Review Article

DOI: 10.7860/JCDR/2024/69641.19738

Dentistry Section

Development of Interprofessional Education and its Implementation in Global and Indian Context: A Literature Review

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ABSTRACT

Integration of Interprofessional Education (IPE) into the health sciences curriculum has been recommended over the past several decades to prepare healthcare professionals for future collaborative practice. However, due to the disparity in the adoption of IPE, this literature review attempted to examine the development of IPE and its implementation in global and Indian contexts. IPE has evolved from being fragmented and isolated initiatives to entering into the mainstream of professional education. In terms of IPE implementation, the global scan revealed that IPE was implemented in several countries to varying degrees; however, developing countries lagged behind developed countries in implementing and sustaining IPE. Scarce evidence was found regarding the implementation of IPE in India. The literature review elaborates on the transformation of health professions education from the traditional system to IPE and discusses the gap in the adoption and implementation of IPE in developing countries, including India.

Keywords: Collaboration, Healthcare, Multidisciplinary, India

INTRODUCTION

Healthcare is essentially a multidisciplinary specialty. The inclusion of collaborative content in health professions education curriculum has been driven by the concern about the disconnect between the professional skills that were taught and those required for practice [1]. The need for collaboration in professional training was proposed to address patient-centered care and prevent preventable medical errors [2,3]. IPE is crucial in training healthcare professionals for collaborative practice in the future. The positive outcomes of IPE include improved patient care, more professional communication, and preparedness for teamwork [4]. Healthcare curricula should include IPE to prepare students for interprofessional collaboration in the workplace [5]. There has been strong advocacy for the incorporation of IPE by worldwide organisations [6]. The literature recommends that IPE should be customised to the unique and specific issues prevalent in each country, and an effective model of IPE should be regionally distinct and cater to the unique needs of those served {World Health Organisation (WHO), 2010} [7]. However, there seems to be a gap in the adoption of IPE and its implementation. Evidence suggests that IPE implementation has long been conducted primarily in developed nations, from which the majority of the available evidence comes [8,9]. Lewy L stated that IPE implementation has been distinguished as being very difficult due to a lack of high-quality methodological studies, staff, and other resources [10].

In a systematic review, the author suggested that the lessons learned from the implementation of IPE programs in developed countries may prove to be vital for global implementation of IPE and may suggest a way forward encouraging its implementation in developing countries [11]. Suiter SV et al., pointed out that "there is still a significant gap between where we are today and the high-functioning teams required for consistently delivering comprehensive, effective, and compassionate care" [12]. A systematic review conducted to report incidences of IPE in global healthcare reported substantial variation in IPE implementation across countries, with only marginal advancement of IPE initiatives in developing countries [13]. Few developing countries have included IPE in their extracurricular activities, while some countries are still in the process of developing IPE initiatives [14]. In another systematic review conducted to examine the evidence of IPE implementation, it reported a lack of quality methodological studies and detailed reporting of IPE implementation [15]. There is a dearth of research on IPE in the literature [16]. The literature is scarce regarding the implementation of IPE in developing countries like India [17]. There seems to be a variation in the adoption of IPE and its implementation; hence, this literature review was undertaken with the objectives of exploring the historical development of IPE and examining its implementation in global and Indian contexts.

Historical Background and Evolution of IPE

IPE is not a relatively new phenomenon. The first paper entitled "IPE in the Health Sciences" was published in 1969, which pointed out the fragmentation of healthcare services [18]. Since 1969, numerous attempts have been made to include concepts of IPE into educational curricula. The IPE movement gained momentum through two WHO reports, Continuing Education for Physicians [19] and Learning together to work together for health [20]. The "Institute of Medicine (IOM)" conference in 1972 first emphasised that diverse healthcare professionals need to be educated in a team (including medicine, dentistry, nursing, allied health, and pharmacy) to address the needs of the healthcare system and communities [21]. The Centre for the Advancement of Interprofessional Education (CAIPE) was established in the UK in 1987 to promote and advance IPE within health and social services [22]. In 1998, the "Pew Health Professions Commission" recommended that there should be a match between IPE and collaborative health practice [23].

IPE became more of a priority in the United States with the three reports published by the IOM. In 2000, the IOM, in its report "To Err is Human: Building a Safer Health System," highlighted that a decentralised healthcare delivery system and lack of coordinated communication between health professionals were responsible for increased medical errors and medical costs.

