

# The current status of Interprofessional Education in Dentistry: A Narrative Review

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## Abstract

**Background:** The oral cavity reflects systemic health conditions, yet interprofessional collaboration between dentists and other healthcare professionals remains understudied in dental education. Interprofessional education (IPE) fosters collaborative practice by enabling students from different health professions to learn about, from, and with one another. This narrative review aims to identify the perceptions, readiness, and barriers experienced by dental students regarding IPE.

**Methods:** This narrative review collected data from the electronic databases PubMed, Google Scholar, and Portal Garuda. Articles were included if they involved preclinical or clinical dental students, discussed the status of IPE (perceptions, readiness, and barriers) in dentistry, and were published between 2016 and 2026, in either Indonesian or English.

**Results:** Across multiple studies, dental students generally reported positive perceptions of IPE, with relevance often rated higher than among medical students, and this perception correlated with stronger foundational knowledge and greater motivation to continue interprofessional practice after graduation. Readiness assessments similarly indicated good preparedness, particularly among students with substantial prior exposure to dental theory. However, implementation faces notable barriers: an already dense and rigid dental curriculum limits room for additional IPE content; the specificity of dental cases can make interprofessional sessions feel less relevant or reduce students' sense of meaningful contribution; and the absence of standardized evaluation instruments hinders consistent assessment of IPE outcomes across institutions.

**Conclusion:** Dental students demonstrate strong readiness and largely positive attitudes toward IPE, but curriculum density, case-specificity concerns, and inadequate evaluation methods remain significant obstacles. Deliberate curriculum redesign and the development of standardized assessment tools are needed to translate this readiness into effective interprofessional collaborative practice.

**Keywords:** Interprofessional Education; Barrier; Readiness; Implementation; Dentistry.

## 1. Introduction

Passing along the tenth year, the Sustainable Development Goals (SDGs) framework—designed in 2015 by the United Nations to achieve health equity and sustainable development by 2030—faces numerous and increasingly complex challenges. The COVID-19 pandemic is one of the biggest factors hindering the achievement of health-related targets. The 2021 Global Burden of Disease (GBD) report notes that the world has experienced the worst decline in life expectancy in fifty years.<sup>1</sup> Not only that, but the COVID-19 pandemic has also disrupted health systems and exacerbated existing health inequities.<sup>2</sup>

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These health disparities are becoming increasingly evident in low- and middle-income countries. People living in these countries face greater socioeconomic challenges and health risks. The inability of health care systems to manage diseases over the long term has a significant impact on the population. For example, deaths from noncommunicable diseases reached 43 million in 2021, with 73% occurring in low- and middle-income countries. Additionally, risk factors associated with climate change, such as air pollution, also have a serious impact on the disease burden and mortality rates, particularly among vulnerable groups.<sup>3</sup>

One of the innovative strategies proposed by the WHO to address health challenges and crises is collaboration in education and practice among health professions. Interprofessional collaboration does not simply mean two or more health professionals working side by side. The most important key to interprofessional collaboration is respecting each other's professional identities, so that they can complement one another by leveraging their respective strengths. This can be achieved by understanding the goals and responsibilities of each profession, as well as through effective communication skills.

Interprofessional education (IPE) is defined as education that occurs when students from two or more professions learn about, from, and with one another to achieve effective collaboration in improving health.<sup>4</sup> For students, IPE serves as a means of learning to communicate across professions so they can understand and appreciate the roles of other professions. The outcomes of IPE include perceptions/attitudes and readiness for collaborative practice. The success of IPE is also influenced by supporting and inhibiting factors, both directly and indirectly.<sup>5</sup>

The importance of IPE is not limited to the general healthcare field but also extends to oral and dental health. The oral cavity is a complex ecosystem that reflects systemic health conditions, and studies have shown a strong interaction between oral and systemic diseases.<sup>6</sup> This means that dentists must also be able to collaborate with other healthcare professionals to provide the best possible holistic patient care. Despite this urgency, there are still few studies reporting on the current status and conditions of IPE in the field of dental education. This narrative review aims to identify the perceptions, readiness, and barriers experienced by dental students regarding IPE.

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## 2. Methods

This narrative review began with data collection from the electronic databases PubMed, Google Scholar, and Portal Garuda. The inclusion criteria used were articles involving preclinical/clinical dental students, discussing the status of IPE (perceptions, readiness, and barriers) in dentistry, and published between 2016 and 2026. The search for articles was conducted in both Indonesian and English.

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## 3. Results

### 3.1. Dental Students' Perceptions and Readiness Regarding IPE

In 2024, the WHO recommended that oral diseases be elevated to a global public health priority.<sup>7</sup> Numerous studies have demonstrated that oral health is closely linked to systemic health, such that oral health influences systemic health and vice versa.<sup>8</sup> Effective collaboration between dentists and other healthcare professionals is a key component in ensuring improved healthcare services and a reduction in the disease burden.

Interprofessional Education (IPE), introduced during both undergraduate and professional studies, enables students from various health science programs to overcome biases toward other professions and strengthen their own professional identity. Students exposed to IPE are able to master effective communication and coordination skills with other healthcare professionals. Not only that, IPE also provides students with the opportunity to enrich their interpersonal skills and expand their basic clinical knowledge without neglecting the boundaries of each profession's role.<sup>10</sup>

One way to assess the implementation of IPE in educational institutions is by analyzing students' perceptions of the importance of IPE in the curriculum. A survey on students' perceptions of IPE among medical and dental students conducted by Hackenberg at Johannes Gutenberg University in Mainz, Germany, in 2023 showed that dental students rated the relevance of IPE higher, which correlated significantly with their motivation to continue IPE after graduation compared to medical students. Furthermore, the correlation model in this study suggests that dental students who have acquired basic medical knowledge are better able to understand the importance of IPE.<sup>11</sup> This is because students have come to understand the inseparable connection between the two professions.

