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Review

Evaluation of interprofessional education for shared decision making in drug therapy: a scoping review on methods and instruments

Avaliação da educação interprofissional para a tomada de decisão compartilhada em farmacoterapia: uma revisão de escopo sobre métodos e instrumentos (resumo: p. 17)

Evaluación de la educación interprofesional para la toma de decisiones compartida en farmacoterapia: una revisión del alcance sobre métodos e instrumentos (resumen: p. 17)

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Abstract

This study aimed to describe the research methods and instruments used in the evaluation of interprofessional education strategies for shared decision making in drug therapy. The types of evaluation employed were categorized according to Kirkpatrick's adapted model. A scoping review was conducted, following the PRISMA-ScR recommendations. Among the 21 selected studies, there was a predominance of quantitative methods in the evaluation of educational experiences (n=18). Of these, the most common aspect evaluated was "students' attitudes and perceptions towards interprofessional education and practice" by means of validated instruments (n=13). Ten different instruments were identified and found to be in line with the Interprofessional Education Collaborative competencies. The variety of instruments signals the growing production of knowledge about this topic, but points to the challenge of conducting comparative analyses between educational experiences around the world.

Keywords: Interprofessional education. Decision making, shared. Evaluation of research programs and tools. Review.

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Introduction

Pharmacotherapy is one of the most widely used resources in current health care systems in order to prevent, maintain, and recover health status. However, the prescription and inappropriate use of drugs is the origin of great damage to people's health, requiring interventions to minimize the resulting morbidity and mortality[1]. The interaction of two or more health professionals in the decision-making process in drug therapy is necessary to improve the health outcomes of patients[2,3].

Shared decision making happens when health professionals and patients collaborate, the best evidence is shared, and patient preferences are respected, and patients are considered effective members of the health team[4]. In this context, it is important to address shared decision making in drug therapy when training future professionals to work in interprofessional health care.

According to the World Health Organization (WHO), interprofessional education (IPE) "occurs when students from two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes"[5] (p. 7). Therefore, the ultimate goal of IPE is to ensure safe and effective health care[6,7].

IPE initiatives have been developed in undergraduate health courses in different countries, showing positive results[8-11]. To assist in the development of these educational activities, 38 key competencies for interprofessional collaborative practice were defined and organized by the Interprofessional Education Collaborative (IPEC), subdivided into four domains: values and ethics; roles and responsibilities; interprofessional communication; and team and teamwork[12,13].

Given the importance of promoting IPE and in order to know more about how interprofessional educational experiences have been implemented, it is also necessary to know how the evaluation of these activities has been conducted in research. In this article, the term evaluation is adopted as the process of gathering evidence that allows judging the effectiveness and value of an educational activity[14].

Peltonen *et al*.[15] conducted a scoping review on existing instruments for measuring interprofessional collaboration in healthcare, with a focus on in-service professionals, without a specific look at the evaluation of students-in-training participating in IPE activities.

Based on the above, a scoping review was conducted by our research team to identify studies that describe and evaluate IPE experiences involving aspects of decision making in drug therapy[16]. The present study is a result of this review and has as specific objectives to describe the research methods and instruments employed in the evaluation of such educational experiences from the students' perspective, as well as to analyze quantitative instruments assessing "students' attitudes and perceptions toward interprofessional education and practice" regarding collaborative key competencies[13].

Methodology

A scoping review was conducted, as this type of study is suitable for mapping the available literature in a given research area. All relevant literature is included, regardless

of methodological quality, since the objective is precisely to present an overview on a given topic[17,18].

The review protocol was developed using the methodological framework proposed by the Joanna Briggs Institute[18] and was registered in the Open Science Framework (osf.io/kfy27). This review follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR)[19].

