

Exploring Interprofessional Education for Collaborative Practice (IPECP) in Oral Health Education for Professional and Interprofessional Socialization and Identity Development: A Scoping Review Protocol

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Abstract

Introduction: Interprofessional collaboration between health professionals supports enhanced patient care and outcomes. IPECP in pre-licensure education supports professional and interprofessional socialization. Within IPECP students develop an understanding of their professional role and identity. IPECP experiences also contribute to interprofessional identity formation, where collaborative attitudes, behaviours, and skills are developed that support collaboration in practice. IPECP literature in oral health education for dentistry (DDS) and dental hygiene (DH) students is limited. It is not well understood how DDS and DH students are educated in IPECP and prepared for collaborative practice. **Inclusion criteria:** This review will consider studies specific to IPECP models used in the pre-licensure education of DDS and/or DH students and IPECP models used in health professions education that include at minimum one (1) cohort of DDS or DH students. **Methods:** A pilot search of CINAHL and DOSS was conducted to identify keywords and indexed terms. Databases searched will include CINAHL, MEDLINE, DOSS, and APA PsycInfo. Peer-reviewed articles satisfying inclusion criteria will be sourced and bibliographies searched for additional literature. Articles will be independently screened for title and abstract, followed by full-

text review by two reviewers. A modified JBI-tool will be used for data extraction. Data will be presented in table and diagram forms, accompanied by a narrative summary.

Keywords: collaborative practice, dental hygiene, dentistry, interprofessional identity development, interprofessional education

Introduction

Interprofessional collaborative practice (IPC) among the health professions has been widely recognized as a foundational component of comprehensive health care delivery and effective health systems (Reeves et al., 2013; World Health Organization, 2010). A need to educate health professionals to work interprofessionally has been acknowledged across health systems and organizations globally, and targeted strategies include the integration of interprofessional education into the pre-licensure curriculum of health professions programs (World Health Organization, 2010). Interprofessional education (IPE) is defined as “two or more professions learning with, from and about each other” (Centre for the Advancement of Interprofessional Education, 2019). There is growing evidence in support of interprofessional education for collaborative practice (IPECP) in pre-licensure education to promote students’ ability to work and communicate across disciplines, enhancing collaboration and quality of care (Azzam et al., 2022; Khalili et al., 2013; Price et al., 2021a, 2021b). Within IPECP experiences, students begin to develop an understanding of their professional role, the roles of other professions, and how to practise collaboratively as a team (Brandt et al., 2023; Khalili & Orchard, 2020; Reeves et al., 2013).

The exploration of IPECP experiences for professional socialization and their contributions to the development of a professional and interprofessional identity is growing in the literature (Khalili & Price, 2022; Price et al., 2021b; Reeves et al., 2013). Professional socialization is a process through which individuals learn and embody the responsibilities, attitudes, and social behaviours of their chosen profession (Sadeghi Avval Shahr et al., 2019). The foundations of professional identity formation are laid out within students’ professional education programs and pre-licensure education (Frenk et al., 2010; Khalili et al., 2013; Price et al., 2021a, 2021b). IPECP experiences are identified as a catalyst for both developing professional identity and promoting socialization between professions (Khalili et al., 2013; Reeves et al., 2013). IPECP experiences have also been found to promote interprofessional socialization in which values and behaviours conducive to effective teamwork are developed (Khalili et al., 2013; Khalili & Orchard, 2020). Through collaborative experiences and exposure to other professions, individuals come to develop a dual professional and interprofessional identity that is integral to interprofessional teams in practice (Khalili & Orchard, 2020; Khalili & Price, 2022).

Research on IPECP for developing a dual professional and interprofessional identity is growing in the health education literature. However, a scan of the evidence reveals that the oral health professions (dentistry and dental hygiene) have been largely excluded (Hamil, 2017; McComas et al., 2019; Morison et al., 2008). Dentists and dental hygienists are experts in the oral-systemic health link, and their professional knowledge and skills are essential to effective management and prevention of oral and systemic disease (Levy et al., 2023; Watt et al., 2019). However, oral health professions have been traditionally educated in silos and have historically followed profession-specific curricula and pre-licensure clinical training models (Hamil, 2017). Enacting comprehensive oral health care requires interprofessional approaches in which oral health professionals are working with and alongside others in collaborative interprofessional teams in care delivery (Levy et al., 2023; Prasad et al., 2019; Watt et al., 2019). There is a gap in knowledge and a need to understand

how future dentists and dental hygienists are educated in, and socialized to, interprofessional practice—and how they are equipped with the knowledge and skills to assume roles within interprofessional care teams in future practice (McComas et al., 2019).

