

# BMJ Open Interprofessional education in health professions education programmes in the Arab world: a scoping review protocol

Susan Waller <sup>1,2</sup>, Linda Östlundh <sup>1,3</sup>, Alla El-Awaisi <sup>4</sup>

**To cite:** Waller S, Östlundh L, El-Awaisi A. Interprofessional education in health professions education programmes in the Arab world: a scoping review protocol. *BMJ Open* 2022;**12**:e065930. doi:10.1136/bmjopen-2022-065930

► Prepublication history and additional supplemental material for this paper are available online. To view these files, please visit the journal online (<http://dx.doi.org/10.1136/bmjopen-2022-065930>).

Received 28 June 2022  
Accepted 28 October 2022



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<sup>1</sup>College of Medicine and Health Sciences, United Arab Emirates University, Al Ain, UAE

<sup>2</sup>Faculty of Medicine, Nursing and Health Sciences, Monash University, Clayton, Victoria, Australia

<sup>3</sup>Örebro University, Örebro, Sweden

<sup>4</sup>College of Pharmacy, Qatar University, Doha, Qatar

## Correspondence to

Dr Susan Waller;  
swaller@uaeu.ac.ae

## ABSTRACT

**Introduction** Interprofessional education is a relatively new addition to health professional education curricula in the Arab world. To understand current practice in this area, a scoping review will enable reporting of essential elements for the implementation of interprofessional education. The objective of this scoping review is to report on the implementation components, including presage, process and product, of interprofessional education in prelicensure health professions education programmes in the Arab world.

**Methods and analysis** A comprehensive and systematic search for literature will be conducted using eight electronic databases from their inception to September 2022. A presearch was devised in PubMed, Scopus and CINAHL using a combination of terms related to population, context and concept. The Covidence Systematic Review tool will be used for blind screening, selection and conflict resolution. Data will be presented in tabular format and as a narrative synthesis and will include elements that support the implementation of interprofessional education. This review will be presented according to the Joanna Briggs Institute methodology.

Studies conducted with students and/or faculty in prelicensure health professions education programmes will be included. The concept to be explored is interprofessional education. The context is the region commonly known as the Arab world, which includes 18 countries, sharing many common social and cultural traditions and where Arabic is the first language. Excluded will be studies conducted on collaborative practice of health professionals and postlicensure interprofessional education.

**Ethics and dissemination** No ethical approval was required. Findings will be disseminated in conference presentations and peer-reviewed articles.

## BACKGROUND

The World Health Organization (WHO) Framework for Action Report on Interprofessional Education (IPE) and Collaborative Practice (CP)<sup>1</sup> highlighted the vital role of incorporating IPE into healthcare curricula to create and prepare a healthcare workforce best able to learn and work together to meet the changing and complex health challenges

## STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ The review will be informed by the Joanna Briggs Institute methodology for scoping reviews and reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-analyses extension for Scoping Reviews.
- ⇒ The search strategy includes eight databases from inception to present and has no language filter enabling studies to be searched in all community languages of the region.
- ⇒ Strategic components of an educational activity, presage, process and product will be used to guide data extraction so that elements of implementation can be reported and inform future interprofessional education and research.
- ⇒ Although the review will be systematic and comprehensive, there will be no formal assessment of study quality or critical appraisal of the various components extracted and reported.

today and in the future. This seminal report also stressed the importance of tailoring IPE and CP to the local regional context.

IPE lays the foundation for CP and supports the development of role understanding, effective interprofessional communication and teamwork skills. Regional accreditation systems and health service regulations worldwide are increasingly recognising that multi-disciplinary teamwork and CP are essential to safe and quality healthcare.<sup>2,3</sup> Pioneers in the region, the School of Pharmacy and the School of Nursing at the Lebanese American University (LAU) have demonstrated to their respective accreditation bodies that their IPE programme meets the required standards.<sup>4</sup> While IPE is a well-known concept in many Western countries and is integrated across healthcare curricula, the status of IPE in the Arab world is largely unexamined; however, in recent years, more IPE research has emerged from this region.<sup>5</sup> One of the first countries in the region to establish IPE within