Systematic search and formulation of the research question

A search strategy was prepared using the acronym PCC, where: "P" refers to population; "C" to concept; and "C" to context[18], with the aim of identifying primary studies that describe and evaluate IPE experiences involving pharmacotherapy decision-making. The results obtained in this review originated two studies; the first, already published, focuses on the teaching and learning approaches used in this context[16]. In this second study, the articles were analyzed to answer the following question: what are the research methods and instruments used to evaluate these experiences in IPE for decision making in drug therapy, from the student's perspective?

The search process was conducted in seven different databases: MEDLINE (PubMed), Excerpta Medica Database (EMBASE), Cochrane Library, PsycInfo, Education Resources Information Center (ERIC), Cumulative Index to Nursing and Allied Health Literature (CINAHL) and Latin American and Caribbean Health Sciences Literature (LILACS). For each database, a specific strategy was built with the MeSH descriptors or their corresponding DeCs descriptors in English and Portuguese, and the combination of them with their synonyms (search strategies available on the Open Science Framework platform: osf.io/kfy27).

The manual search was conducted by checking the references of all included studies and searching for the last 10 years in the three journals that obtained the highest number of articles retrieved in the search: Journal of Interprofessional Care, Currents in Pharmacy Teaching and Learning, and American Journal of Pharmaceutical Education.

Eligibility Criteria

The following inclusion criteria were used: primary studies with all methodological designs that answered the research question; articles written in English, Portuguese or Spanish, with no restriction regarding publication date. Exclusion criteria: review articles; articles whose population was not composed of at least two or more health and social care undergraduate students; articles that did not address the experience of IPE regarding decision making in drug therapy.

Study selection, data extraction and analysis

The articles identified in the search, after removing duplicates, were gathered in the Rayyan® software[20]. The article selection process was conducted by four independent researchers working in pairs (Kirla Barbosa Detoni and Ariane Lopes André; Cristiane

de Paula Rezende and Bárbara Taciana Furtado), in two stages: (1) title and abstract screening; (2) full-text reading. Discrepancies were resolved by consensus and discussion with a fifth reviewer (Simone de Araújo Medina Mendonça).

The data extracted from the selected articles were organized in an Excel® spreadsheet developed by the reviewer team. The reviewer pairs extracted the data independently. In a later step the team jointly discussed the collected information and updated the spreadsheet. Data were collected on the following aspects: a) characteristics of the study (country of origin and year of publication); b) research objectives; c) research methods and instruments used to evaluate the educational experiences; and d) validation of quantitative instruments in the original language and in Brazil.

The results were synthesized in narrative form and a descriptive analysis was conducted, determining absolute and relative frequency measures. The types of evaluation employed in the studies were categorized according to the model adapted from Kirkpatrick[21].

The adapted Kirkpatrick model is a slightly modified version of the original model[22], expanded with the addition of two evaluation items on levels 2 and 4, which has been suggested by experts in the field of IPE[14]. This adapted model presents the following levels of evaluation: reaction, which includes the participants' perspective on the educational experience (level 1); modification of students' attitudes and perceptions (level 2a); acquisition of knowledge and skills (level 2b); behavior change, which includes the application of learning in practice (level 3); organizational changes (level 4a); and benefit to patients/users (level 4b).

The contents of the validated quantitative instruments used to evaluate the modification of students' attitudes and perceptions regarding education and interprofessional practice were analyzed according to the collaborative competencies proposed by IPEC[13]. For this purpose, the full version of these instruments was searched. The items of each instrument were analyzed by the main author and categorized into one of the four domains of IPEC key competencies: values and ethics; roles and responsibilities; interprofessional communication; and team and teamwork. The categorization was done by comparing the content of the instrument items with the description of the competencies and sub-competencies in the official IPEC document (2016 version)[13]. In the following step, meetings were held with Kirla Barbosa Detoni and Simone de Araújo Medina Mendonça for collaborative analysis of the categorization of these items.

Results and Discussion

The search retrieved 5000 publications. From them, 1261 were excluded due to duplicity. A total of 103 articles were selected for full reading, with 42 resulting from the database searches and 61 from the manual search. 21 studies were included in this scoping review (Figure 1). The general characteristics of the studies are described in Frame 1.