The purpose of this scoping review is to better understand how IPECP is currently occurring in dentistry and dental hygiene pre-licensure education and how the characteristics of IPECP experiences enable professional and interprofessional socialization and interprofessional identity development in students. A preliminary search of CINAHL (EBSCOhost) and DOSS (Dentistry and Oral Sciences Source; EBSCOhost) was conducted, and no current systematic reviews or scoping reviews were identified on this topic. A scoping review was selected as the most appropriate approach to assess the extent of the literature relevant to current IPECP programming within pre-licensure education programs for dentistry and dental hygiene students and to identify models and characteristics of IPECP for professional and interprofessional socialization and identity development. The research team plans to use these findings to inform gaps in current pedagogical approaches and curriculum for IPECP in oral and health education and to direct future research and curricular reform that can support and strengthen IPC and health care teams in practice.

Objectives

The aim of this review is to assess the extent of the literature relevant to current IPECP experiences for dentistry and dental hygiene students during pre-licensure education:

1. What models and characteristics of IPECP are identified to enable professional and interprofessional socialization and interprofessional identity development among dentistry and/or dental hygiene students?
2. What IPECP experiences are identified to enable development of collaborative skills, attitudes, behaviours, and readiness for collaborative practice among dentistry and/or dental hygiene students?

Methods

Eligibility Criteria

The target population of this scoping review are dentistry and/or dental hygiene students within IPECP during their pre-licensure education. The professions of dentistry and dental hygiene, while distinct, are often categorized together under the umbrella term of “oral health professions,” which may also be extended to include additional oral health care providers such as dental assistants, therapists, and others (Hamil, 2017). For the purposes of this review, sources of evidence specific to dentistry and dental hygiene within IPECP will be included.

Studies on IPECP for professional and interprofessional socialization in health professions pre-licensure education broadly, which include at minimum one cohort of dentistry or dental hygiene students in an IPECP model, will be included in this review. Rationale for this inclusion criteria is to source the best evidence available on IPECP and the characteristics of experiences supporting professional and interprofessional socialization, identity development, and perceived readiness of dentistry and/or dental hygiene students to work within collaborative interprofessional care teams upon program completion.

Concept

This review will identify IPECP experiences currently used in the context of pre-licensure education for dentistry and/or dental hygiene students. IPECP programming is inclusive of exposure

events and experiences across online, classroom, clinical, community-based, and hybrid settings in which students from two or more professions learn with, from, and about each other to develop mutual understanding and the skills, attitudes, and behaviours that support effective interprofessional health care practice (Azzam et al., 2022). In addition, this review will explore the evidence of IPECP experiences for professional and interprofessional socialization enabling students' development of an interprofessional identity and perceived readiness for IPC in future practice.

Context

This review will be confined to exploring studies relevant to IPECP experiences during pre-licensure education that include dentistry and/or dental hygiene students. As these are both oral health professions, the terms “intraprofessional” and “interprofessional” are often used interchangeably in the literature to describe IPECP experiences between dentistry and dental hygiene, and both terms will be included in this review and search strategy (American Dental Education Association, 2016; Hamil, 2017).

Types of Sources

This scoping review will consider quantitative studies on IPECP that use both experimental and quasi-experimental designs, including before and after (pre-test/post-test) studies and interrupted time-series studies. In addition, descriptive observational studies will be considered for inclusion. Qualitative studies on IPECP will also be considered when they focus on qualitative data sourced from, but not limited to, methodologies such as phenomenology, narrative inquiry, grounded theory, ethnography, and qualitative description. Mixed-methods studies designed to generate quantitative and qualitative data from a combined approach of the research methods/methodologies described will be considered.