their programmes was Lebanon in 2010<sup>6</sup> and then Qatar in 2014.<sup>7</sup> These were followed by some important events such as the first IPE symposium for academic healthcare faculty in Qatar in February 2015 and then in December 2015 with Qatar University hosting the First Middle Eastern Conference on IPE, which attracted more than 300 participants from 13 countries.<sup>8,9</sup> Since then, Qatar University has collaborated with the World Confederation for Interprofessional Practice and Education (Interprofessional.Global) to establish an Arabic-speaking IPE network to represent the region. Furthermore, Qatar will host the 11th event of the All Together Better Health conference in 2023, bringing this IPE global conference to the region for the first time.

To frame this scoping review, it is essential to refer to the wider literature on IPE. This will enable the extraction of data to inform implementation or further development of IPE in the Arab world. In a seminal paper on IPE, the modified Biggs 3P model of teaching and learning was used to illustrate the elements that require consideration in the implementation of IPE activities.<sup>10</sup> This model supports the investigation of components and their interactions in educational activities. The 3P stands for Presage, Process and Product. *Presage* or context includes teachers' and learners' characteristics and the resources they have access to. *Process* refers to the teaching and learning methods used to deliver IPE. *Product* refers to the outcomes of IPE which may include change in attitude, behaviour or system change.

Presage or the context in which IPE is to be introduced has been reported to occur where there is minimal collaboration across programmes with different disciplines in their institution.<sup>11</sup> Farra *et al* also identified curriculum space, timing and integration as an issue.<sup>4</sup> The size of the study cohort in a particular discipline such as medicine or nursing makes it challenging to work with smaller-sized disciplines such as speech pathology or social work. In the programme at LAU, there are graduate entry programmes for medicine and pharmacy so this can be a challenge to addressing differences in participants.<sup>4</sup> Both El-Awaisi *et al* and Al Ruthia *et al* report on focus groups with faculty using a strengths, weaknesses, opportunities and challenges framework.<sup>5,12</sup> At both Qatar University and King Saud University, an established curriculum, role stereotypes and limited resources as constraints and barriers were identified.

How the process for IPE or the teaching and learning methodology is implemented across the region varies, but there are also some commonalities. An online IPE intervention across medical, dental and health sciences programmes was conducted at the University of Sharjah.<sup>13</sup> Fifty-five volunteer participants from these programmes attended an orientation to IPE and were then divided into multidisciplinary small groups with a faculty facilitator and presented with a case scenario. They participated in a 30-minute interactive case discussion with the facilitator encouraging discussion of roles and opportunities for collaboration. The larger group was then reconvened,

and participants shared their feedback and reflections. At LAU, where the IPE programme is more established, the use of mandatory half-day workshops across all health professions education programmes has been designed to develop common collaborative competencies for clinical practice.<sup>4</sup> These workshops include simulated interprofessional care conferences and multidisciplinary facilitation, focusing on presenting roles of various health professions and addressing existing stereotypes. Whether online or in person, activities include multiple student disciplines, are interactive, case based and aimed at greater understanding of each other's roles and how to work together.

A product or outcome reported in the region has been a positive attitude towards IPE. Several studies have been conducted to explore the attitudes towards IPE across various disciplines.<sup>6,11,14-16</sup> A positive response towards IPE was reported, but it was noted in these studies that there was also a need to better understand the roles of each profession in the healthcare team. The Readiness for Interprofessional Learning Scale was used in these studies and has been translated into the Arabic language; the authors reported its limitations as a tool for assessing change in attitude following an intervention and questioning its cultural alignment.<sup>17</sup>

This scoping review will provide a structured and comprehensive search of the emerging literature in this area. A scoping review will allow mapping of existing evidence and reporting of aspects of implementation, presage, process and products, which may inform further developments in this area. Country of origin will be extracted for all studies and the number of publications found.

The objective of this scoping review is to report on implementation components, including presage, process and products, of IPE in prelicensure health profession education programmes in the Arab world.