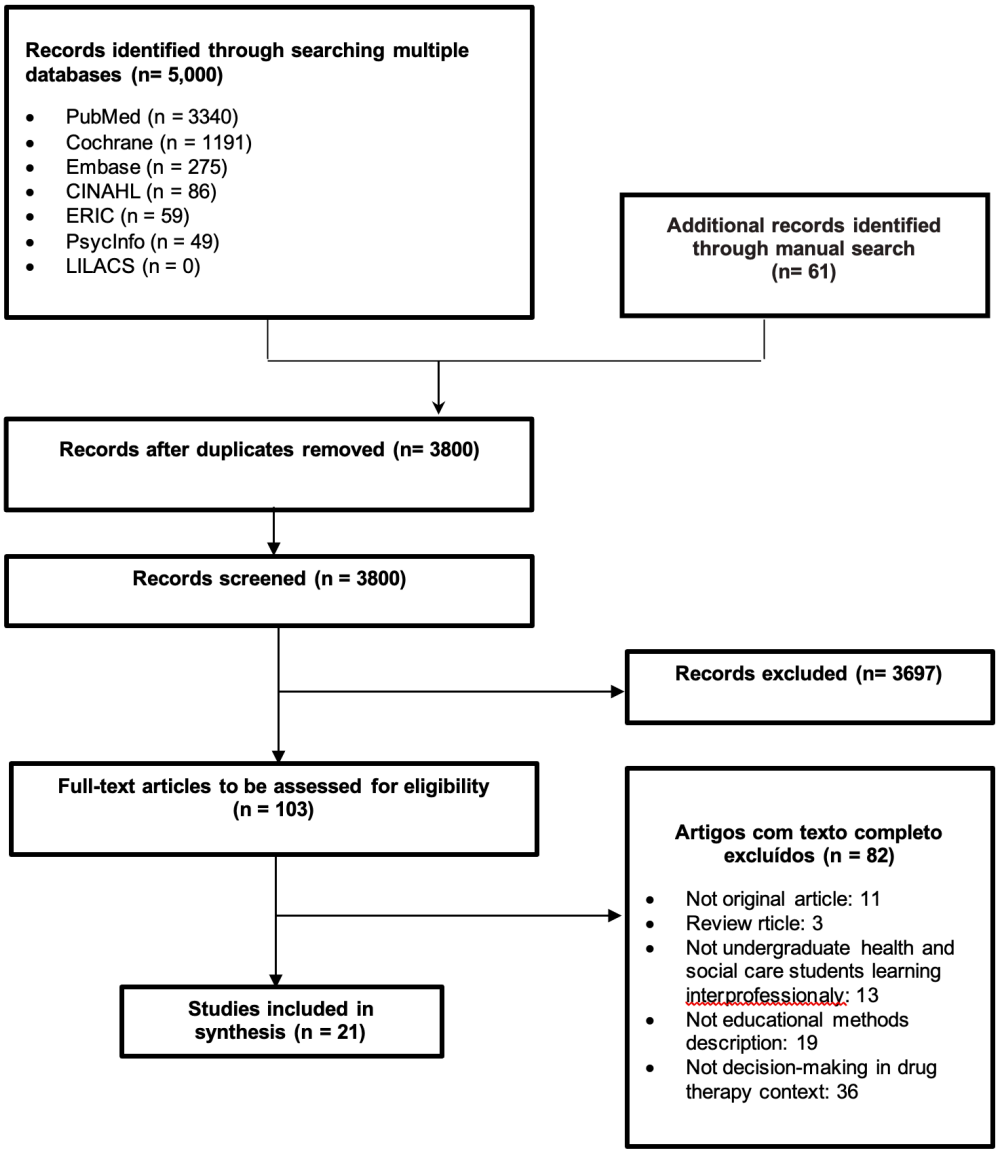

Figure 1: Description of the article selection process according to the PRISMA-SCR.

