International Journal of Ayurveda and Herbal Research, 2024,
Vol. 02, Iss. 03, S. No. 035, pp. 6-11
ISSN (Online): 2584-0002

Information Technology in Trisutra Ayurveda

Midhila K. J.[1], Sarita Mohanta[2], Bhagya Ranjan Dash[3]

*[1]PG Scholar, First Year, P.G. Department of Roga Nidana Evam Vikriti Vigyan, GAC & H, Balangir, Odisha, India

[2]Prof. & Head, P.G. Department of Roga Nidana Evam Vikriti Vigyan, GAC & H, Balangir, Odisha, India

[3]Lecturer, P.G. Department of Roga Nidana Evam Vikriti Vigyan, GAC & H, Balangir, Odisha, India

[1]midhilaj91@gmail.com

Abstract

The chief aim of Ayurveda is to attain Dhātusāmya. The concept of Trisūtra i.e. Hetu, Linga and Auṣadha has been specified for the fulfillment of the aim. As the technology advances, every branch of science getting reoriented including health sectors. As the world moves in the trajectory of Globalization, if we will only move manually then a lot of crises and challenges will be faced in future for the progress of Ayurveda globally. Since Ayurveda is currently practiced in a traditional manner, it is imperative that modern technology be used. The incorporation of digital technologies in the field of Ayurveda can automate tasks & will help for finer and precise understanding of human beings and diseases. Developing tools connecting to AI for assessing the Lakṣanās of the patient, predicting the diagnosis and outlining the customized treatment will pave the way to quality and accuracy in clinical practice as well. Material and Methods: The present study aims to explore the aspects of IT in Trisūtra Ayurveda. The information collected from Charaka Samhita, various research articles & Internet. Discussion and Conclusion: In order to address the growing needs of the global cyber community and integrate information technology into the realm of diagnostic, prognostic, and therapeutic processes, a restructuring of Ayurveda is necessary.

Keywords

Information technology, trisūtra ayurveda, digital knowledge

*Corresponding Author	How to Cite this Article	To browse
Dr. Midhila KJ, PG Scholar, P.G. Department of Roga Nidana Evam Vikriti Vigyan, GAC & H, Balangir, Odisha, India.	Midhila KJ, Mohanta S, Dash BR. Information Technology in Trisutra Ayurveda. IJAHR. 2024; 2(3): 6-11. DOI: https://doi.org/10.54060/a2zjournals.ijahr.35	

Received	Accepted	Online First	Published
2024-03-28	2024-06-17	2024-07-25	2024-07-25

Funding	Ethical Approval
Nil	Nil

1. Introduction

Since the dawn of human civilization, India has been the birthplace of *Ayurveda*, the science of life. It presents itself in a special style that mostly adheres to the scripts, such as Bruhatrayī and Laghutrayī. It is recognized around the world as the most user-friendly and environmentally friendly medical system due to its comprehensive approach. However, there has been a noticeable preference for Ayurveda among people globally due to the changing health demands of the 20th century and evolving notions of health and sickness. This tendency is anticipated to continue as information technology and artificial intelligence become more popular.

Covid-19 pandemic has been the drive for technical innovation in healthcare & promoting new and better technologies to tackle any healthcare challenges of this magnitude, as we already witnessed how much the technology helped health sectors for delivering the health services.

But Ayurveda establishment has failed to keep pace with the scientific advances of the times. So, for enhancing the delivery of healthcare services through Ayurveda worldwide, it has to be integrated with technologies available. By implementing the technology in Trisūtra [1] Ayurveda i.e. Hetu, Linga and Auṣadha Ayurveda can increase the practical usability and appraise the evidence based Ayurvedic theories.

2. Materials and Methods

This topic awakens the opportunities that can be developed in the practical aspects of Ayurveda especially in Trisūtra Ayurveda. Therefore, understanding Trisūtra, information technology, artificial intelligence, and networking is essential for the establishment of ideas. To achieve this goal, in-depth research on many aspects of Ayurveda, together with foundational and advanced understanding of Information Technology, are gathered.

Technical advancement in the field of Ayurveda helps to achieve the goal of Ayurveda effortlessly, and it also helps to improve the interaction between Ayurvedic and Allopathic medicines. There are some technological initiatives or software developed and used by the Ayurveda practitioners, in the field of Ayurveda. The following are the major initiatives.