## REVIEW QUESTIONS

- ▶ What are the contextual factors or presage reported in IPE in the Arab world?
- ▶ What are the process factors noted in IPE in the Arab world?
- ▶ What are the products or outcomes of IPE in the Arab world?

## INCLUSION AND EXCLUSION CRITERIA

### Participants

This review will consider studies that include students and faculty in prelicensure health professions education programmes in the Arab world. Studies may be conducted in the institution or in clinical settings. Studies related to practising health professionals or students in postgraduate settings will be excluded (see [table 1](#)).

### Concept

IPE is the concept to be explored. As defined by the Centre for the Advancement of Interprofessional Education,

**Table 1** Inclusion and exclusion criteria

	Participants	Concept	Context	Study type
Inclusion criteria	Prelicensure health professions education students and faculty	Interprofessional education activities	Arab world (including 18 countries specified in the review)	Peer-reviewed, published quantitative, qualitative and mixed-methods study designs
Exclusion criteria	Postlicensure health professionals	Multidisciplinary education activities that do not require learners to learn 'with', 'from' and 'about' each other as per the CAIPE definition	Studies conducted in countries beyond the Arab world	Grey literature, unpublished materials, reviews of all types, conference abstracts, editorials, letters and opinion pieces

CAIPE, Centre for the Advancement of Interprofessional Education.

IPE aims to improve patient care through an interactive learning process: 'IPE occurs when two or more professions learn with, from, and about each other to improve collaboration and the quality of care'.<sup>18</sup>

Shared learning among healthcare students that is not interactive or aimed at increasing their understanding across disciplines will not be included. Uniprofessional studies will not be included unless there is a specific aim to examine readiness for IPE or develop interprofessional practice competencies (see [table 1](#)).

### Context

This review will consider studies conducted in prelicensure health professions education programmes in the Arab world. These studies may be conducted in their institutions or in clinical settings. Eighteen countries will be included in the scoping review. These countries are the United Arab Emirates, Saudi Arabia, Yemen, Qatar, Lebanon, Jordan, Palestine, Morocco, Tunisia, Iraq, Kuwait, Syria, Algeria, Egypt, Oman, Bahrain, Libya and Sudan. These countries are geographically close, and share many cultural and social traditions. Arabic is the first language in each country and comprises a region commonly known as the Arab world (see [table 1](#)).

Postlicensure IPE will be excluded, as will studies reporting collaborative practice in health professions.

### Study types

Quantitative, qualitative and mixed-methods study designs that inform peer-reviewed published studies will be considered for inclusion in this scoping review.

Grey literature, unpublished materials, reviews of all types, conference abstracts, editorials, letters and opinion pieces will be excluded (see [table 1](#)).

## METHODS AND ANALYSIS

The proposed scoping review will be informed by the Joanna Briggs Institute (JBI) methodology for scoping reviews<sup>19</sup> and reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-analyses extension for Scoping Reviews.<sup>20</sup> The review is scheduled to start in September 2022 with the estimated date of completion in February 2023.

### Patient and public involvement

There was no patient involvement in the production of this protocol.

### Search strategy

A search for ongoing and published scoping and systematic reviews in PROSPERO, the Open Science Framework, JBI Register for Scoping Reviews, PubMed, Cochrane Database of Systematic Reviews, Scopus, Embase, CINAHL and ERIC was conducted on 1 March 2022 (LÖ and SW). No published or in-progress scoping reviews or systematic reviews on this topic were identified.

Presearches in the PubMed, CINAHL and Scopus databases to identify search terms representing the population, concept and context were conducted in February–April 2022 by a medical librarian (LÖ), specialised in search strategies for systematic and scoping reviews. Search terms and relevant synonyms were systematically selected with the help of PubMed and PubMed's Medical Subject Headings (MeSH) and evaluated by the subject experts (SW and AE-A). A combination of the search fields title, abstract, keywords and MeSH terms was applied for all search terms for the best possible search results. The details and results of the presearch are reported in online supplemental appendix 1. A pilot screening of the papers identified in the preliminary search in PubMed, CINAHL and Scopus was conducted in Covidence review software<sup>21</sup> by SW and LÖ to ensure the existence of sufficient studies for a review. Three papers that match the preset eligibility criteria will be used to conduct a pilot of the extraction criteria (SW and AE-A). This will test the ability of the extraction table elements to address the research questions. This will be reported in the full review.

