Artificial intelligence and Ayurveda, a new horizon

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Abstract:

In today's world artificial intelligence has gained prime importance. In its primitivedeveloping stage, it has been considered to influence and alter each and every aspect of human life. In recent times the principles of Ayurveda will be implemented forwellbeing of humans with the help of artificial intelligence.Here a possibility of Ayurvedic diagnostic methods - Nidanpaddhati in accordance to artificial intelligence can be useful intreating patients subjectively. Review of this new horizon with respect of Ayurveda Nidanis briefed. Though examination of the patient plays an important role in diagnosis as well as prognosis of the disease. Ayurveda had described various types of Pariksha viz. Dashavidha Pariksha, Ashtavidh Pariksha, Shadvidha Pariksha, Panchvidha Pariksha, Trividha Pariksha etc. here the Ashtavidh Pariksha is studied in the perspective of Artificial intelligence.

Keywords: Nidanpaddhati, Ashtavidh Pariksha, artificial intelligence

Introduction:

In management of disease, diagnosis and prognosis are two important aspects to be considered. Patient Clinical examination is an important tool for assessment of disease.For that different types of diagnostic methods have been described in Ayurveda, among that *Ashtavidha Pariksha* viz. *Nadi* (Pulse), *Mootra* (Urine), *Mala* (Faeces), *Jivha* (Tongue), *Shabda* (Speech), *Sparsha* (Touch), *Drika* (Eyes) and *Akriti* (Posture) is an effective diagnostic tool for clinical examination of patient. It was stated by *Acharya Yogratnakar* and helps us to determine the health status of subject. In manifestation of a disease, there is vitiation of *Dosha*, which affects *Dushya* and can promptly evaluated from examination of these eight factors.

Artificial intelligence (AI) is transforming the healthcare sector, offering innovative solutions that enhance patient care, improve clinical outcomes and optimize administrative processes. AI applications in healthcare range from diagnostics to personalized treatment plans, offering substantial potential to improve efficiency and accessibility.

One of the most notable AI-driven advancements is in diagnostics. Machine learning algorithms, particularly deep learning has been increasingly used to analyze medical images, such as X-rays, MRIs, and CT scans. These systems can detect conditions like cancer, heart disease and neurological disorders at early stages, often with accuracy comparable to or exceeding that of experienced radiologists. The *Ashtavidh Pariksha* in the view of algo of AI can be path breaking shift in diagnosis as per Ayurveda. AI tools can analyze large datasets to identify trends and predict patient outcomes, enabling better clinical decisions and reducing human error. Moreover, AI-powered virtual assistants are being used to automate administrative tasks, such as appointment scheduling and patient follow-ups, freeing up time for healthcare providers to focus on direct patient care.

AI is also improving drug discovery and development. By predicting how different compounds will interact with the body, AI accelerates the process of identifying potential treatments, which can significantly reduce time and costs in bringing new medications to market. The *Dosha – Dushya Samurchana* with all possible combinations and sets of signs and symptoms can be filtered by AI and error free diagnosis with treatment protocol can be offered in very less time to the patients. Overall, AI holds immense promise for transforming healthcare, making it more efficient, accurate, and patient-centered. As technology advances, we can expect further integration of AI in both clinical and administrative aspects of healthcare, ultimately improving health outcomes worldwide. The *Ashtavish Pariksha* with possible AI advancements can be reviewed as follows,

Ashtavidha Pariksha –

1. *Nadi Pariksha* (Pulse Examination)
2. *Mootra Pariksha* (Urine Examination)
3. *Mala Pariksha* (Stool Examination)
4. *Jivha Pariksha* (Tongue Examination)
5. *Shabda Pariksha* (Voice Examination)
6. *Sparsha Pariksha* (Skin Examination)
7. *Drika Pariksha* (Eye Examination)
8. *Akriti Pariksha* (Examination for physical constitution)

Ayurveda physician has to observe these eight factors on the patients and make the directing diagnosis which helps in treatment of the disease. Here the observational factors can widely accessed by AI and the algorithm can offer fast errorless observational conclusion for the same.

AI algorithms analyze patient data to enhance accuracy in diagnosis. These can be incorporated with each Pariksha bhava.

In *Nadi Pariksha,* the pulse is examined on specific sites of the body. In this examination the variations in pace and form of pulse in addition to site of which finger it is been perceived is evaluated and respective *Dosha* condition is diagnosed accordingly. Here the pulse reading machines

with algorithms of all the variations of *Dosha* vitiation and site of palpation can be made and thus a diagnosis can be made with the help of AI.

In *Mootra* and *Mala Pariksha*, the *Dushya* part of *Mala* is assessed. Here with the help of AI the signs and appearance of Mala can be carried out and conclusive diagnosis can be made.

In *Jivha Pariksha* the appearance of tongue reflects the *Dosha Dushya Sthiti*. Along with this it also shows the gut health there by referring the health of Agni. The AI could work out these appearance with associated signs and symptoms and can derive a viable conclusive diagnosis.

The *Sparsha Pariksha* deals with the tactile sensory perceptions over the skin of the patients. The touch sensations of temperature, texture and any deformity can be evaluated and processed through AI for their respective diseases or symptoms of diseases.

Drika Parikshan here refers to the sight or eye examination which gets altered with vitiation of *Dosha* and also in some specified conditions like delirium. Here the high end cameras and retinal scopes can scan the eye and predict the forthcoming events in the system.

Akriti Parikshan reflects the family traits along with *Dosha* and *Dhatu* state in one's body. Here AI can generate the overall conclusion by accessing the appearance of subjects and give effective outcomes.

Inference:

Integration of AI tools with ancient knowledge database of Ayurveda can pave a new path in holistic wellbeing. Thought the AI is in its developing stage, the possibilities in the field of Ayurveda renders no limit. As the technology advances the tools, both hardware as well as software required for the physical examinations in *Ashtavish Pariksha* will be developed can the backup of AI algorithm will explore the new horizon in the field of Ayurveda.

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