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SCIENCE AND TRADITIONAL MEDICINE W.S.R. TO *TRISUTRA*
AYURVEDA: REVIEW ARTICLE

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ABSTRACT

Introduction: The Science involves knowledge which follows some fundamental laws. There are many types of it among them physical science, the earth sciences, biological sciences etc. *Ayurveda* is life science which deals with body, mind and social wellbeing.

Aims and Objectives: The aim of the present study is to understand and explore the significance of Science and Technology in Traditional Medicine with special reference to *Trisutra Ayurveda*. They are *Hetu*, *Linga* and *Aushadha*. **Materials and Methods:** This is a review article based on explanation and interpretation of references collected from the classic Ayurvedic texts, various research articles and websites. **Discussion:** Applying science in traditional medicine we can achieve the highest goal of the health care system by pinpoint diagnosis of many diseases, proper treatment protocols and therapies, use of advance instruments etc. for *Hetu* (causative factor) we can use microscopes, to understand *Linga* (sign and symptoms of a disease) we can take advantage of *Nadi Yantra*, Tongue Device and for *Aushadha* (*Ayurvedic Medicines*) we can make changes in the tablets form, shelf life, using science technology we can develop advanced panchakarma instruments ex. Automatic *shirodhara yantra*. **Conclusion:** Hence Science with traditional medicine w.s.r. to *Ayurveda* together play an important role to keep mankind not only disease free but it adds a healthy active lifestyle.

Key Words: Science, Traditional Medicine, *Ayurveda*, *Hetu*, *Linga*, *Aushadha*

INTRODUCTION: Science is such a double-edged sword that if used properly, it will create, but if it is used due to some misconception, then sure to be destroyed. In the present article, we will understand the usefulness of science and our traditional medicine. With the help of science, we can understand more about our traditional medicine and we will also know what science is hidden inside our traditional medicines, which is the definite need of the hour. Today, when the crisis situation that has arisen around the world, we try to overcome it to some extent through our traditional medicine.

AIM AND OBJECTIVE: The aim of the present study is to understand and explore

the significance of *Science and Technology in Traditional Medicine* with special reference to *Trisutra Ayurveda*. By adapting scientific approach, we can find out causative agent for any disease accurately, we recognize pinpoint sign and symptoms of particular disease with the help of various medical gadgets, and accordingly we can prescribe the medicine to the patient with various forms like tablets, syrups, Capsule etc.

MATERIALS AND METHODS:

This is a review article based on explanation and interpretation of references collected from the classic *Ayurvedic* texts including *Charaka Samhita*, *Sushruta Samhita*, *Ashtang*

Hridaya and *Ashtang Sangraha* and other standard textbooks along with research articles and various websites on Science, Traditional Medicines, *Trisutra Ayurveda* that is *Hetu* (causes or etiology), *Linga* (Sign and symptoms), and *Aushadha* (Ayurvedic Medicine or therapies).

Review of Literature: Science and Traditional Medicine Science:

When we talk about science, first of all we will understand the definition of science by World Health Organization.

“Science is defined as any system of knowledge that is concerned with the physical world and its phenomena and that entails unbiased observations and systematic experimentation.”¹

Now we will discuss about some types of science here, it is divided in many types as,

1. The physical sciences study the inorganic world and comprise the fields of astronomy, physics, chemistry.
2. The Earth sciences.
3. The biological sciences such as biology and medicine study the organic world of life and its processes.
4. The social sciences like anthropology study the social and cultural aspects of human behaviour.

Traditional Medicine: The definition of traditional medicine by the ‘World Health Organization’ is defined as “the sum total of the knowledge, skills, Practices which is based on the theories, beliefs, and experiences² to cure of body as well as and mind.”

India is well known for its six traditional medicinal systems that is *Ayurveda*, *Siddha*, *Unani*, *Yoga*, *Naturopathy*, *Homoeopathy*.³ India is consecrated with an ancient heritage of traditional Indian medicine and *Ayurveda* is the most popular traditional systems among all.

Health: According to WHO health is defined as “Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.”⁴ *Ayurveda* consider health as equality of body, mind, and spirit. According to *Acharya Sushruta* health of the person is mentioned as, “The person is called as healthy (*swastha*), if he has balanced or equilibrium condition of *dosha* (bio-energies), *dhatu* (body tissues), *mala* (waste products), *agni* (digestive fire) and happy and balanced state of soul, sense organs and mind.”⁵

Illness: An unwell feeling of body and mind can be consider as Illness, according to *Ayurveda*, the root cause of any disease is always the imbalance of *Tridoshas* (body humours), which further manifests as imbalance in other body components inevitably leading to disease.⁶

The basic aim of any healthcare in the world is to restore those who are ill to health. Health and illness have always been a prime concern of human beings. In India, two parallel medical systems (i.e., Modern and Traditional) exist side by side. Modern medicine is evidence-based and traditional medicine which is present in our culture with evidence.

Ayurveda: The word *Ayurveda* is derived from two Sanskrit words, ‘*Ayu*’ which means life and ‘*Veda*’ which means science or knowledge. Hence the meaning of the word *Ayurveda* is the science of life.⁷ *Ayurveda* takes into consideration physical, psychological, philosophical, ethical, and spiritual wellbeing of people.