Frame 1: General characteristics of the studies included in this scoping review on methods and instruments used in the evaluation of interprofessional education for shared decision making in drug therapy

AUTHOR, YEAR; COUNTRY	RESEARCH OBJECTIVE	RESEARCH METHODS	CHARACTERISTICS OF THE EVALUATION INSTRUMENTS
Robertson *et al.*[23], 1995; United States of America.	To evaluate the development of interprofessional knowledge and skills and the students' satisfaction with an IPE activity developed in clinical practice.	Quantitative research. Application of post educational intervention questionnaire.	Quantitative instrument without specific name, developed by the authors - Contains 27 objective items evaluated by the Likert scale and 3 open-ended questions.
Greene, *et al.*[24], 1996; United Kingdom.	To explore the feasibility of joint therapeutic teaching with medical and pharmacy students and to evaluate the students' educational experience.	Quantitative research. Application of a post-educational intervention questionnaire.	Quantitative instrument without specific name, developed by the authors - Contains seven objective items, evaluated in relation to the agreement or disagreement of the students.
Stewart *et al.*[25], 2010; United Kingdom.	To examine students' attitudes towards shared learning and their knowledge about pediatric drug safety after an interprofessional workshop.	Mixed methods. Application of a validated quantitative questionnaire pre and post intervention. The questionnaire also included open-ended questions about the interprofessional learning experience.	*Readiness for Interprofessional Learning Scale* (RIPLS) - Contains 19 objective items evaluated by the Likert scale.
Haddad *et al.*[26], 2011; United States of America.	To describe the first year of an interprofessional experience in geriatrics and to analyze the reflective feedback of pharmacy students about the responsibilities of other professions in relation to geriatric patients in general.	Qualitative research. The students were asked to answer reflective questions about the topic.	There was no questionnaire application. The answers were evaluated by thematic analysis.
Taylor *et al.*[27], 2012; United Kingdom.	To design and implement pediatric prescribing workshops and assess changes in students' knowledge, skills and attitudes by comparing 9 interprofessional workshops with 10 non-interprofessional workshops.	Quantitative research. Application of the validated questionnaire pre and post intervention.	UWE Interprofessional questionnaire - Consisting of four different scales, with a total of 35 items evaluated by Likert scale.
Saunders *et al.*[28], 2012; United Kingdom.	To determine students' opinions of an interprofessional peer-assisted learning on fluid and electrolyte balance.	Mixed methods. Quantitative research with the application of a pre and post intervention questionnaire. After the educational intervention, students' satisfaction was assessed with open-ended questions.	Quantitative instrument without specific name, developed by the authors. Contains 4 items evaluated by Likert scale.
Hoti *et al.*[29], 2014; Australia.	To evaluate students' attitudes towards interprofessional education and practice in long-term care facilities, measured based on three sub-factors: collaborative capacity, collaboration value and collaboration comfort.	Quantitative research. Application of a validated pre and post intervention questionnaire, containing an additional section with questions related to the students' demographic data.	*Interprofessional Socialization and Valuing Scale* (ISVS) - Contains 25 items evaluated by Likert scale.
Hardisty *et al.*[30], 2014; United Kingdom.	To assess students' readiness for IPE after participating in interprofessional seminars on medication safety.	Mixed methods. Quantitative research: application of a validated questionnaire pre and post intervention. Qualitative research: observations, semi-structured interviews and focus groups.	*Readiness for Interprofessional Learning Scale* (RIPLS) - Contains 19 items evaluated by Likert scale.
Anderson *et al.*[31], 2016; United Kingdom.	To evaluate the students' perception regarding the learning of clinical aspects from an IPE activity involving polypharmacy in geriatrics.	Mixed methods. Quantitative research: pre and post educational experience questionnaire application. Qualitative questionnaire: post intervention, containing open-ended questions about participants' satisfaction.	Quantitative instrument without specific name, developed by the authors. Contains 6 items evaluated by Likert scale.