This proposition served as a stimulus for IPE in the 21st century [24]. In 2001, the IOM published the report "Crossing the Quality Chasm: A New Health System for the 21st Century." This report concluded that all healthcare professionals, from various disciplines, should be educated in an interdisciplinary team to prepare them for patient-centered care, with an emphasis on quality improvement, evidence-based practice, and information [25]. In 2002, the IOM, through the Health Professions Education Summit, convened 150 leaders and experts from various health professions to discuss strategies to restructure health professions curricula to align with the requirements of the current and future healthcare system.

It highlighted that healthcare professionals are inadequately prepared to provide the optimum quality of patient care. The third report of IOM, which came in 2003, "Health Professions Education: A Bridge to Quality," emphasised the integration of a core set of competencies, namely interdisciplinary teams, evidence-based practice, patient-centered care, quality improvement, and informatics, into health professions education [26]. These three IOM reports provided an impetus for the transformation from a 20th-century provider-centered decentralised healthcare system toward a comprehensive collaborative healthcare system that brought together the talents, perspectives, experiences, and expertise of diverse healthcare professionals [24-26].

In 2006, the WHO convened a study group in collaboration with the International Association for Interprofessional Education and Collaborative Practice (InterED) to design a framework using evidence-based research and a range of exemplars from across the globe. The aim was to provide healthcare policy-makers with new ideas and suggestions regarding the implementation of IPE and collaborative practice, particularly relevant within their local healthcare systems. The study group boldly asserted the need for IPE and collaborative practice but fell short of claiming the impact of IPE on the workforce crisis. The result was a frame of reference, a pivotal report published by the WHO in 2010 to assist policymakers in positions of power in determining the appropriateness and feasibility of a package of interprofessional proposals in the context of national and international policy issues, demands, priorities, resources, and opportunities on a global scale [7].

A systematic review was conducted by Hammick M et al., to substantiate the proposition that learning together will improve collaboration between practitioners and agencies by investigating the influence of context on IPE outcomes and the mechanisms that influence positive and negative outcomes of IPE. The review concluded that customisation and authenticity of IPE are important mechanisms that influence positive outcomes. Additionally, faculty development initiatives and shared learning experiences with different health professions can help to break down barriers and shift attitudes toward more respect for other professions [8].

In June 2009, a global consultation was held by the WHO on health professions' contribution to the Global Health Agenda and Primary Healthcare. The meeting was attended by over 50 different health professional associations from across the globe. Discussions in this meeting focused on global health challenges and strategies to foster collaborative work across professional boundaries. Following the WHO report, the Health Professions Global Network (HPGN) was established in 2010, which discussed IPE as part of a two-week virtual debate participated in by one thousand participants from 44 countries. While the representation from developed countries was more, the majority of the contributions were received from developing countries, indicating increased interest and enthusiasm toward IPE in developing countries. The members unanimously agreed that for reducing health inequities, there is a need for collective action and intensified efforts [26].

A Google Group (ipenetwork@peoplegroups.com), a website (www.ecipen.org), and a Facebook group were formed with the purpose of facilitating information exchange between participants from Eastern and African countries interested in IPE and collaborative practice. For example, China, Kuwait, Malaysia, Afghanistan, Russia, Azerbaijan, Egypt, India, Bangladesh, Iraq, Iran, Indonesia, Nigeria, Kazakhstan, Kenya, Qatar, South Africa, Pakistan, Turkey, Thailand, the United Arab Emirates, Turkmenistan, and Uzbekistan. Out of these, six countries reported ongoing IPE activities, and two reported exploratory conferences [27].

The Lancet Commission report published in 2010, compiled by twenty varied academic and professional leaders, highlighted two crucial issues regarding Health Professions Education in the 21st century: 1) the need to transform health professions education so that graduates can become leaders and change agents; and 2) the interdependence of health professionals involved in healthcare. Despite the identification of these issues as relevant, the persisting challenge was to identify relevant strategies to instill these core competencies in graduates. The Lancet emphasised that in order to realize the vision of a locally responsive and globally connected competent health workforce, a range of curricular reforms is essential within the realm of health professions education. The Lancet Commission also called for local and national assistance from academic, professional, and political leaders to join the global movement of stakeholders in developing collaborative education and health planning systems in each and every country [1].

In its first-ever guidelines for health professions education and training, the WHO made a start by drawing on arguments and evidence about IPE from the Lancet Commission and WHO framework (WHO, 2013a). The essential tenets of IPE were re-affirmed by the guidelines, but caution was exercised in commending it for the lack of stronger evidence. However, to carry forward developments in transformative education, IPE was subsequently showcased on the WHO website [27].