The search strategy developed in the presearch will be systematically repeated in PubMed (NLM), Embase (Elsevier), Scopus (Elsevier), Web of Science (Clarivate), ERIC (EBSCOhost), PsycInfo (EBSCOhost), CINAHL (EBSCOhost) and Africa Wide Information (EBSCOhost) in September 2022 (LÖ). No language or publication year filter will be applied so studies found in languages other than English, including Arabic and French, common regional languages, will be included. Finally, hand screening of the reference lists of the selected papers will

be conducted, and experts in the field will be contacted to identify any additional papers that were not identified in the database search. Detailed and transparent search reports of the complete search will be appended to the final review.

The systematic review software Covidence<sup>21</sup> will be used for the deduplication of all records identified in the search and for blinded screening, conflict resolution and selection. Cabell's Predatory Report<sup>22</sup> will be consulted to ensure the academic quality of the final selected papers published in open-access journals (LÖ and SW).

### Study/source of evidence selection

The titles and abstracts of all unique records identified in the literature search will be screened independently by SW and AE-A, according to the review's inclusion criteria. Screening will be conducted in the Covidence program.<sup>21</sup> The researchers will then independently review the full texts of the included papers and reasons for the exclusion will be reported. Conflicts identified in the screening will be resolved by a third independent reviewer. A Preferred Reporting Items for Systematic Reviews and Meta-analyses flow diagram<sup>23</sup> will be used to report on the screening and selection process.

### Data extraction

SW and AE-A will independently extract data from the selected studies using collaboratively chosen data extraction elements. Data extraction will be presented in tabulated (see online supplemental appendix 2) and in narrative forms. Any changes that are made to the data extraction elements once the review is underway will be reported in the final review, along with the reasons for modification.

The data extracted will include specific information about the participants, the concept, context, country of origin of the study, study method and design, and other key findings relevant to the review questions. The key findings will be further tabulated under the elements of the presage (context), process and product (outcomes).

Authors of papers will be contacted to request missing or additional data where required.

### Data analysis and presentation

Data extraction will be presented in tabulated and narrative forms. A copy of the data extraction table and its headings is provided in online supplemental appendix 2. Any changes made to the data extraction elements once the review is underway will be fully reported in the final review, along with the reasons for modification. The narrative summary will describe how these aspects of the data are used to meet the scoping review objective and answer the review questions.<sup>24</sup>

### ETHICS AND DISSEMINATION

As this is a scoping review, no ethics approval is required. Dissemination will include presentations of findings and

analysis at relevant conferences and in peer-reviewed journal articles. Findings will also be shared and discussed in the IPE regional educator network.

**Contributors** SW developed the concept of the review and wrote the first draft. SW, LÖ and AE-A contributed to the final design of the study, the preliminary search strategy and the extraction elements. SW, LÖ and AE-A have contributed to the writing and review of this manuscript.