Scientific Interpretation of Trisutra: *Ayurveda* has three main components of treatment in order to treat various patients or diseases. The three parts of *Ayurveda* are collectively known as *Trisutra*. *Hetu* (causes or etiology), *Linga* (Sign and

symptoms), *Aushadh* (Ayurvedic Medicine or therapies).⁸

Now we will discuss in details about *Trisutras* which are present in *Samhitas*,

1. *Hetu* – Identification and Isolation of causative factors of a disease. Generally, *Hetu* can be categorized by two headings as a 1. *Bahya Hetu*: Various unwholesome diets, ill effects of seasons etc 2. *Abhyantara Hetu*: Internal factors of the disease such as *Dosha Dushya* involved, Microorganism (*Sukshama krimi*) etc.

2. *Linga* – knowing a disease in its entirety by identifying its signs and symptoms (diagnosis). *Ayurveda* has eight ways to diagnose illness: *Nadi* (pulse), *Mootra* (urine), *Mala* (stool), *Jihva* (tongue), *Shabda* (speech), *Sparsha* (touch), *Druk* (vision), and *Aakruti* (appearance)⁹.

3. *Aushadha* – treating disease comprehensively after properly diagnosing it i.e., giving *Ayurvedic* medicine or therapies. There are many treatment protocols mentioned in *Ayurvedic Samhitas*, we can choose or select particular treatment plan according to the *Prakriti* and *Dosha Lakshanas* present in the persons, some of the common treatment protocols is as below:

Nidana Parivarjana (Removal of Causes)¹⁰, *Pathya Sevana* (Eating substances which help body and mind in curing of disease)¹¹, *Santarpana* (overnutrition), or *Apatarpana* (undernutrition)¹², *Shamana* (Palliative treatments) or *Shodhana* (Detoxifying / Purificatory procedures), *Daiva Vyapashraya* (Mystic & Spiritual healing), *Yukti Vyapashraya* (Intelligent use of drugs)¹³, *Rasayana* (rejuvenation) and *Vajikarana* (Sexual Rejuvenation Therapy)¹⁴ and *Satvavajaya Chikitsa* (Ayurvedic psychotherapy)¹⁵, *Antah Parimarjana* (Internal cleanse or purify or

heal), *Bahi Parimarjana* (outside cleanse or purify or heal),¹⁶ and *Shashtra Pranidhana* (surgical treatments) etc.

Science in Ayurveda: After expression of the *Trisutra* of Ayurveda now we will throw some light on what are the scientific things present in *Ayurvedic* text which is the eyeopener of today's world. It is found that many of the *Ayurvedic* drugs, formulations, therapies have evidence-based results. When we talk about drug how can we forgot the importance of turmeric¹⁷, its medicinal properties, and health benefits. *Amla* is such drug which is the best source of vitamin C and is useful in improve Immunity is proven. *Ayurvedic* therapies like *Shirodhara*¹⁸ has significance outcome with Neurological benefits, Stress relieving effects, another most important example is *Jaluka*¹⁹ - the leech therapy, useful in Varicose veins provide effective relief to patients, Preparation and use of *Kshara Sutra*²⁰: Medicated thread tying technique for treatment of anal fistula has been accepted by surgeons.

DISCUSSION: Utilization of correct modern scientific techniques can give us better *Ayurvedic* drug preparation and form, using technology we can improve *Panchakarma* therapy instruments for beneficial of mankind. We can achieve our highest health goals with scientific approach in *Hetu, Linga and Aushadha*.

To know the *Hetu* of various diseases we can use the Microscope for Microbiology and Parasitology to identify different types of bacteria and parasites. For Unkind seasons which can affect health on great extent we take consideration of weather forecasting and according to that make our lifestyle.

To understand exact sign and symptoms of a disease that is *Linga*, we

can use following instruments or procedures which are equipped with the help of science and technology for example for *Ayurvedic Pulse* diagnosis we can use *Nadi Yantra*²¹, For Urine examinations we can do its Physical as well as chemical analysis, for *Jivha* examinations we can use tongue device which can give us exact color, texture and buds information and so many instruments and devices can be build up to do the diagnosis.

Aushadha which is the third pillar of *Trisutra Ayurveda* can be divided in to two basic types i.e. *Shamana* (Drug treatment) and *Shodhana* (*Panchakarma Treatment*). *Ayurvedic* medicines can be convert in advanced form so as it becomes more feasible to the patient. Using modern scientific approach *Vati* (Tablets) should be well coated, its shelf life can be increased with specific organic agents. Specific *Ayurvedic* therapies like *Panchakarma* we can use *Auto Electric Shirodhara Yantra*²², *Calibrated Basti Yantra for Basti* (Medicated Enema), Various *Local Basti Yantras*.

CONCLUSION: The main aim of Science and Technology is to make things simple and easy to practice. In healthcare system symphony of Science and Traditional Medicine can progresses the overall standards and quality of life, as well as extension of life. To meet *Ayurveda's* goal of health, that is curative as well as preventive for illness can be achieved with scientific modification in *Trisutra Ayurveda*. It helps in pinpoint the diagnosis and treatment of diseases. Personalized treatment protocols can be introduced and assess with the help of technology. We can manage side effects of some modern medicines which are used for long time in chronic disease like

Rheumatoid Arthritis, Chronic Skin Diseases, Cancer etc. It educates researchers, doctors, scientists, and even laypersons on how to live a healthy active life.

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