh HK, Dhawan BN (1997) Neuropsychopharmacological effects of Ayurvedic nootropic *Bacopa monniera* Linn. (Brahmi). Indian J Pharmacol 29(5): 359-365.
- 44. Sivarajan VV, Balachandran I (1999) Ayurvedic Drugs and their Plant Sources. New Delhi: Oxford and IBH Publishing Co, Pvt, Ltd; Bharangi, 87.
- 45. Suman S (1995) Identification of Priyangu through Pharmaco-therapeuticstudies with special reference to its Sonitas thap an activity, MD (Ayu) Dissertation submitted to Gujarat Ayurved University, Jamnagar. India.
- Thatte UM, Rao SG, Dahanukar SA (1994). Tinospora cordifolia induces colony stimulating activity in serum. J Postgrad Med 40(4): 202-203.
- 47. Vyas DS, Sharma VN, Naqvi SAH, Ahmad S, Khanna (1979) Preliminary study on anti-diabetic properties of Aegle marmelos and Enicostemma littorale. J Res Ind Med Yoga & Homoeop 14(3): 63-66.