**Funding** This study is supported by a United Arab Emirates University Start Up Grant (12M134).

**Competing interests** None declared.

**Patient and public involvement** Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

**Patient consent for publication** Not required.

**Provenance and peer review** Not commissioned; externally peer reviewed.

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### ORCID iDs

Susan Waller <http://orcid.org/0000-0002-6309-0360>

Linda Östlundh <http://orcid.org/0000-0001-5091-604X>

Alla El-Awaisi <http://orcid.org/0000-0001-7930-3351>

### REFERENCES

- 1 World Health Organization. *Framework for Action on Interprofessional Education & Collaborative Practice*. Geneva: World Health Organization, 2010. <https://www.who.int/publications/i/item/framework-for-action-on-interprofessional-education-collaborative-practice>
- 2 Bogossian F, Craven D. A review of the requirements for interprofessional education and interprofessional collaboration in accreditation and practice standards for health professionals in Australia. *J Interprof Care* 2021;35:691–700.
- 3 Azzam M, Puvirajah A, Girard M-A, et al. Interprofessional education-relevant accreditation standards in Canada: a comparative document analysis. *Hum Resour Health* 2021;19:1–13.
- 4 Farra A, Zeenny R, Nasser S, et al. Implementing an interprofessional education programme in Lebanon: overcoming challenges. *East Mediterr Health J* 2018;24:914–21.
- 5 El-Awaisi A, Saffouh El Hajj M, Joseph S, et al. Interprofessional education in the Arabic-speaking middle East: perspectives of pharmacy academics. *J Interprof Care* 2016;30:769–76.
- 6 Zeeni N, Zeenny R, Hasbini-Danawi T, et al. Student perceptions towards interprofessional education: findings from a longitudinal study based in a middle Eastern university. *J Interprof Care* 2016;30:165–74.
- 7 El-Awaisi A, Wilby KJ, Wilbur K, et al. A middle Eastern journey of integrating interprofessional education into the healthcare curriculum: a SWOC analysis. *BMC Med Educ* 2017;17:15.
- 8 El-Awaisi A, Barr H. East meets West: working together in interprofessional education and practice. *J Interprof Educ Pract* 2017;7:72–4.
- 9 El-Awaisi A. Qatar—Sustaining Interprofessional Collaboration in Collaborative Partnership with Other Universities. In: *Sustainability and interprofessional collaboration*. Cham: Palgrave Macmillan, 2020: 125–45.

- 10 Freeth D, Reeves S. Learning to work together: using the presage, process, product (3p) model to highlight decisions and possibilities. *J Interprof Care* 2004;18:43–56.
- 11 Almalki A, Park YS, Tekian A. Needs assessment for interprofessional education: implications for integration and readiness for practice. *Healthcare* 2021;9:411.
- 12 AlRuthia Y, Bashatah A, Batis AA, *et al.* Exploring the opportunities and challenges to implementing interprofessional education in Saudi Arabia: a qualitative study among faculty. *J Interprof Care* 2022;3:1–11.
- 13 Guraya SY, Barr H. The effectiveness of interprofessional education in healthcare: a systematic review and meta-analysis. *Kaohsiung J Med Sci* 2018;34:160–5.
- 14 El-Zubeir M, Rizk DEE, Al-Khalil RK. Are senior UAE medical and nursing students ready for interprofessional learning? Validating the RIPL scale in a middle Eastern context. *J Interprof Care* 2006;20:619–32.
- 15 Al-Eisa E, Alderaa A, AlSayyad A, *et al.* The perceptions and readiness toward interprofessional education among female undergraduate health-care students at King Saud university. *J Phys Ther Sci* 2016;28:1142–6.
- 16 Shaikh H, Crowl AN, Shrader S, *et al.* Assessing self-perceived interprofessional collaborative competency on advanced pharmacy practice experiences through interprofessional simulations. *Am J Pharm Educ* 2020;84:7530–426.
- 17 Bashatah AS, Alsufyani AM, Samarkandi OA, *et al.* Psychometric appraisal of the readiness for interprofessional learning scale (RIPLS) Arabic-version. *Nurse Educ Today* 2022;108:105165.
- 18 Barr H. Interprofessional education. today, yesterday and tomorrow. A review. commissioned by the learning and teaching support network for health sciences and practice from the UK centre for the advancement of interprofessional education. CAIPE publications. Available: <https://www.caipe.org/resources/publications/caipe-publications/caipe-2002-interprofessional-education-today-yesterday-tomorrow-barr-h> [Accessed 17 Apr 17 2022].
- 19 Aromataris E, Munn Z, eds. *JBI manual for evidence synthesis*. Adelaide: JBI, 2020. <https://synthesismanual.jbi.global>
- 20 Tricco AC, Lillie E, Zarin W, *et al.* PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Ann Intern Med* 2018;169:467–73.
- 21 Covidence. *Veritas health innovation*. Melbourne, Australia.
- 22 Cabell's International. Predatory Reports [Database], 2022. Available: <https://www2.cabells.com/predatory> [Accessed 20 Apr 2022].
- 23 Page MJ, McKenzie JE, Bossuyt PM, *et al.* The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ* 2021;372:n71.
- 24 Peters MDJ, Godfrey C, Mclnerney P, *et al.* Best practice guidance and reporting items for the development of scoping review protocols. *JBI Evid Synth* 2022;20:953–68.

