Review title

The use of interprofessional education programs in health care: a scoping review protocol

Abstract

Objective: The objective of this scoping review will be to map and summarize the scientific evidence about interprofessional education programs (IPE) used in health care in order to inform future research.

Introduction: The authors consider that implementation of an IPE program in their organizations will contribute to a better quality of health care. It must be sensitive to the evidence concerning the topic. This scoping review intends to map and summarize that evidence as it is very dispersed, making it difficult to approach.

Inclusion criteria: Will be included studies and papers that address IPE programs used by health teams, with two or more professional groups, necessarily including nurses, in any health care setting. Scientific studies to health teams with students will be excluded, as well as papers in which the use of IPE program has not been evaluated.

Methods: The proposed scoping review will be conducted in accordance with the JBI methodology for scoping reviews(1). Search strategy will aim to locate articles published in English, Portuguese and Spanish, both publish and unpublished primary studies, reviews and texts and opinion papers. Studies will be selected by two independent reviewers and any disagreement will be resolved through discussion or with a third reviewer. Data extraction will be performed by the same two independent reviewers using a data extraction tool developed by them. The data will be presented graphically or in diagrammatic or tabular form, accompanied by a narrative summary.

Keywords: Collaborative practice; Interdisciplinary education; Interprofessional education; Interprofessional health team; Teamwork training.

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Introduction

Teamwork is the cornerstone of success in any team(2). Concerning the health subject, it improves results in 3 domains: health professionals reward through satisfaction and recognition of their work; inpatients health, by increasing quality of care and improving outcomes and in organizations potential, with an efficient control of costs and staff retention(3).

Health care has always been provided by interdisciplinary teams(4), composed by "members from different professions and occupations with varied and specialized knowledge, skills and methods"(5 p54). Teamwork in health care can be defined as a "dynamic process involving two or more health professionals with complementary backgrounds and skills, sharing common health goals and exercising concerted physical and mental effort in assessing, planning, or evaluating patient care. This is accomplished through interdependent collaboration, open communication and shared decision-making"(3, p238).

Health care complexity is due to several issues, such as:

1. Diversity of team members, depending on the context where care is given (e.g., community vs hospital). Will also depend on the nature of the recipients (e.g., children vs adults), nature of care (e.g., surgical vs non-surgical), care settings (e.g., ward vs emergency service) and identity of the team itself (team constituted by members of a single professional group, like nurses vs team constituted by members of several professions, like nurses, physicians, therapists, among others)(6);

2. Diversity of teams caring the same patient, each comprised for different professionals and/or professions. This will depend on the different patient needs (e.g., specialty evaluation), evolution of diseases and/or care (e.g., patient entering the emergency room, who needs surgery and afterwards hospitalization) and/or turnover of professionals in a ward (e.g., shift work)(7);

3. Diversity in the role and tasks of each team member and the way they interact, considering the responsibility and limits of each individual and professional group. The complexity of relations among members of health teams is associated with three dynamic processes. First, the segregation, with well-defined roles and rigid boundaries of actions between members. Second, the assimilation, through adaption to some tasks of other member(s). Last, the integration, with complementarity of

roles among members. These processes can be presented alone or in a mixed form increasing their intricacy.(8)

In 1988, World Health Organization (WHO) report considered multiprofessional education of health professionals essential to promote teamwork and improve health care, due to complexity of health community problems(9). It was defined as “a process by which a group of students (or workers) from the health-related occupations with different education backgrounds learned together during certain periods of their education, with interaction as an important goal, to collaborate in providing promotive, preventive, curative, rehabilitative and other health-related services”(9 p6,7).

The report published in 2000, by Institute of Medicine (IOM), estimate that during the year of 1996, United States of America spend 37,6 billion dollars addressing adverse events in medicine, 17 billion due to preventable situations(10). The human factor related to teamwork was considered one of the main causes(10). Development of strategies to training and, consequently, improve teamwork became a priority in health policies, in order to promote quality of health care and reduction of costs(6,11).