A cross-sectional study conducted by Hakiman in 2016 showed that 100% of undergraduate dental students and 96.4% of dental professional students at Padjadjaran University had a positive perception of IPE.<sup>12</sup> It is known that IPE course material has been introduced as part of the theoretical curriculum at Padjadjaran University, thereby having a positive impact on students' perceptions. A similar finding was reported in a study conducted by Annisa et al. in 2021, in which 60% of dental medicine students at Airlangga University had a positive perception of IPE.<sup>13</sup>

A similar phenomenon was also observed in a study conducted by Haresaku et al. in 2024. There was an increase in the level of perception and knowledge among dental students and nursing students after they participated in a 45-hour IPE program. The IPE program was designed to incorporate learning through video media, nursing training, and lectures. After the program concluded, dental students expressed satisfaction with the nursing training. On the other hand, interprofessional communication skills did not improve significantly, likely due to the discussion time between the two programs being only thirty minutes, which was considered insufficient.<sup>14</sup>

Students' awareness and positive perceptions of the ultimate learning objectives of IPE indicate their readiness for IPE. In 2023, Faizin conducted a survey of medical and dental students using the Readiness Interprofessional Learning Scale (RIPLS). The results showed that all students were ready to engage in IPE, with dental students scoring in the "good" readiness category. An important consideration from this study is that the participating students were third-year students who had already been extensively exposed to dental theory, so they understood the importance of the interconnection between the field of dentistry and other professions.<sup>15</sup> This indicates that knowledge is a key factor in determining a student's readiness for IPE.

Integrating IPE content into the curriculum as early as possible can help students better understand the importance of interprofessional collaboration. The Institute of Medicine states that the proportion of IPE instruction should ideally continue to increase at each stage. In the classroom, first-year students are introduced to the values and information about their profession to help shape their professional identity. Over time, field-based learning becomes more in-depth and complex as healthcare professionals must interact with patients, families, and communities.<sup>5</sup> With the experience gained during the learning process, students are also expected to solve problems and provide patient-centered healthcare services.

### 3.2. Barriers to IPE Implementation Among Dental Students

In developing interprofessional education competencies, a consensus is needed on the best ways to improve healthcare services through collaborative practice. Harmonized standards among all healthcare professionals facilitate a better understanding of oneself and other professions. To this end, the international organization Interprofessional Education and Collaboration (IPEC) has established four domains that have been refined and revised over time. These four domains are values and ethics, roles and responsibilities, communication, and teamwork.<sup>16</sup>

One way to implement these competencies is through integration into existing curricula. A systematic review conducted by Khabeer and Faridi in 2024 concluded that adding IPE to an already packed curriculum would increase students' workload and leave no time to fully implement the material.<sup>17</sup> The same conclusion was reached by Carlisle and Taing in 2021, who noted that the dental curriculum is considered dense and rigid, thus requiring collaboration among students, staff, and policymakers to effect change.<sup>18</sup> Makeen et al. in 2023 also argued that curriculum updates are necessary to optimally integrate IPE.<sup>19</sup>

Another consideration in integrating IPE into the curriculum is adapting it to each specific profession. In 2018, Misra et al. conducted a study involving medical and dental students by providing clinical IPE sessions to help them learn about each other's professions. After one year, it was found that dental students believed that problem-solving simulations could only be effectively learned within their own degree programs.<sup>20</sup> This is likely due to the fact that cases encountered in dentistry are not found in the medical profession, making interprofessional learning with other professions seem less relevant.

The uniqueness and specificity of cases encountered in dentistry can pose a barrier to the implementation of IPE if not addressed. Numasawa et al. at 2021 noted that prior to an IPE workshop, dental students believed they did not need to engage in interprofessional collaboration because there were few case scenarios requiring them to work with other professions. After the workshop, dental students felt that their contribution to solving case scenarios alongside other professions was minimal because they had few opportunities to offer their opinions.<sup>21</sup>

Another obstacle that remains a challenge is the evaluation method for IPE programs within the curriculum. Results from a survey of IPE in the curricula of eight dental schools in the United States conducted by Jiang et al. in 2020 showed

that there was no consensus regarding IPE evaluation methods and that nearly one-fifth of IPE programs lacked an evaluation method.<sup>22</sup> A similar finding was reported by Alzahrani et al. in 2025, where the challenges in IPE education at dental and nursing schools stemmed from an overly heavy curriculum and the complexity of assessment.<sup>23</sup> This highlights the need to develop standardized and widely accepted IPE assessment instruments.

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#### 4. Conclusion

The strong link between oral and systemic health has made interprofessional collaboration essential to holistic patient care over the past decade. Dental students consistently show positive perceptions of interprofessional education (IPE) and good readiness to engage in it, especially when exposed to IPE content early and progressively, as stronger foundational knowledge helps them recognize the interconnection between dentistry and other health professions.

Despite this readiness, implementation remains hindered by structural barriers: an already dense curriculum leaves little room for additional content, the specificity of dental cases can make interprofessional learning feel less relevant, and the lack of standardized evaluation instruments limits consistent outcome measurement. Addressing these barriers through deliberate curriculum redesign and robust assessment tools is essential to translating dental students' readiness into effective interprofessional practice and holistic, patient-centered care.

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#### Compliance with ethical standards

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##### *Disclosure of conflict of interest*

The authors declare they have no conflict of interests.

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