# Technology a New face of Ayurveda

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## Abstract

Ayurveda the most powerful ancient science of health and life has been practicing since decays. Ayurveda practitioners and students are facing many challenges like globalization, lifestyle issues, ethical trends, patent , intellectual property rights and many more .this paper focuses on new trends in Ayurveda teaching ,practice ,diagnosis and need of technology in Ayurveda.

**Aim** – to study role of technology in Ayurveda.

**Material & Methods** – tools used for this study are, classics internet source, self-experience observations, feedback from Ayurveda practitioner &amp; students.

**Discussion** – in this modern global world digitalization is in every field. It is need of time to use technology in progression, Ayurveda also using technology for academics as well as treatment purposes. Technology makes accuracy and uniformity in the subjects.

**Keyword**s – Technology, ICT, Ayurveda, learning, Teaching

## Introduction

Everyone is now ready and excited to live with new change in technology. People have accepted the change through innovations and technology.

Health information technology has tremendous opportunities in transforming, improving teaching, demonstrations, diagnosis, reduction in human errors, improvement in

practice efficiency .The ancient method of learning Ayurveda was "Gurukul" , students approach their guru and the knowledge dissemination in the means of mouth to mouth learning ( direct ). The modern medical sciences have developed their own uniform methodology with specific tools likeICD(international classification of diseases ) , SNOMED ( Systematized nomenclature of medicine clinical terms) EHR , bioinformatics etc. these tool helps for data collection ,analysis storage, privacy ,security .In Ayurved every university, institute has its own code of conduct, but AYUSH ( Ayurved yoga siddha &amp; Unani ) CCRAS( Central Council of Research in Ayurved Science),NCISM ( National Commission for Indian System of Medicine). Unique common scenario for research, treatment, academic is established now but needs more efforts for uniformity in this area . this can be achieved by using technology. Acharya Sushrut has also quoted about studying an adapting other sciences techniques to enrich our science. Health information technology have numerous scope for improving patient care, safety, improving clinical outcomes, practice efficiencies,

reducing human errors Indeed, Ayurveda is needed to restructure in the global context to meet the rising demands of a cyber-society with the application of information and communication technology which not only help to increase the reach but also will make Ayurveda truly a way of life globally. The Electronic Health Records or any online information management system can be seen as an important tool in gathering complete data of the patient during routine, follow-up, and emergency care. It also demands the need of these technologies in Ayurveda to improve the practices of documentation, dissemination and availability of patient data to the practitioners as well as to reach out to the maximum.Information technology in medical education and health care is a broad concept that encompasses procedures, tools, and techniques that can be used to improve health-care delivery and can facilitate health education.

This concept includes complex technological models, software packages, and hardware equipment and is supported by innovative technologies. Schwartz predicted that

by 2000, the computer-aided diagnosis will have an instrumental role. The use of technology in traditional systems particularly in Ayurveda will be beneficial in multiple directions. This is not only for the patient perspective but also for the healthcare professional. Technology will facilitate delivery of Ayurvedic healthcare services, standardization, drug control etc.

**Scope of technology – various modules**

**1. Technology in Hospitals –**

a. HIS (hospital information system, HMIS(Health management information system) - useful for big hospitals , chain hospitals. It helps for billing, payment details.

b. EMR (electronic Medical record, HER (Electronic health record) – this helps Patients for pre appointment, easy accessibility. for hospital easy maintain health Records, easy access which help to raise the standard and improves hospital status.

c. Computer based Ayurveda practice – many systems, applications are developed forclinical use.

I - Body Tune, developed in 1983 is an interactive Computerized Ayurvedic Medicare software concept contributing to Ayurveda in three basic

interrelate dways. Detection of physical conditions, data interpretation, and diagnosis are main features of CAM. dosha assessment, rasa Guna relation, climate, weight &amp; measures, calculator.

II – prakriti – determination and health guidance by computer system developed by Chaitnya consultancy, Pune in 1989. It gives prakriti, diet , health advice.

III– Prakes – for prakriti assessment by CIRA – (centre for informatics research advancement) Kerala in 1987

IV. PILEX – for assessment of piles, diagnosis, prognosis and treatment developed by Gujarat Ayurveda University, Jamnagar in 1990.