2.1. Digital Initiatives in the field of Ayurveda [2]

Body Tune (Computerized Ayurvedic Medicare-CAM)

Gujarat Ayurveda University in 1983

PRAKES

In 1987 via the Center for Informatics Research Advancement, Kerala

PRAKRITI (Determination and Health Guidance by Computer)

Chaitanya Consultancy, Pune in 1989

PILEX

Gujarat Ayurveda University, located in Jamnagar. Gujarat in the year 1990

MADHAVA (Ayurvedic Diagnostic System)

Center for Advanced Computing Development, Pune, 1991

RASEX

1992 saw the opening of Government Yoga College, Trivandrum, CIRA, and ER & DC.

2.2. Ayush Initiatives [3]

2.2.1. Health Information System Initiatives

A-HMIS [4] (AYUSH hospital management information system) (portal)
The AYUSH Electronic Health Records (EHR) is the goal.

NAMASTE [5] (National AYUSH Electronic Portal for Standardized Terminologies and Morbidity)

Aim: An extensive web portal for AYUSH terminologies

AYUSH Suraksha [6] (portal)

Aim: Pharmacovigilance portal for ASU drugs

e-Aushadhi (portal)

Aim: AYUSH established a comprehensive supply chain management system.

e-Charak [7] (portal and mobile app)

Aim: an online marketplace for raw goods, fragrant herbs, etc.

Triskandha Kosha Project

Aim: to build an electronic database that would provide quick access to information in a convenient format.

2.3. Research Databases/Library Initiatives

TKDL [8] (Traditional Knowledge Digital Library)

Aim: Preventing bio piracy and preserving traditional knowledge in digital format

AYUSH research portal [9]

Aim: A well comprehensive database for AYUSH research articles.

DHARA

Aim: Catering online indexing services for Ayurveda articles.

RMIS [10] (Research Management Information system)

Aim: Archive of dissertations and theses from AYUSH postgraduate students

e-Granthasamuccaya

Aim: Electronic platform to access all Ayurveda classical books

AYUSH Sanjivani [11]

Aim: Measures adopted for enhancing immunity for COVID-19

YOGA LOCATOR

Aim: A site that provides public access to search for yoga centers, events, and teachers.

3. Results and Discussion

As the time passes all the sectors will be under covered by digitalization, especially health sectors. For that purpose, multidisciplinary concepts that include the intersection between technology and Ayurveda without losing its anchor in purity are needed to fast track globalization. The IT sector is utilizing a variety of strategies to provide improved healthcare, including wearable medical equipment, telehealth, virtual reality, and mobile technology. The concepts that can be used in the future are as follows.

3.1. Computer Based Ayurveda Practices

Information technology has the ability to assist medical professionals in carrying out the intricate information management duties involved in patient care. Few interactive Ayurveda software programs are currently available for Ayurveda practitioners to use for diagnosis and treatment. It will simplify and support high-quality practice.

3.2. Disease Prediction Softwares

Predicting the chance of a disease to occur in human body using a database of all collected Hētu that are general and specific to diseases. That will aid the Swasta to check in the Shatkriyakala before developing into full-fledged disease by providing customized Pathya Apathya checklist.

3.3. Ayur Smart Watches

Specially designed Smart watches that can assess the Nādi and its fluctuation will helps in diagnosis and prognosis.

3.4. Tools for Diagnosis

Ayurvedic diagnosis is achieved mainly by assessing the qualitative data. Developing quantitative tools for its assessment will help in more accurate diagnosis and world wide acceptance.

3.4.1. Āma Assessment Tool

There are so many concepts regarding Āma in different Ayurvedic classics, still there is no proper probable diagnostic tool for general assessment of Āma. By understanding the level of presence of Āma in the body, it is easier to assess the degree of vitiation of Doṣa & stage of pathogenesis of a disease in the body. By tackling Āma at the early stage, we can arrest the disease progression. Since understanding the etio-pathogenesis and managing Āma is central to Ayurvedic diagnostics and treatment strategies, developing a probable Āma Diagnostic tool will be useful in quality clinical practice.

3.4.2. Prakriti Assessment Tool

Development of a practical, valid, and handy tool to make a Prakriti diagnosis mainly aiming towards personalized management of diseases and evidence-based decision making in Ayurveda.

3.4.3. Sāra Assessment Tool

According to the Sara evaluation, the seven Dhātu attributes and the psyche are examined. This technique allows us to evaluate the anatomical and functional characteristics of the particular organs or bodily components that compose the Dhātu. In order to organize the therapy, the eight components of Sara are analyzed and ranked according to their respective qualities: Pravara (Excellent or outstanding), Madhyama (Medium), and Avara (Inferior).