Study Design

The proposed scoping review will be guided by JBI methodology for scoping reviews (Aromataris & Munn, 2020) and the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist. This protocol is registered in Open Science Framework (Van Dam & Price, 2024).

Search Strategy

The search strategy will aim to locate published, peer-reviewed studies on the topic of IPECP in dentistry and/or dental hygiene education and professional and interprofessional socialization and students' interprofessional identity development. An initial limited search of CINAHL (EBSCOhost) and DOSS (EBSCOhost) was undertaken to identify articles on the topic with the assistance of a subject specialist research librarian. The text words contained in the titles and abstracts of relevant articles, as well as the indexed terms used to describe the articles, were used to develop a full search strategy for CINAHL (EBSCOhost), DOSS (EBSCOhost), MEDLINE (PubMed), and APA PsycInfo. An example search strategy is provided (Appendix B). The search strategy, including all identified keywords and index terms, will be adapted for each database. The reference lists of all included sources of evidence will also be screened for additional studies.

The boundaries of this review will be defined by inclusion and exclusion agreed upon by the reviewers and will be applied across all databases. Studies that satisfy inclusion criteria and will be included in this scoping review are as follows: peer-reviewed studies pertinent to IPECP models used in pre-licensure education of dentistry and/or dental hygiene students published in the past 10 years (January 2014–May 2024) in English. The date filter coincides with the publication of seminal literature related to the topic (American Dental Education Association, 2016; Khalili & Orchard, 2020;

Khalili & Price, 2022). Studies are limited to English because qualified language interpreters are not readily available and no authors are fluent in languages other than English.

Non-peer reviewed sources such as grey literature, unpublished studies, and commentaries will be excluded due to potential risk of reporting bias or conclusion bias on IPECP experiences and their contributions to professional and interprofessional socialization and interprofessional identity development for oral health students.

Studies will be deemed eligible for inclusion if they are found to evaluate or explore IPECP experiences used in dentistry and/or dental hygiene pre-licensure education or in pre-licensure health education programs broadly, inclusive of at minimum one (1) cohort of dentistry or dental hygiene students. Studies specific to the topic of IPECP for professional and interprofessional socialization and interprofessional identity development will be included only if a sampling of dentistry or dental hygiene students was used, to maintain closeness and specificity to the research questions. Full inclusion and exclusion criteria are outlined in Appendix A.

Study/Source of Evidence Selection

Following the search, all identified article citations will be collated and uploaded into online article tracking software, Covidence (www.covidence.org), and duplicates removed. Following a pilot test, titles and abstracts will then be screened by two independent reviewers for assessment against the inclusion criteria for the review. Sources deemed potentially relevant to the topic of IPECP in dentistry and/or dental hygiene education will be retrieved in full text. Full text review of sources retrieved will be assessed in detail against the inclusion criteria by two independent reviewers. Reasons for exclusion of sources of evidence at full text that do not meet the inclusion criteria will be recorded and reported in the scoping review. Any disagreements that arise between reviewers at each stage of the selection process will be resolved through discussion, or with an additional reviewer, until a consensus is reached regarding eligibility for inclusion. The results of the search and the study inclusion process will be reported in full in the final scoping review and presented in a Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) flow diagram (Tricco et al., 2018).

Data Extraction

A modified version of the JBI extraction tool for source of evidence details, characteristics, and results (Peters et al., 2020) will be piloted to extract data from a subset of articles deemed eligible for inclusion in the scoping review by a single independent reviewer. The data extracted will include specific details about article authors, publication year, country of origin, study aims, participants, IPECP model used, duration of IPECP experience, study design/methods, and key findings or gaps in literature noted relevant to the review questions. All team members have approved the data extraction tool design. A draft of the extraction tool is provided (Appendix C). Data extracted will be subsequently reviewed by all team members prior to extracting data from all articles identified as eligible for inclusion. Any queries or disagreements that arise pertaining to data extraction will be discussed and reconciled among the team. The draft data extraction tool will be modified and revised as necessary during the process of extracting data from each included evidence source. Any modifications to the tool will be detailed in the scoping review. If appropriate, authors of papers will be contacted to request missing or additional data where required.