V. RASEX – this system was developed by Government Ayurveda college, Trivandrum, CIRA and ER &amp; DC Trivandrum in 1992. In this system correlation between pharmacological and therapeutical properties has been made.

**2. Technology in Academics –**

I. Teaching methodology – Microsoft Power point, Microsoft Excel, Video conferencing, Microsoft Word, You Tube are the best examples of using technology to improve teaching. All these methods are very popular to for

knowledge dissemination, improve skills.

II. Online platforms – Now a day's various online platforms are used for knowledge sharing like ZOOM, WEBEX, GOOGLE MEET, GO TO MEET, TEACH MEANT etc. these medium are become very popular after pandemic in 2020. People in remote can communicate with world very easily.

III. Tools for teaching training – computer, laptop, Projector, audio visual aids, biometrics, E-library, E-sources become great resources for students, teachers and institutions.

IV. MOOCS (Massive online open courses) like LinkedIn , Coursera , Swayam ,NIOS adds the skill and knowledge of students .

V. Android applications – Many applications for students and clinicians are available on Google Play Store which are popular among Ayurveda Fraternity and layman too. Some of are Ayurveda Prakriti Calculator, Sholakwali, Dhatusar etc.

VI. Telecommunication &amp; consultation – become popular and useful during pandemics.

VII. Robots &amp; Bluetooth Technology – are helpful for study purposes.

VIII. High Throughput Screening (HTS) – used for screening plants for new lead compounds from herbs.

IX. Geotagging technology – it's very good which indicates actual place and date on photo. Government is using this for various purpose (NAAC Accreditation) Geo-tagging technology will also be helpful for the conservation of Medicinal plants.

X. Ayushman Bharat Health Account (ABHA) – digital health record maintain initiation for Indian population. One can opt- into to create a digitally secure ABHA, it allows users to access and share health data.

XI. Data Portal - NAMSTE Portal – AYUSH Research Portal are accepted by Ayurveda fraternity.

XII. Conferences – symposium, seminar, workshops, Continuous medical Education (CME), R.O.T.P. (regular officer training plan ) are great contributors for updating knowledge ,teaching and training new technology.

XIII. E -Library – LIBSYS -E-Granthalaya are good sources for teaching material.

XIV. Nadi Tarangini (by Atray Innovations, Pune) – for Nadi Pariksha

XV. E Aushadhi – Complete supply chain system for Ayush.

XVI. Triskandh Kosh – application for diagnosis and treatment.

XVII. Educational Applications – more than 50 applications are available like Google classroom , quiz let , kahot ,Class Dojo , Near pod , Teacher kit , Brain POP , Khan Academy are few of them .

XVIII. Online media – Many Online media / platforms like Diksha E learning, Indian Vaidya, Nirog Street, Ayush Darpan Digital are continuously arranging health awareness sessions for students and practitioners.

3. **Technology for researchers** – Researchers can use various kinds of software's, applications for research purposes. Some of popular are SPSS, Pub Med, Scopus, Cochrane, Google: Statistical software's used for data collection, interpretation and to assemble information. Computer tools are also effective like Microsoft Word, Excel, and Power Point. Google sheet, Google Drive, Google form – questionnaires are useful for market survey or Health survey.

4. **Technology for institution** – online transaction, Biometrics ,Attendance System  Office software's , Patient software's , E governance , E-Office are beneficial for institutions.

**5. Other Miscellaneous**

i. Technology can be used for integration with health domain.

ii. Digital India, SMART India

iii. Interdisciplinary Research

iv. Case studies

v. Interaction between users, health informatics

**Limitations –**

Our review has limitations of depth and uses as it is based only on available sources, information in public domain.

**Conclusion** – The author has tried to summarise uses of technology in Ayurveda. It is observed that many Ayurveda Fraternity are using information technology. Ayurveda is the most suitable or preferable system of medicine where information technology can be applied.

There is need to work more for safe &amp; easy use of technology. Application of ICT is modernization of Ayurveda is essential to meet the challenges of future healthcare system.

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