## Appendix 1: Pre search

Source and search date	Search string	Results and notes
<p><b>PubMed</b> (NLM) <b>Coverage:</b> from database inception to April 13, 2022</p>	<p>((Arab*[Text Word] OR "United Arab Emirates"[Text Word] OR UAE[Text Word] OR Emirat*[Text Word] OR KSA[Text Word] OR Saudi*[Text Word] OR Oman*[Text Word] OR Bahrain*[Text Word] OR Kuwait*[Text Word] OR Egypt*[Text Word] OR Jordan*[Text Word] OR Lebanon*[Text Word] OR Syria*[Text Word] OR Iraq*[Text Word] OR Palestin*[Text Word] OR Algeria*[Text Word] OR Sudan*[Text Word] OR Morocco*[Text Word] OR Qatar*[Text Word] OR Yemen*[Text Word] OR Tunis*[Text Word] OR Libya*[Text Word] OR "Middle East*" [Text Word] OR GCC[Text Word] OR "Gulf Cooperation Council"[Text Word] OR "North Africa*" [Text Word] OR "Africa Northern" [Text Word] OR "Northern Africa*" [Text Word] OR "Middle East"[Mesh:NoExp] OR "Bahrain"[Mesh] OR "Iraq"[Mesh] OR "Jordan"[Mesh] OR "Kuwait"[Mesh] OR "Lebanon"[Mesh] OR "Oman"[Mesh] OR "Qatar"[Mesh] OR "Saudi Arabia"[Mesh] OR "Syria"[Mesh] OR "United Arab Emirates"[Mesh] OR "Yemen"[Mesh] OR "Sudan"[Mesh] OR "Algeria"[Mesh] OR "Morocco"[Mesh] OR "Libya"[Mesh] OR "Tunisia"[Mesh] OR "Egypt"[Mesh] OR "Africa, Northern"[Mesh:NoExp]) AND ("interprofessional education*" [Text Word] OR "inter-professional education*" [Text Word] OR "interprofessional training" [Text Word] OR "inter-professional training" [Text Word] OR "interprofessional practice" [Text Word] OR "inter-professional practice" [Text Word] OR "interprofessional teach*" [Text Word] OR "inter-professional teach*" [Text Word] OR "interprofessional learn*" [Text Word] OR "inter-professional learn*" [Text Word] OR "interdisciplinary education*" [Text Word] OR "inter-disciplinary education*" [Text Word] OR "interdisciplinary training" [Text Word] OR "inter-disciplinary training" [Text Word] OR "interdisciplinary practice" [Text Word] OR "inter-disciplinary practice" [Text Word] OR "interdisciplinary teach*" [Text Word] OR "inter-disciplinary teach*" [Text Word] OR "interdisciplinary learn*" [Text Word] OR "inter-disciplinary learn*" [Text Word] OR "multidisciplinary education*" [Text Word] OR "multi-disciplinary education*" [Text Word] OR "multidisciplinary training" [Text Word] OR "multi-disciplinary training" [Text Word] OR "multidisciplinary practice" [Text Word] OR "multi-disciplinary practice" [Text Word] OR "multidisciplinary teach*" [Text Word] OR "multi-disciplinary teach*" [Text Word] OR "multidisciplinary learn*" [Text Word] OR "multi-disciplinary learn*" [Text Word] OR "multiprofessional education*" [Text Word] OR "multi-professional education*" [Text Word] OR "multiprofessional training" [Text Word] OR "multi-professional training" [Text Word] OR "multiprofessional practice" [Text Word] OR "multiprofessional teach*" [Text Word] OR "multi-professional teach*" [Text Word] OR "multiprofessional learn*" [Text Word] OR "multi-professional learn*" [Text Word] OR "collaborative practice"[Text</p>	<p><b>Results:</b> 98</p> <p><b>Notes:</b></p> <p>All keywords are searched in the fields: "Text Words" (including title, abstract and keywords) and in MeSH when available.</p> <p>No filters or limitations applied</p>

