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**Indian Knowledge System and Curriculum:  
A Practice-Informed Analytical Study  
Towards Health Sciences Education  
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**ABSTRACT:**

The Indian Knowledge System (IKS) constitutes an extensive and integrated framework of indigenous thought developed in the Indian subcontinent, encompassing domains such as philosophy, science, healthcare, ethics, language, arts, and educational practices. The National Education Policy (NEP) 2020 places strong emphasis on revitalizing and embedding Indian Knowledge System within higher education curricula to promote multidisciplinary learning, ethical orientation, cultural rootedness, and inclusive academic practices. Health sciences education including medicine, Ayurveda, homoeopathy, pharmacy, nursing, physiotherapy, and dental sciences provides a particularly effective context for the application of IKS due to its close linkage with human health, professional ethics, and community welfare. This paper presents a practice-informed analytical study

focusing on the integration of Indian Knowledge System into health sciences curricula. The study critically examines the conceptual foundations of IKS, maps its relevance across health science disciplines, and evaluates curriculum integration models and pedagogical strategies suitable for professional healthcare education. Additionally, the role of Bharatiya Bhasha in authentic knowledge transmission, policy support under NEP 2020, implementation challenges, and future opportunities are discussed. The study highlights that systematic incorporation of IKS within health sciences education can enhance holistic learning, ethical healthcare practice, cultural competence, and meaningful engagement between academic institutions and society, thereby contributing to the development of nationally rooted and globally competent health professionals.

### **KEYWORDS:**

Indian Knowledge System, Health Sciences Education, Curriculum Design, NEP 2020, Bharatiya Bhasha, Practice-Informed Learning.



### **Introduction**

India possesses a rich and continuous tradition of knowledge generation known today as the Indian Knowledge System (IKS). This system evolved over several millennia and integrates philosophy, medicine, mathematics, astronomy, linguistics, ethics, and pedagogy into a holistic worldview. Unlike fragmented modern disciplinary models, IKS emphasizes interconnectedness, experiential learning, ethical conduct, and societal well-being (1). In the context of education, IKS offers value-based, context-sensitive, and practice-oriented frameworks that remain relevant for contemporary professional training. The National Education Policy (NEP) 2020 recognizes IKS as a foundational component of India's educational renewal. The policy explicitly advocates integrating Indian knowledge traditions into curricula across disciplines to promote cultural rootedness, multidisciplinary thinking, ethical reasoning,

and national integration (2). NEP 2020 also emphasizes flexible curricula, experiential learning, multilingual education, and community engagement, all of which align strongly with traditional Indian pedagogical practices (3).

Health sciences education occupies a unique position within this framework. Disciplines such as medicine, Ayurveda, homoeopathy, pharmacy, nursing, dentistry, and physiotherapy deal directly with human health, ethics, compassion, and service to society. Indian healthcare traditions—including Ayurveda, Yoga, Siddha, and community-based preventive practices—are deeply embedded within IKS and offer valuable insights into holistic health management (4). Integrating these perspectives can enrich biomedical education without compromising scientific rigor. Institutions such as KLE Academy of Higher Education and Research (KAHER), Belagavi, which hosts diverse health science programs, provide an ideal ecosystem for implementing IKS-based curricular models. With professional courses regulated by statutory councils and evaluated under NAAC accreditation frameworks, the integration of IKS must be academically sound, outcome-oriented, and policy-aligned (5).

Another critical dimension of IKS integration is the role of Bharatiya Bhasha (Indian languages). Traditional knowledge systems were originally composed and transmitted in Sanskrit, Pali, Prakrit, Persian, and regional languages. NEP 2020 encourages the use of Indian languages in teaching, learning, and research to ensure authentic knowledge transmission and improved conceptual clarity (6).

The present study aims to analytically examine the integration of Indian Knowledge System into health sciences curricula, using a practice-informed approach with reference to institutional implementation, curriculum design, pedagogical strategies, and policy requirements.