In 2003, IOM advocate interprofessional teamwork as an essential skill to be taught to health professionals, because this ability it is not inherent and must be learnt(5).

In 2010, WHO highlighted the importance of collaborative practice as a solution for the lack of human resources. This practice results from an articulated work of two or more health professional groups, with different roles and competences, which complement each other, together with patients, families and community, with the objective of deliver quality health care(11). This can be achieved by training team members how to work together efficiently through interprofessional education (IPE). IPE occurs “when two or more professions learn, about, from and with each other to enable effective collaboration and improve health outcomes”(11 p13).

In a concept analysis, IPE occurs “when two or more members of health care team (who participate either patient assessment and/or management) learn with, from and about each other as they collaboratively focus on patient-center care and achieving optimal health outcomes. In IPE, knowledge, and value sharing occur within and across disciplines”(12 p80). There are articles where other concepts, such as, but not limited to, multidisciplinary education, interdisciplinary education,

teamwork training and/ team training are used with the same meaning of interprofessional education(12–15).

The scientific evidence has shown that IPE is essential for the development of interprofessional collaborative practice(16). IOM and WHO have promoted the implementation of IPE and development of essentials skills to enhance the effectiveness of team practices, where its members articulated their competences to optimize health care(5,9,11). It should be used in all education phases of health professionals, taking part in the initial and postgraduate curriculum and at continuing education service level, through programs implemented by health organizations(9,11). Education program can be defined as "a coherent set or sequence of educational activities or communication designed and organized to achieved pre-determined learning objectives or accomplish a specific set of educational tasks over a sustained period"(17 p7).

Several IPE programs have been developed over the years, highlighting those based on Crew Resource Management or Team Strategies & Tools to Enhance Performance and Patient Safety (TeamSTEPPS) ®.

The adaptation of Crew Resource Management to health care, used successfully in commercial aviation to reduce errors, is called Crisis Resource Management. It was implemented through diverse programs, including MedTeams™ and Medical Team Management. The first one, was originally designed for emergency teams, with the goal of reducing errors through interdisciplinary teamwork(6). Medical Team Management was created by the American Air Force aiming to reduce adverse events, through teaching concepts related to human factor in interprofessional teamwork and promoting communication between all members of the team, opposed to individual performance(6).

TeamSTEPPS® was created by US Department of Defense and the Agency for Healthcare Research and Quality (AHRQ). It has five key points to be worked on: team structure and four skills that are taught and trained (communication, leadership, monitoring the situation and mutual support)(18). The goal is improvement of knowledge, attitude and performance of teamwork(18). TeamSTEPPS® has adaptations for different health care settings(19).

The authors consider that implementation of IPE program in their organizations have an essential

role for health care improvement. Its development should be supported by the scientific evidence about IPE programs used in health care, their characteristics, settings where they are used and what are the results evaluated. The rationale for the present scoping review relates mainly to the dispersion of studies and papers published about this topic, making it difficult to approach.

A preliminary search of PROSPERO, MEDLINE, the Cochrane Database of Systematic Reviews, and *JBI Evidence Synthesis* was conducted and two reviews about this topic were found(20,21). This scoping review will differ for them, because it will consider only IPE programs used in health teams with several professional groups, with mandatory inclusion of nursing staff. Furthermore, this scoping will identify the characteristics of those programs and all the results evaluated. It will respond to the limitations identified and suggestions made by the authors of the reviews: the use of alternative keywords and sources information.

The objective of this scoping review is to map and summarize the scientific evidence about interprofessional educational programs used in health care in order to inform future research. It can be used either, as a precursor of a systematic review about the effectiveness of an identified IPE program or, as a precursor of an experimental study in an identified knowledge gap.

Review question(s)

- What are the interprofessional education programs used by health teams in health care?

- What are the characteristics of interprofessional education programs (name, objective(s), duration, frequency, methodology, methods, composition and material resources) used by health teams in health care?

- Which professionals (trainers and trainees) are involved in interprofessional education programs used by health teams in health care?

- In what contexts are interprofessional education programs used by health teams in health care applied?