AUTHOR, YEAR; COUNTRY	RESEARCH OBJECTIVE	RESEARCH METHODS	CHARACTERISTICS OF THE EVALUATION INSTRUMENTS
Wang *et al.*[32], 2016; China.	To assess the change in attitudes of pharmacy and medical students towards physician-pharmacist collaboration after participating in an IPE event at a community service.	Quantitative research. Application of a validated questionnaire pre and post intervention.	*Scale of Attitudes Toward Physician–Pharmacist Collaboration* (SATP2C) – Contains 16 items evaluated by Likert scale.
Branch-Mays *et al.*[33], 2017; United States of America.	To evaluate the viability of a model of IPE and collaborative practice and to report the clinical results of patients followed up by the interprofessional team.	Quantitative research. Retrospective cross-sectional study with identification and categorization of drug therapy problems in 190 patients.	There was no application of a questionnaire.
Monteiro *et al.*[34], 2017; United States of America.	To implement and evaluate an interprofessional workshop focused on increasing students' knowledge, skills and attitudes towards opioid misuse.	Quantitative research. Application of pre and post intervention questionnaire for medical students - Opioid overdose knowledge scale (OOKS). A satisfaction questionnaire was also applied to all students.	*The Opioid Overdose Knowledge Scale* (OOKS) - Contains 45 items evaluated by Likert scale. Satisfaction questionnaire developed by the authors - Contains 5 items evaluated by Likert scale.
Patel *et al.*[35], 2018; United States of America.	To evaluate the impact of an interprofessional internship in primary care with a focus on pharmacotherapy on students' attitudes and perceptions.	Quantitative research. Application of a validated questionnaire pre and post questionnaire.	*Interprofessional Education Perception Scale* (IEPS) - Contains 18 items evaluated by Likert scale.
Giuliante *et al.*[36], 2018; United Kingdom.	To describe the implementation of an Interdisciplinary Training Team in Geriatrics in clinical internships and measure the collaboration between students participating in this team.	Mixed methods. Quantitative research: Application of a validated questionnaire pre and post intervention. Qualitative research: focus groups with students and preceptors and individual interviews (with pharmacy students).	*Assessment of Interprofessional Team Collaboration Scale* (AITCS II) - Contains 24 items evaluated by Likert scale.
Motycka *et al.*[37], 2018; United States of America.	To measure changes in attitudes towards skills and abilities for teamwork based on an interprofessional experience in the prevention of medication errors.	Mixed methods. Application of a validated questionnaire pre and post intervention. And also an evaluative feedback about the experience.	*Teamwork Attitudes Questionnaire* (T-TAQ) - Contains 30 items evaluated by Likert scale.
Kostas *et al.*[38], 2018; United States of America.	To assess students' attitudes about interprofessional collaboration and confidence regarding medication management competencies after participating in an interprofessional module.	Application of a validated questionnaire pre and post intervention. At the end of the instrument, questions related to the acquisition of skills in medication management were added.	*Student Perceptions of Physician Pharmacist Interprofessional Clinical Education* (SPICE) - Contains 10 items evaluated by Likert scale.
Chua *et al.*[39], 2019; Malaysia.	To develop and validate an instrument to measure student's acceptance of IPE and assess this attribute among medical and pharmacy students through a prescribing skills training workshop.	Quantitative research in two phases. Phase 1: development and validation of the instrument with a pilot study and application of a questionnaire after participation in the workshop. Phase 2: pre and post questionnaire application.	*Student Acceptance of Interprofessional Learning* (SAIL-10) - Contains 10 items evaluated by Likert scale.able
Perisin *et al.*[40], 2019; Croatia.	To determine whether the interprofessional pharmacotherapy workshop as an educational intervention could positively influence and improve participants' attitudes towards interprofessional collaboration.	Quantitative research. Application of a validated questionnaire pre and post intervention.	*Scale of Attitudes Towards Collaboration Between Pharmacists and Physicians* (SATP2C) - Contains 16 items evaluated by Likert scale.
Sehgal *et al.*[41], 2019; United States of America.	To evaluate whether the implementation of an IPE session on medication management would influence students' awareness of the IPEC Core Competencies.	Qualitative research. Students were invited to reflect on their experience with the interprofessional intervention.	Questionnaire with 3 open-ended questions. The reflections were grouped by thematic analysis.