## **Materials and Methods**

### **Study Design**

This study adopts a practice-informed analytical research design, combining policy analysis, curriculum review, and institutional practice mapping. The methodology focuses on real-world implementation rather than theoretical advocacy, aligning with professional education standards (7).

### **Study Setting**

The study is contextualized at KLE Academy of Higher Education and Research (KAHER), Belagavi, Karnataka, a deemed-to-be university offering multidisciplinary health sciences education. The institution comprises the following major academic units: Medical Sciences, Dental Sciences, Ayurveda, Pharmacy, Nursing, Physiotherapy, and Homoeopathy. These programs collectively serve undergraduate, postgraduate, and doctoral learners under national regulatory bodies such as NMC, DCI, CCIM/NCISM, PCI, INC, and respective councils (8).

### **Curriculum Mapping and Review**

A structured review of existing syllabi was conducted to identify the: i) presence of IKS-related content (ethics, traditional medicine, preventive health), ii) Scope for inclusion of Indian perspectives, and iii) Alignment with NEP 2020 and NAAC criteria (9). The core documents analyzed included NEP 2020 policy text, UGC and AICTE IKS guidelines, and NAAC Self-Study Manual indicators related to curriculum enrichment (10).

### **Practice-Informed Inputs**

Faculty interactions, institutional best practices, and experiential learning modules such as Yoga and wellness programs, Ayurveda-pharmacy interdisciplinary exposure, and Community health outreach were examined as practice indicators of IKS integration (11).

## Bharatiya Bhasha Integration

The study also assessed the feasibility of using Bharatiya Bhasha through: Bilingual teaching materials, Indian language electives, and patient communication and community health education as encouraged under NEP 2020 and IKS mission documents (12).

**Table 1:** Health Sciences Disciplines and IKS Integration Scope

Discipline	Relevant IKS Components	Potential Curriculum Areas
Medicine	Ethics, preventive care	Medical ethics, lifestyle medicine
Ayurveda	Classical texts	Dravyaguna, Panchakarma
Pharmacy	Rasashastra concepts	Herbal drugs, pharmacognosy
Nursing	Compassionate care	Ethics, community health
Physiotherapy	Yoga practices	Rehabilitation, wellness
Dental	Traditional oral care	Preventive dentistry
Homoeopathy	Holistic philosophy	Case-based learning

## Results and Discussion

### Conceptual Relevance of IKS in Health Sciences

The findings indicate that IKS aligns naturally with health sciences education due to its emphasis on holistic health, ethical conduct, and preventive care. Unlike purely reductionist models, IKS promotes balance between physical, mental, social, and spiritual well-being, which is increasingly recognized in modern healthcare education.

### Curriculum Integration Models

Three effective curriculum integration models emerged from the analysis for incorporating the Indian Knowledge System (IKS) into health sciences education. The first model, Embedded Integration, involves the systematic inclusion of IKS concepts within existing core subjects without altering the overall curriculum structure. In this approach, relevant Indian perspectives such as

traditional ethics, preventive health concepts, lifestyle practices, and indigenous clinical observations are integrated into subjects like anatomy, pharmacology, community medicine, nursing ethics, and rehabilitation sciences. This model is particularly suitable for professionally regulated programs, as it does not increase academic load or conflict with statutory council guidelines, while simultaneously enriching conceptual understanding and contextual relevance.

The second model identified is the Elective Module approach, wherein IKS-based courses are offered as credit-bearing electives. These modules allow students to explore Indian medical philosophy, classical texts, traditional health practices, and interdisciplinary perspectives in a structured and academically recognized manner. Elective courses provide flexibility, encourage student-driven learning, and support multidisciplinary exposure as emphasized by NEP 2020. This model also aligns with NAAC recommendations for curriculum enrichment and innovation, enabling institutions to introduce IKS content without compromising core professional competencies.