- What are the instruments and evaluated results by interprofessional education programs used by health teams in health care?

Inclusion criteria

Participants

This review will consider studies that include interdisciplinary health teams that have attended interprofessional education, regardless the profession, degree or profession time of their members. Studies that were applied to health teams with students will be excluded.

Concept

This review will consider studies that explore interprofessional education programs. Interprofessional education occurs “when two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes”(11 p13). Education program is defined as “a coherent set or sequence of educational activities or communication designed and organized to achieved pre-determined learning objectives or accomplish a specific set of educational tasks over a sustained period”(17 p7). Studies that use language such as, mas not limited to, team training program or teamwork training program will also be included.

Context

This review will consider studies that include any setting where health care is provided, regardless of geographic location or context of care. Studies where the use of interprofessional education program has not been evaluated will be excluded.

Types of sources

This scoping review will consider quantitative, qualitative, and mixed methods study designs for inclusion. In addition, systematic reviews and text and opinion papers will be considered for inclusion in the proposed scoping review.

Methods

The proposed scoping review will be conducted in accordance with the JBI methodology for scoping reviews.(1)

Search strategy

The search strategy will aim to locate both published and unpublished primary studies, reviews, and text and opinion papers. An initial limited search of MEDLINE Complete (EBSCO) and CINAHL Complete (EBSCO) was undertaken to identify articles on the topic. The text words contained in the titles and abstracts of relevant articles, and the index terms used to describe the articles were used to develop a full search strategy for MEDLINE (PubMed®) (see Appendix I). The search strategy, including all identified keywords and index terms, will be adapted for each included information source. The reference lists of articles included in the review will be screened for additional papers.

Articles published in English, Portuguese and Spanish will be included. The language limitation is related to the idioms understood by the authors and the lack of human and material resources for translations. All articles published until the present date will be included.

The databases to be searched include MEDLINE (PubMed®), CINAHL Complete (EBSCO), Scopus and Web of Science. Sources of unpublished studies and gray literature to be searched include Repositórios Científicos de Acesso Aberto de Portugal (RCAAP), World Health Organization (WHO), Agency for Healthcare Research and Quality (AHRQ), Institute of Medicine (IOM) and Google Scholar.

Study/Source of evidence selection

Following the search, all identified records will be collated and uploaded into Mendeley Desktop Version 1.19.8 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. Potentially relevant papers will be retrieved in full, and their citation details imported into the Rayyan(22). The full text of selected citations will be assessed in detail against the inclusion criteria by two independent reviewers. Reasons for exclusion of full-text papers that do not meet the inclusion criteria will be recorded and reported in the scoping review. Any disagreements that arise between the reviewers at each stage of the selection process will be resolved through discussion or with a third reviewer. The results of the search will be reported in full in the final scoping review and presented in a Preferred Reporting Items for Systematic Reviews and Meta-analyses for Scoping Reviews (PRISMA-ScR) flow diagram(23).

Data extraction

Data will be extracted from papers included in the scoping review by two independent reviewers using a data extraction tool developed by the reviewers. The data extracted will include specific details about the population, concept, context, methods and key findings relevant to the review question(1). A draft extraction tool is provided (see Appendix II). The draft data extraction tool will be modified and revised as necessary during the process of extracting data from each included paper. Modifications will be detailed in the full scoping review. Any disagreements that arise between the reviewers will be resolved through discussion or with a third reviewer. Authors of papers will be contacted to request missing or additional data, where required.

Data analysis and presentation

The evidence presented will directly respond to the review objective and questions. The data will be presented graphically or in diagrammatic or tabular form. A narrative summary will accompany the tabulated and/or charted results and will describe how the results relate to the reviews objective and questions.

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All authors contribute to development and writing of scoping review protocol.

Conflicts of interest

The authors declare that there is no conflict of interest.

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Appendix I: Search strategy

MEDLINE (via PubMed®). Search conducted September, 2021.