Responding to the Lancet Commission's report, the United States National Academy of Sciences' established the "IOM Global Forum on Innovation in Health Professional Education" in 2011 [28]. This forum supported an interprofessional, global, and multifocal innovative mechanism called the "innovation collaborative" to share perspectives, ideas, and prospective innovations for attaining reforms in institutional and instructional arenas. Four University-based innovation collaboratives were identified: one in Asia, one in Canada or the US, one in Latin America or the Caribbean, and one in Africa. Each of these innovation collaboratives represented partnerships with atleast three complementary academic institutions. The "Indian Innovation Collaborative" was the only one selected from Asia out of the four globally selected initiatives. Three institutes in India partnered in this initiative: "Datta Meghe Institute of Medical Sciences, Sawangi, Wardha (Medical college)", "Public Health Foundation of India, New Delhi (Public Health Institute)", and "Symbiosis College of Nursing, Pune (Nursing school)". The main task of this innovation collaborative was to develop and pilot an interdisciplinary leadership training model to develop interdisciplinary leadership competencies for medical, nursing, and public health practitioners in India [29].

Meanwhile, several discussions and presentations about IPE and practice had started taking place in professional conferences not only at the local level but also nationally and internationally. Similarly, networking between interprofessional volunteers and cohorts through social media like email, the Internet, Skype, Twitter, and Facebook facilitated information exchange [30].

Regional interprofessional networks started developing, eventually sharing a common purpose of promoting and advancing IPE and collaborative practice but differed in resources, structure, and governance. "CAIPE-Centre for the Advancement of IPE-UK," the longest established with the most substantial international outreach, and the "National Centre for IPE and Practice" working with the "American Interprofessional Health Collaborative (AIHC)" are some examples of government IPE initiatives. Similarly, new IPE networks were also established in South East Asia, the Middle East, Southern and Central Africa, etc. [30].

Following the footsteps of global IPE initiatives, several agencies like The World Federation of Medical Education (WFME) endorsed IPE, thus encouraging other countries to adopt IPE at national and local levels [31]. The development of a global network in the form of the first (InterED), the World Co-Coordinating Committee from 2012, and now "Interprofessional.Global: The Global Confederation for Interprofessional Education and Collaborative Practice" provide a forum for support and exchange of information between national and global IPECP networks, form alliances with other like-minded organisations, and welcome new networks with comparable values and goals [32]. Various IPE initiatives have also been reported in developing countries in the Middle East and North Africa (MENA) region, such as Algeria, Lebanon, and Sudan [27]. One of the first countries to establish IPE in the Middle East was Lebanon [33] in 2010, and Qatar [34]. To represent the region, Qatar University and the World Confederation for Interprofessional Practice and Education (Interprofessional.Global) have partnered to create an Arabic-speaking IPE network [35].

Implementation of IPE in a Global Context

A global scan conducted by Roger & Hoffman (2010) through a questionnaire survey in six WHO regions elicited 396 responses from 41 countries. The scan revealed that out of every ten, nine IPE offerings were from developed countries, with two-thirds originating from the United Kingdom, United States, and Canada. However, the primary limitation of this scan was the length and complexity of the questionnaire, which was conducted in English only. This may have contributed to a low response rate from non English-speaking participants [36].

In 2015, Barr, in a review, examined the global impact of IPE and reported that IPE initiatives were implemented by countries in Europe (Sweden, Norway, Denmark, Finland, Belgium, France, Germany, Netherlands, Poland, Slovenia, Spain, Switzerland), in the United Kingdom (England, Scotland, Wales), in North America (Canada, United States), in South America (Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Mexico, Nicaragua, Peru, Uruguay, and Venezuela), in Asia and the Pacific (Japan, Thailand, Philippines, Indonesia, Malaysia, Singapore, India), in Australia, New Zealand, Africa, and in the Middle East (Iran, Pakistan, Qatar, Turkey) [30].

A systematic review conducted by Herath C et al., in 2017 to examine the incidences of IPE in developed and developing countries and to elaborate on the essential features of IPE programs in undergraduate and postgraduate programs in developed and developing countries revealed that IPE initiatives were mainly developed and promoted by developed countries compared to developing countries. The authors concluded that although academic institutions benefited from implementing IPE programs, there is a requirement to improve health education initiatives at the global level. The authors also reported that IPE programs were not systematically delivered and that student engagement mainly occurred at the undergraduate level, while a small number of initiatives were seen at the postgraduate level [13].

A systematic review conducted by Sulistyowati E and Walker L to contribute information regarding challenges in IPE implementation in developed and developing countries concluded that the challenges that developed countries confront remain the same as those that developing nations experience when implementing IPE. Hence, the lessons learned by developed countries can guide developing countries to initiate, plan, and implement sustainable IPE programs. The authors highly recommended future studies from developing countries on the implementation of IPE [37].