3.4.4. Satwa Assessment Tool

Satva assessment is a Manobala or mental stamina examination. By using this tool we can assess the strength and endurance of mind.

3.5. Image Searching Apps

Developing Image searching apps for searching the data regarding an unknown plant, raw drug details etc. will be useful for the upcoming generation since the flora and fauna is deteriorating due to the change in the ecosystem.

3.6. QR Codes for Medicinal Plants

Attaching the QR codes for scanning to the medicinal plants in Herbal Gardens of Schools, Colleges, Public areas etc. is helpful for students and public to aware of plants and its qualities and uses.

3.7. Automation in Ayurvedic Pharmaceutics

Industrial robots can help lower overall manufacturing costs by 20% to 60%. Using automation and robotics in pharmaceutics increases productivity overall and decreases lead times.

3.8. Online Delivery App

Including the community of farmers so can directly purchase the raw materials, plantings without any intermediate sellers. Helps in the delivery of all kind of Formulations from nearby manufactures and shops.

3.9. Robotic Panchakarma Procedures

Applying Robotic techniques in Panchakarma procedures for example: Automated Abhyanga machine, Automated Kizhi machine, oscillating Ṣirodhāra machine will reduce the use of manpower. It will function in accordance with muscle characteristics, peripheral circulation, and physio-psychological measurements in various groups and health situations, as well as preprogrammed instructions and unique design procedures.

3.10. Ayur Genome

It integrates Sutra in Ayurveda with Modern Genetic Research.

3.11. Digital Library

Including ancient scripts & endangered plant species which can be accessed from all over the world.

3.12. Digital Calendar

According to Rtu for Swasta for planning Śodhana & Diet.

3.13. Mixed Reality Headsets

Developing Augments Reality headsets in the education fields, consulting etc.

3.14. Ayur Home Pods

It will give customized commands regarding Āhāra, Vihāra acco.to Dinacarya & Ṛtucharya to each family members.

3.15. Ayur Chabot

It facilitates communication between patients and professionals, furnishes data on symptoms of various diseases, evaluates general health, and monitors the advancement of patients. It assists in doubt clarification related to Ayurveda.

3.16. Search Engines Designed only for Ayurveda

Indexing all information about Ayurveda.

4. Conclusion

Global health will be shaped by digital technology in the future. It is discovered that a few cutting-edge information technology approaches are already in use. However, they still require fresh concepts to be installed along with larger-scale implementation and upgrades. Simultaneously, certain groups within the Ayurveda community lack awareness and some opt to stick to the traditional path and reject the use of IT in Ayurveda. Aside from helping to prevent disease and enhance quality of life, the use of ICT for digital health interventions also helps to reform the established medical systems and has the potential to enhance research quality, education, and accessibility of AYUSH healthcare services.

References

1. Sharma RK, Dash B. Caraka Samhita. Vol 2. 2014 Reprint of the Chowkhamba Sanskrit Series, Varanasi Edition. Sloka 24 in Chapter 1. Page 21.
2. Nair GH. The Digital Age's Impact of Information Technology on Ayurveda. 2018.
3. AYUSH Digital Initiatives: Using digital technologies to improve India's conventional healthcare systems. 2021.
4. Muthappan S, Elumalai R, Shanmugasundaram N, Johnraja N, Kandhasamy A, Ambigadoss P, Kathiravan D, Ponnaiah M. Chennai, Tamil Nadu, India: ICMR-National Institute of Epidemiology (ICMR-NIE), Siddha Central Research Institute, Central Council for Research in Siddha, Siddha Medical College, Government.
5. Rastogi S. Building bridges between Ayurveda and modern science. Int J Ayurveda Res 2010; 1:41-6.
6. Available from: https://www.ayushsuraksha.com/category/ayush/ [Last accessed on 2023 Oct 31].
7. Jadhav HR. Charaka Samhita: Handbook on Ayurveda. Vol. 1-2. Varanasi: Chaukhambha Orientalia; 2004.
8. Yogesh MJ, Karthikeyan J. Health informatics: Engaging modern healthcare units: A Brief overview. Front Public Health 2022; 10:854688.
9. Saketh Ram T. Ayush grid: Digital health platform. Int J Ayurveda Res 2023; 4:61-9.
10. Patwardhan K. The history of the discovery of blood circulation: Unrecognized contributions of Ayurveda masters. Adv Physiol Educ 2012; 36:77-82.
11. Roopashree S, Anitha J. Enrich Ayurveda knowledge using machine learning techniques. Indian J Tradit Knowledge 2020; 19:813-20.