AUTHOR, YEAR; COUNTRY	RESEARCH OBJECTIVE	RESEARCH METHODS	CHARACTERISTICS OF THE EVALUATION INSTRUMENTS
Pisano *et al.*[42], 2020; United States of America.	To develop, implement, and assess students' readiness for collaboration following participation in an interprofessional workshop focusing on collaborative diabetes management.	Quantitative research. Application of a validated questionnaire pre and post intervention. At the end of the instrument, open-ended questions about previous interprofessional experiences and impressions about the workshop were included.	*Readiness for Interprofessional Learning Scale* (RIPLS) - Contains 19 items evaluated by Likert scale.
Pittenger *et al.*[43], 2019; United States of America.	To assess the improvement in students' knowledge of HIV management as well as the change in skills related to interprofessional collaboration before and after an elective pilot HIV care course.	Mixed methods Quantitative research: Application of validated questionnaires pre and post intervention. ICCAS: assessment of collaborative skills; and *Education and Training Center* (AETC): assessment of knowledge about HIV/AIDS. Qualitative research: Open-ended questions were also included to assess reflection on clinical and interprofessional learning.	*Interprofessional Collaborative Competencies Attainment* (ICCAS) - Contains 20 items evaluated by Likert scale.

The year of publication of the studies ranged from 1995 to 2020, with 90% (n = 19) of them published after 2010, which shows that interest in the subject has increased in recent years. This review also showed the lack of studies on IPE published in the southern hemisphere. Almost all of the research was conducted in North America (n = 10, 47%) and Europe (n = 9, 43%), as well as Asia (n = 2, 9%) and Oceania (n = 1, 4%).

Evaluating the articles according to the model adapted from Kirkpatrick[21], six studies[23,24,28,34,41,42] presented the students' perspective on the educational experience (level 1), while 15 studies[25-30,32,35-40,42,43] presented the modification of students' attitudes and perceptions (level 2a). Acquisition of knowledge and skills (level 2b) was demonstrated in seven studies[26-28,31,34,38,43]. The studies did not address the following educational evaluation levels: behavior change (level 3) and organizational changes (level 4a). The benefit for patients/users (level 4b) was contemplated by Branch-Mays *et al.*[33]. Importantly, some studies included educational assessment at more than one level.

Concurrent with the results found in this study, other reviews of the literature indicate that most research in IPE present evaluations referring to levels 1-2b, which focus on outcomes related to student learning in the short term[9]. Overall, these results are appropriate for educators and educational and professional organizations. However, these authors point out that more research is needed to evaluate the changes that IPE can bring in actual clinical practice settings (level 4), including organizational changes and benefits to patients and users, as these outcomes may be more appropriate for national stakeholders such as managers, policy makers, and regulators. The U.S. Institute of Medicine also reinforces the need for research to assess the connection between IPE and its impact on practice, including the impact on patient and population health and outcomes for the health care system as a whole[2].

Two studies used exclusively qualitative evaluation instruments[26,41] and seven employed both qualitative and quantitative evaluation methods[25,28,30,31,36,39,43]. The qualitative data collection methods applied in these studies included: open-ended questions included at the end of quantitative instruments (n = 5)[25,28,31,41,43]; group reflective feedback (n = 2)[26,37] and focus groups (n = 1)[36]. Hardisty *et al.*[30] used multiple data collection methods, including observation, interviews, and focus groups. The qualitative evaluation methods employed were punctual and did not reach the complexity and depth typical of qualitative research. These results, therefore, highlight the need for further and more robust

qualitative research to better understand the processes and relationships involved in providing interprofessional educational activities.