Kitema GF et al., conducted research to assess the status of IPE and Interprofessional Continuous Education (IPCE) activities and their outcomes in Sub-Saharan Africa (SSA). They reported that IPE/IPCE is still a relatively new concept in SSA. IPE was mostly used at the undergraduate level in order to enhance teamwork and address significant public health issues. More evidence is required to substantiate the impact of IPE on organisational, healthcare practice, and patient outcomes [38].

A recent global situational analysis of IPE published by Interprofessional Global revealed that nearly half of the institutions worldwide have yet to establish IPE programs. Regional comparisons showed significant differences across various areas, with institutions in North America (the USA and Canada) generally having the highest levels of established IPE programs, followed by Europe, Asia, South America, and Mexico. Half of the institutions in South America and Mexico are currently in the process of setting up their IPE programs. More than 50% of the institutions in Africa are currently unsure and/or do not have established IPE programs. The study also found that almost all institutions that currently provide IPE programs have been doing so for less than five years. While the majority of institutions in Europe and North America have been providing IPE for more than ten years, 71% of institutions in South America and Mexico have only recently (≤five years) started to offer IPE. More than one-third of respondents worldwide reported a lack of formal leadership roles in IPE programs. Funding for IPE programs varied considerably, ranging from no funding to centralised funds, external grants, and endowments. The study highlighted a lack of faculty development initiatives, as well as a lack of evaluation/assessment and research in IPE. The respondents suggested that for the successful implementation of IPE, supportive senior leadership, a collaborative culture, and institutional identification of IPE as a strategic direction and/or priority are imperative [39].

The global scan conducted up to this point revealed that IPE is considered essential, relevant, and has gained momentum worldwide, but its implementation varies substantially across different countries. The literature indicates that IPE initiatives were mainly developed and implemented by developed and high-income economies, while developing countries lagged behind in adopting and implementing IPE.

Implementation of IPE in Indian Context

In India, the "International Institute for Leadership in IPE" was established in 2015 by "Manipal University" in collaboration with the "Foundation for Advancement of Interprofessional Medical Education and Research" (mu-Faimerfri.org) [27]. The "Indian Interprofessional Education and Practice Network (IndIPEN)" was formed in 2017 in collaboration with the "Academy of Health Professions Educators (AHPE)" to develop and advance Health Professions education in India [40].

The objectives of IndIPEN are:

- To create awareness of the importance of IPE and practice in India.

- To encourage networking and linking of IPE and practice across educational institutions, healthcare delivery systems, academic, professional, and patient organisations in India.
- To disseminate effective IPE, collaboration, and practice techniques across the region.
- To encourage interprofessional collaboration throughout the healthcare system.
- To make advancements in research in all aspects of IPE and patient-centered collaborative practice.

Bansal and colleagues described how IPE developed in 300 colleges affiliated with Maharashtra University of Health Sciences (MUHS), Nashik, Maharashtra, India, which are overseen by the Department of Medical Education of the University [41,42]. The university is one of thirteen in India founded to lead the way in improving and reforming health professions education. Mohammed CA et al., conducted a study in South India in 2017 to assess attitudes toward shared learning and IPE in two dental colleges in Manipal. The study concluded that the attitude of dental students was favourable, and they were ready to learn from and with students of other professions [43].

IPE was implemented at Christian Medical College in Vellore, India, where Nursing students are trained in interprofessional collaboration and the significance of interpersonal ties during communication with patients and co-workers. They learn about several methods for improving teamwork, including strengthening referral services [44]. An IPE Unit was established at Yenopoya Dental College and University in 2020 and incorporated the IPE curriculum into the subject of Public Health Dentistry. The development and implementation of the IPE program were undertaken in four phases: a needs assessment survey among faculty, students, and post-graduates, phase 2: Establishment of Yenepoya Centre for Dental Education (YDEU) to carry out IPE projects within the Dental Colleges and University in a phased manner, phase 3: workshops in IPE among faculty members of different professional streams, and phase 4: IPE curriculum development [45].

An IPE model was implemented at Lokmanya Tilak Municipal (LTM) Medical College in India to train post-graduates in Developmental-Behavioural Paediatrics (DBP) [46]. An IPE module was developed for residents and faculty from three different institutes: one medical and two dental, focusing on maxillofacial prosthetic rehabilitation. The module successfully altered the outlook and perceptions of participants regarding collaborative teamwork related to maxillofacial rehabilitation [47]. A study exploring the impact and usage of online role-plays as a pedagogic approach was organised at one of the Foundation for Advancement of International Medical Education and Research (FAIMER) regional centers in India, reporting that online role-plays can be a useful and innovative approach for introducing the tenets of IPE among healthcare professionals [48]. An IPE module in autism spectrum disorder was developed and validated to enhance inter-professional competencies among healthcare professional students [49]. In developing countries like India, both the public and private sectors are involved in providing healthcare. However, the public healthcare system is confronted with issues such as deploying a mix of diverse healthcare professionals throughout the system. As a result, it becomes more crucial than ever for healthcare professionals to collaborate as a team. This team approach can ensure the proper utilisation of resources, thereby facilitating more comprehensive and quality treatment for every individual [50].