The third and most practice-oriented model is Experiential Learning, which emphasizes hands-on exposure to Indian knowledge traditions through activities such as yoga and meditation sessions, Ayurveda and traditional medicine observerships, community health practices, and wellness programs. This approach strengthens experiential and values-based learning by connecting theoretical knowledge with real-life applications. Experiential learning enhances ethical sensitivity, cultural competence, and holistic health understanding among students, making it particularly effective in health sciences education. Importantly, this model complements formal curriculum requirements while fostering community engagement and socially responsive healthcare training.

Collectively, these three models ensure that the integration of Indian Knowledge System into health sciences curricula remains

academically sound, regulatorily compliant, and educationally meaningful, while contributing to the development of competent, ethical, and culturally grounded healthcare professionals.

**Table 2:** Curriculum Integration Models for IKS

Model	Description	Advantages
Embedded	Integrated within subjects	No curriculum overload
Elective	Standalone IKS courses	Student choice
Experiential	Practice-based learning	Skill and value development

### NAAC and Quality Assurance Perspective

The NAAC accreditation framework stresses the importance of enriched curricula, value-oriented education, and relevance to national and local contexts. Incorporating the Indian Knowledge System (IKS) strengthens Curricular Aspects (Criterion I) by adding indigenous perspectives on health, ethics, and holistic care to existing programs. It also supports Teaching-Learning and Evaluation (Criterion II) by encouraging experiential, culturally grounded, and ethically focused learning practices. Through this alignment, IKS integration contributes to improved institutional quality and reinforces the social responsibility of higher education institutions.

### Role of Bharatiya Bhasha

Bharatiya Bhasha plays a vital role in strengthening health sciences education by improving conceptual clarity, enhancing patient communication, and fostering cultural competence among students. The use of Indian languages allows learners to better understand indigenous knowledge concepts and apply them effectively in real-world healthcare settings. Incorporating Bharatiya Bhasha in case discussions, clinical interactions, and community outreach activities helps bridge the gap between academic learning and societal realities, leading to more empathetic, inclusive, and context-sensitive healthcare practice.

**Table 3:** Benefits of Bharatiya Bhasha in Health Education

Domain	Educational Impact
Teaching	Improved comprehension
Clinical practice	Better patient rapport
Research	Indigenous knowledge documentation
Community service	Effective health awareness

### Artificial Intelligence and Language Technologies

Artificial Intelligence (AI) and language technologies offer transformative possibilities for preserving, disseminating, and operationalizing Indian Knowledge System in health sciences education. Digitization of classical medical texts, multilingual translation tools, and AI-based knowledge retrieval systems enable wider accessibility to IKS resources. AI-driven platforms can support translation of Sanskrit and regional language texts into English and Indian languages, clinical decision support integrating traditional and modern knowledge, and virtual simulations for yoga, anatomy, and traditional therapies. Natural Language Processing (NLP) tools can facilitate Bharatiya Bhasha-based learning, enabling students to access content in their preferred language without compromising academic rigor. Speech-to-text and text-to-speech technologies are particularly valuable in nursing and community health education. In institutional contexts like KAHER, AI-enabled learning management systems can host bilingual content, digitized manuscripts, and interactive modules linking IKS with biomedical sciences. Importantly, AI should function as an enabler, not a replacement, ensuring ethical use and academic authenticity.

### Conclusion

The study demonstrates that systematic integration of Indian Knowledge System into health sciences education is both feasible and beneficial. NEP 2020 provides strong policy support, while institutions like KLE Academy of Higher Education and Research

offer practical ecosystems for implementation. Incorporating IKS through curriculum design, experiential learning, Bharatiya Bhasha, and AI-enabled tools can produce ethically grounded, culturally competent, and globally relevant health professionals. A practice-informed approach ensures sustainability, quality assurance, and meaningful societal impact.

**Abbreviations:**

1. Indian Knowledge System (IKS)
2. National Education Policy (NEP)
3. KLE Academy of Higher Education and Research (KAHER)
4. National Assessment and Accreditation Council (NAAC)
5. Artificial Intelligence (AI)
6. Natural Language Processing (NLP).

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**Conflict of interest:**

The Authors have no conflict of interest to declare that they are relevant to the content of this article.

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