	<p>Word] OR "collaborative training"[Text Word] OR "collaborative educat*"[Text Word] OR "collaborative learn*"[Text Word] OR "collaborative teach*"[Text Word] OR "Interprofessional Education"[Mesh]))</p>	
<p><b>CINAHL</b> (EBSCOhost) <b>Coverage:</b> from database inception to April 13, 2022</p>	<p>((TI (Arab* OR "United Arab Emirates" OR UAE OR Emirat* OR KSA OR Saudi* OR Oman* OR Bahrain* OR Kuwait* OR Jordan* OR Leban* OR Syria* OR Iraq* OR Palestin* OR Algeria* OR Sudan* OR Egypt* OR Morocc* OR Qatar* OR Yemen* OR Tunis* OR Libya* OR "Middle East*" OR GCC OR "Gulf Cooperation Council" OR "North Africa*" OR "Africa Northern" OR "Northern Africa*") OR AB (Arab* OR "United Arab Emirates" OR UAE OR Emirat* OR KSA OR Saudi* OR Oman* OR Bahrain* OR Kuwait* OR Jordan* OR Leban* OR Syria* OR Iraq* OR Palestin* OR Algeria* OR Sudan* OR Egypt* OR Morocc* OR Qatar* OR Yemen* OR Tunis* OR Libya* OR "Middle East*" OR GCC OR "Gulf Cooperation Council" OR "North Africa*" OR "Africa Northern" OR "Northern Africa*") OR (MH "Arabs" OR "Middle East" OR "Bahrain" OR "Jordan" OR "Kuwait" OR "Lebanon" OR "Oman" OR "Qatar" OR "Saudi Arabia" OR "United Arab Emirates" OR "Yemen" OR "Iraq" OR "Syria" OR "Egypt" OR "Sudan" OR "Algeria" OR "Morocco" OR "Tunisia" OR "Libya" OR "Lebanon") AND (TI ( "interprofessional education*" OR "inter-professional education*" OR "interprofessional training" OR "inter-professional training" OR "interprofessional practice" OR "inter-professional practice" OR "interprofessional teach*" OR "inter-professional teach*" OR "interprofessional learn*" OR "inter-professional learn*" OR "interdisciplinary education*" OR "inter-disciplinary education*" OR "interdisciplinary training" OR "inter-disciplinary training" OR "interdisciplinary practice" OR "inter-disciplinary practice" OR "interdisciplinary teach*" OR "inter-disciplinary teach*" OR "interdisciplinary learn*" OR "inter-disciplinary learn*" OR "multidisciplinary education*" OR "multi-disciplinary education*" OR "multidisciplinary training" OR "multi-disciplinary training" OR "multidisciplinary practice" OR "multi-disciplinary practice" OR "multidisciplinary teach*" OR "multi-disciplinary teach*" OR "multidisciplinary learn*" OR "multi-disciplinary learn*" OR "multiprofessional education*" OR "multi-professional education*" OR "multiprofessional training" OR "multi-professional training" OR "multiprofessional practice" OR "multiprofessional practice" OR "multiprofessional teach*" OR "multiprofessional teach*" OR "multiprofessional learn*" OR "multiprofessional learn*" OR "collaborative practice" OR "collaborative training" OR "collaborative educat*" OR "collaborative learn*" OR "collaborative teach*" ) OR AB ( "interprofessional education*" OR "inter-professional education*" OR "interprofessional training" OR "inter-professional training" OR "interprofessional practice" OR "inter-professional practice" OR "interprofessional teach*" OR "inter-professional teach*" OR "interprofessional learn*" OR "inter-professional learn*" OR "interdisciplinary education*" OR "inter-disciplinary education*" OR "interdisciplinary training" OR "inter-disciplinary training" OR "interdisciplinary practice" OR "inter-disciplinary practice"</p>	<p><b>Results:</b> 66 <b>Notes:</b> All keywords are searched in the fields: "title" and "abstract" and "keywords" (here marked with "TI" and "AB") and in CINAHL Headings (here marked with "MH") when available.  No filters or limitations applied</p>