DISCUSSION

The global search of the pertinent literature that was conducted revealed that IPE and core competencies have been strongly recommended as integral components of health professionals' education by various national and international organisations and professional associations. Health professions education has failed to prepare graduates to address the demanding healthcare needs of the 21st century. To realise the vision of a locally competent and globally responsive healthcare workforce, a series of curricular reforms are essential within the realm of health professions education [1]. The overarching goal of health professions education envisioned for the 21st century is to develop holistic physicians imbued with humanistic attributes like communication, collaboration, teamwork, interpersonal skills, respect, ethics, empathy, professionalism, etc. [51]. Health professions education requires realistic and evidence-based curricular reform to address the paradigm shift from traditional provider-centered to decentralised, integrated health professions education. An integrated curriculum embedding the generic humanistic values and ideals in the realm of the 'interprofessional domain' is the need of the hour. Similarly, if students are expected to work as future collaborative practitioners, teamwork should be logically and compulsorily included in health professions education curricula.

The review of literature, which was conducted, revealed a gap in the actual implementation of IPE. A recent study conducted by Delawala F et al., exploring the perspectives of international experts, reported that although IPE programs had made headway internationally, the development and implementation of IPE initiatives face unique contextual challenges in each continent. The findings also indicated that the most significant challenges to the development and execution of IPE programs were human, financial, and logistical [52]. There has been increased participation in conferences and publications pertaining to IPE. Journals like Interprofessional Education and Collaborative Practice (IPECP) and the Journal of Interprofessional Care are functional and accessible for disseminating new and pertinent information. Similarly, IPECP-related networks like Interprofessional Global consistently provide support and engagement for IPE initiatives [52]. An approach tailored to design a sustainable IPE program in developing countries is highly recommended. Academic institutions uphold a crucial role in instilling the core competencies and skills among healthcare professionals to prepare a ready workforce for practicing collaboratively. Many universities have responded to the global call for IPE by offering IPE as a mandatory or elective inclusion in the curriculum. However, despite the global enthusiasm voiced for IPE, it has not been implemented with the same zeal in health science education in Asian countries, notably India. Very few publications reporting nationwide surveys regarding IPE implementation in India can be found.

CONCLUSION(S)

The literature review reveals a gap in IPE in health professions education curriculum and its actual implementation in practice. Similarly, a gap was found in the implementation of IPE in the Indian context. Very few publications can be found regarding the implementation of IPE in India. India currently lags behind developed countries in terms of IPE implementation in academic curricula. As a result, there is a pressing need to integrate IPE within the Indian academic curriculum. Academic programs must be adapted to train students in IPE concepts and practices, both academically and experientially, to develop a workforce capable of educating and training other educators, practicing professionals, and future practitioners in this area.

Authors contributions: PN: Conceptualisation, literature search, collection and Organisation of the data, writing the initial and final drafts of the review and planning and execution of the review. VPM: Supervision throughout the analysis and interpretation of data, critical

appraisal of the review and finalisation of the draft of the review. PD: Collection and organisation of the data related to the review. KG: Preparation of initial draft of the review and technical assistance in formulation of the draft review.

Acknowledgement

The authors are thankful to Dr Ciraj Ali Mohammed, Chair IndIPEN and Professor Manipal Academy of Higher Education, Karnataka, India for providing relevant information pertaining to IndIPEN (The Indian Interprofessional Education Network).

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PLAGIARISM CHECKING METHODS: [Jain H et al.]
- Plagiarism X-checker: Jan 25, 2024
- Manual Googling: Mar 04, 2024
- iThenticate Software: May 13, 2024 (12%)

ETYMOLOGY: Author Origin

EMENDATIONS: 6

AUTHOR DECLARATION:
- Financial or Other Competing Interests: None
- Was informed consent obtained from the subjects involved in the study? NA
- For any images presented appropriate consent has been obtained from the subjects. NA

Date of Submission: **Jan 19, 2024**
Date of Peer Review: **Mar 01, 2024**
Date of Acceptance: **May 14, 2024**
Date of Publishing: **Aug 01, 2024**