Data Analysis and Presentation

Data analysis in this scoping review will involve initial independent review of extracted data by a single independent reviewer for preliminary identification of IPECP models used in dentistry and/or dental hygiene education and to identify findings and emergent themes that inform the research questions. Independent analysis will be followed by group discussion among all reviewers

of preliminary findings. All reviewers will review the extracted data in order to confirm rigour in the data interpretation and to thematically categorize findings pertinent to the research questions as appropriate. Any disagreements that arise during data analysis and interpretation will be resolved through group discussion, until consensus is reached.

The evidence will be presented in both table and diagram formats, and a narrative summary will accompany the charted results describing their relation to the scoping review objective and research questions. This scoping review will also present the authors' recommendations for IPECP development in oral health education and directions for future research to support IPC and interprofessional health care teams in practice.

Limitations

A limitation to this review is that sources retrieved will be limited to peer-reviewed articles pertaining to IPECP in oral health education published in English, as translation services are unavailable. Resultingly, the authors acknowledge that additional sources relevant to this review published in non-peer reviewed journals or in languages other than English may be excluded. However, the authors confirm that results of preliminary database searches confirm the appropriateness of these limiters to produce sufficient evidence to inform the topic. As the intentions of a scoping review are to synthesize a broad scope of the current literature to inform future research, policy, and practice development, the authors confirm the rigour of this review protocol to inform future needs.

Ethics and Dissemination

Ethics approval for this study was not required, as it is a scoping review of the literature, and data is derived from previously published and publicly available studies. This review protocol is registered on Open Science Framework (Van Dam & Price, 2024). The findings of this review will be synthesized and used to inform and advance innovative IPECP development in oral and health professions education.

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Conflict of Interest

There is no conflict of interest in this project.

Author Note

LVD and SP conceptualized the study and designed, reviewed, and approved the final manuscript. This scoping review will contribute to a Doctor of Philosophy (PhD) for LVD.

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Appendices

Appendix A: Inclusion and Exclusion Criteria for a Scoping Review on Interprofessional Education for Collaborative Practice (IPECP) in Oral Health Education

Inclusion	<ul style="list-style-type: none"> • Peer-reviewed journal articles • Published in the past 10 years (2014–present) • English language • IPECP models used in pre-licensure education of dentistry and dental hygiene students • IPECP models used in pre-licensure education of health professions students that include at minimum one (1) cohort of dentistry or dental hygiene students
Exclusion	<ul style="list-style-type: none"> • Non-peer reviewed articles, grey literature • > 10 years since publication • Studies exploring IPECP models in health professions pre-licensure education that do not include a cohort of dentistry or dental hygiene students. • Studies exploring IPECP models used among practising oral/health professionals • Studies reporting on IPECP models from the perspective of educators/program administrators/institutional quality assessment

Appendix B: Database Search Strategy

CINAHL (EBSCOhost)

Date Searched: Jan 26, 2024

	Search	Record Retrieved
1	Dentistry OR dental hygiene	35,992
2	(inter-disciplinary OR interdisciplinary) OR (multi-disciplinary OR multidisciplinary) OR (interprofessional OR inter-professional) OR (intra-professional OR intraprofessional) OR collaborat*	257,296
3	“professional identity” OR social*	478,427
4	S1 AND S2 AND S3 Limiters- abstract available; 2014-01-01-current; Scholarly (Peer Reviewed)	100

Appendix C: Modified-JBI Template for Source of Evidence Details, Characteristics and Results Extraction Tool^a

Study Details	
Title/Authors/Year of Publication/Country	
Aims/Objectives	
Research Questions	
Inclusion/Exclusion Criteria	
Student Population/Sample Size	
Concept/Design	
Type of study (qual/quant/mixed-methods)	
IPECP Model	
Duration of IPECP	
Details/Results Extracted	
Key Findings of IPECP Experience	
Gaps Identified	

^a Adapted from: Aromataris E, Munn Z. Appendix 11.1 JBI template source of evidence details, characteristics and results extraction instrument. JBI Manual for Evidence Synthesis. JBI. 2020.