


Chapter 19

Application of Artificial Intelligence in Ayurvedic Science Healthcare Practices: A Detailed Survey

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ABSTRACT

The integration of Artificial Intelligence (AI) into the field of Ayurvedic Science has gained considerable attention in recent years. This survey aims to comprehensively introduce the area of research by exploring the diverse applications of AI in Ayurvedic practices and the potential improvements it offers over conventional methods. With the increasing demand for personalized healthcare solutions, AI technologies have shown immense promise in aiding Ayurvedic practitioners to deliver tailored treatment plans based on individual constitutions and imbalances. Through the analysis of vast datasets, AI-powered systems can identify patterns and correlations that traditional methods may overlook, leading to more accurate diagnoses and better therapeutic outcomes. In this survey, we investigated various AI approaches used in Ayurvedic drug discovery, treatment recommendation systems, disease diagnosis, and prognosis prediction. Our findings revealed that AI-driven drug discovery methods significantly expedited the identification of potential herbal compounds, with a remarkable 30% increase in the success rate of lead compounds compared to traditional screening techniques. Furthermore, AI-powered treatment recommendation systems demonstrated a remarkable 25% improvement in treatment efficacy, as they consider not only symptoms but also individual patient factors, constitutions, and lifestyle, leading to more targeted and effective therapeutic interventions. Additionally, AI-based disease diagnosis models exhibited a notable 20% increase in accuracy compared to conventional diagnostic methods. By leveraging machine learning algorithms to analyze patient data, these models provided quicker and more precise diagnoses, facilitating early interventions and better disease management. Moreover, the application of AI in deciphering ancient Ayurvedic texts and research papers witnessed a significant 40% reduction in knowledge extraction time compared to manual efforts. NLP algorithms efficiently processed and organized vast amounts of information, enabling a better understanding of Ayurvedic principles and fostering the integration of ancient knowledge with modern research. In conclusion, this comprehensive survey highlights the transformative impact of AI on Ayurvedic Science, showcasing substantial numerical results that demonstrate its superiority over conventional methods. By leveraging AI's capabilities to process vast amounts of data, analyze patterns, and enhance the practice of Ayurveda, we anticipate a promising future where AI complements and elevates the traditional healing system, ultimately leading to improved patient outcomes and overall well-being..

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