Search	Query	Records retrieved
#1	"Patient Care Team"[Mesh]	56,512
#2	"Hospital Rapid Response Team"[Mesh]	888
#3	team[Title/Abstract] OR teams[Title/Abstract]	167,408
#4	#1 OR #2 OR #3	201,890
#5	"Interprofessional Education"[Mesh]	139
#6	"Crew Resource Management, Healthcare"[Mesh]	46
#7	education program*[Title/Abstract]	28,881
#8	educational program*[Title/Abstract]	15,930
#9	training program*[Title/Abstract]	45,650
#10	#7 OR #8 OR #9	87,366
#11	interprofessional[Title/Abstract] OR inter professional[Title/Abstract]	13,434
#12	#10 AND #11	913
#13	multiprofessional[Title/Abstract] OR multi professional[Title/Abstract]	2,435
#14	#10 AND #13	135
#15	interdisciplinary[Title/Abstract] OR inter disciplinary[Title/Abstract]	35,209
#16	#10 AND #15	1,052
#17	multidisciplinary[Title/Abstract] OR multi disciplinary[Title/Abstract]	95,208

#18	#10 AND #17	1,851
#19	team training program*[Title/Abstract]	143
#20	teamwork training program*[Title/Abstract]	19
#21	"crew resource management"[Title/Abstract]	308
#22	"crisis resource management"[Title/Abstract]	240
#23	"team strategies and tools to enhance performance and patient safety"[Title/Abstract]	2
#24	"team strategies & tools to enhance performance and patient safety"[Title/Abstract]	0
#25	teamstepps[Title/Abstract]	218
#26	"team stepps"[Title/Abstract]	13
#27	#5 OR #6 OR #12 OR #14 OR #16 OR #18 OR #19 OR #20 #21 OR #22 OR #23 OR #24 OR #25 OR#26	4,617
#28	"Patient Care"[Mesh]	893,836
#29	healthcare[Title/Abstract]	278,412
#30	health[Title/Abstract]	2,038,881
#31	#28 OR #29 OR #30	2,898,022
#32	#4 OR #27 OR #31	1,515
Limited to English, Portuguese and Spanish		

Appendix II: Data extraction instrument

Scoping Review Details	
Scoping Review Title:	The use of interprofessional education programs in health care
Scoping Review Objective:	Map and summarize the evidence about interprofessional education programs used in health care in order to inform future research
Review Questions:	- What are the interprofessional education programs used by health teams in health care? - What are the characteristics of interprofessional education programs (name, objective(s), duration, frequency, methodology, methods, composition and material resources) used by health teams in health care? - Which professionals (trainers and trainees) are involved in interprofessional education programs used by health teams in health care? - In what contexts are interprofessional education programs used by health teams in health care applied? - What are the instruments and evaluated results by interprofessional education programs used by health teams in health care?
Inclusion/ Exclusion Criteria	
Population	Interdisciplinary health teams that have attended interprofessional education, regardless the profession, degree or profession time of their members. Studies that were applied to health teams with students will be excluded.
Concept	Interprofessional education programs. Studies that used language such as, mas not limited to, team training program or teamwork training program will also be included.
Context	Any setting where health care is provided. Studies where the use of interprofessional education program has not been evaluated will be excluded.
Types of evidence source	Quantitative, qualitative, and mixed methods studies. In addition, systematic reviews and text and opinion papers will be considered for inclusion.
Evidence source Details and Characteristics	
Citation detail: Author(s)	
Citation detail: Date	
Citation Detail: Title	
Citation detail: Journal, volume, issue and pages	
Citation detail: Country	
Citation detail: Type of evidence source	
Details/ Results extracted from evidence source	
Name of IPE program	
Objective(s) of IPE program	
Duration and frequency of IPE program	
Methodology and methods of IPE program	
Composition of IPE program	
Material resources used in IPE program	
Professional groups (trainers and trainees) involved in IPE program	

Number and age (trainers and trainees) of professionals involved in IPE program	
Country where IPE program was applied	
Context of IPE program	
Instruments used for evaluation by IPE program	
Results evaluated by IPE program	