	<p>OR "interdisciplinary teach*" OR "inter-disciplinary teach*" OR "interdisciplinary learn*" OR "inter-disciplinary learn*" OR "multidisciplinary education*" OR "multi-disciplinary education*" OR "multidisciplinary training" OR "multi-disciplinary training" OR "multidisciplinary practice" OR "multi-disciplinary practice" OR "multidisciplinary teach*" OR "multi-disciplinary teach*" OR "multidisciplinary learn*" OR "multi-disciplinary learn*" OR "multiprofessional education*" OR "multi-professional education*" OR "multiprofessional training" OR "multi-professional training" OR "multiprofessional practice" OR "multiprofessional teach*" OR "multi-professional teach*" OR "multiprofessional learn*" OR "multi-professional learn*" OR "collaborative practice" OR "collaborative training" OR "collaborative educat*" OR "collaborative learn*" OR "collaborative teach*" OR MH "Education, Interdisciplinary"))</p>	
<p><b>Scopus</b> (Elsevier) <b>Coverage:</b> from database inception to April 13, 2022</p>	<p>((TITLE-ABS-KEY(Arab* OR "United Arab Emirates" OR UAE OR Emirat* OR KSA OR Saudi* OR Oman* OR Bahrain* OR Kuwait* OR Jordan* OR Leban* OR Syria* OR Iraq* OR Palestin* OR Algeria* OR Sudan* OR Egypt* OR Morocc* OR Qatar* OR Yemen* OR Tunis* OR Libya* OR "Middle East*" OR GCC OR "Gulf Cooperation Council" OR "North Africa*" OR "Africa Northern" OR "Northern Africa*" ) AND TITLE-ABS-KEY("interprofessional education*" OR "inter-professional education*" OR "interprofessional training" OR "inter-professional training" OR "interprofessional practice" OR "inter-professional practice" OR "interprofessional teach*" OR "inter-professional teach*" OR "interprofessional learn*" OR "inter-professional learn*" OR "interdisciplinary education*" OR "inter-disciplinary education*" OR "interdisciplinary training" OR "inter-disciplinary training" OR "interdisciplinary practice" OR "inter-disciplinary practice" OR "interdisciplinary teach*" OR "inter-disciplinary teach*" OR "interdisciplinary learn*" OR "inter-disciplinary learn*" OR "multidisciplinary education*" OR "multi-disciplinary education*" OR "multidisciplinary training" OR "multi-disciplinary training" OR "multidisciplinary practice" OR "multi-disciplinary practice" OR "multidisciplinary teach*" OR "multi-disciplinary teach*" OR "multidisciplinary learn*" OR "multi-disciplinary learn*" OR "multiprofessional education*" OR "multi-professional education*" OR "multiprofessional training" OR "multi-professional training" OR "multiprofessional practice" OR "multiprofessional teach*" OR "multi-professional teach*" OR "multiprofessional learn*" OR "multi-professional learn*" OR "collaborative practice" OR "collaborative training" OR "collaborative educat*" OR "collaborative learn*" OR "collaborative teach*"))</p>	<p><b>Results:</b> 380 <b>Notes:</b> All keywords are searched in the fields: "title", "abstract" and "keywords" (here marked with "TITLE-ABS-KEY"). No Subject headings or thesaurus available in Scopus. No filters or limitations applied</p>

## Appendix 2 Data Extraction Table

Article Title	
Authors	
Year of Publication	
Country of Origin	
Study design (Methods)	
Participants (N) (Presage)	
Presage (Context)	
Presage (Objectives of Study)	
Presage (Theory/ Framework)	
Concept (Including Definition of IPE)	
Process (Teaching and Learning methods)	
Process Evaluation Tool Used (if applicable)	
Product Level 1 Reaction	
Product Level 2a Modification	
Product Level 2b Acquisition of attitudes/ perceptions	
Product Level 3 Behavioural change	
Product Level 4a Change in organizational practice	
Product Level 4b Benefits to patients/client	
Product Recommendations	