All studies that conducted quantitative research to evaluate educational activity employed cross-sectional study design with the application of a structured questionnaire (n = 18). Of these, 16 studies conducted evaluation before and after the educational intervention, and two conducted the questionnaire application only after the intervention[23,24]. In fact, among the tools for evaluating IPE activities, structured questionnaires have been the most used[44], possibly because of their easiness of application and data analysis.

Reeves *et al*.[14] published in 2015 a guide to improve the quality of evaluations of IPE initiatives in order to generate more robust evidence. The authors point out that regardless of the type of research (quantitative or qualitative), essential questions should be taken into consideration when planning the evaluation, such as defining the purpose, based on the learning context; the conceptual framework of the project; the academic level of the students, and the formulation of the question that is intended to be answered with this specific evaluation. The authors also highlight the importance of identifying and engaging different stakeholders in the evaluation process.

This review showed that validated quantitative instruments are widely used to evaluate educational experiences. In sum, 12 instruments presented as validated were identified in these studies. Two of them aim to assess students' "acquisition of specific clinical knowledge and skills" regarding opioid overdose[34] and acquired immunodeficiency syndrome (AIDS)[43]. Ten instruments aimed to evaluate the modification of students' attitudes and perceptions regarding interprofessional education and practice, namely:

- AITCS II[36]
- IEPS[35]
- ISVS[29]
- RIPLS[25,30,42]
- SATP2C[32,40]
- T-TAQ[37]
- SPICE[38]
- ICCAS[43]
- SAIL-10[39]
- UWE[27]

The ten instruments highlighted above were previously validated in the English language literature, with the exception of the one used by Chua *et al*.[39], which was developed and validated by the authors themselves. The instruments: AITCS II, IEPS, ISVS, RIPLS and SATP2C were validated for Brazilian Portuguese. The variety of the identified validated instruments shows the growing production of knowledge on

the subject. On the other hand, it calls the attention to the challenge of performing comparative analyses between interprofessional educational experiences around the world. It was not the objective of this study to analyze the quality of the validation processes of the instruments.

The items encompassed by the validated instruments that assessed the modification of students' attitudes and perceptions regarding interprofessional education and practice, highlighted above, were assessed by the authors according to the four domains of collaborative key competencies proposed by IPEC, as described in the methodology (Frame 2).

Frame 2. Distribution of the items of each instrument identified in this review that evaluates the modification of students' attitudes and perceptions regarding interprofessional education and practice, according to the four domains of collaborative competences of the IPEC.

Collaborative Competencies	Items by collaborative competences for each assessment instrument - n (%)									
	RIPLS	SPICE	SATP2C	AITCS II	ISVS	T-TAQ	SAIL-10	IEPS	ICCAS	UWE
Values and Ethics	2 (11%)	0	1 (6%)	5 (21%)	0	4 (13%)	1 (10%)	5 (28%)	0	8 (23%)
Roles and Responsibilities	5 (26%)	3 (30%)	11 (69%)	4 (17%)	6 (25%)	3 (10%)	1 (10%)	5 (28%)	5 (25%)	6 (17%)
Interprofessional Communication	2 (11%)	0	0	4 (17%)	6 (25%)	8 (27%)	1 (10%)	2 (11%)	10 (50%)	11 (31%)
Team and Teamwork	10 (53%)	6 (60%)	4 (25%)	11 (46%)	10 (42%)	15 (50%)	3 (30%)	5 (28%)	4 (20%)	7 (20%)
Others*	0	1 (10%)	0	0	2 (8%)	0	4 (40%)	1 (5%)	1 (5%)	3 (9%)
Total items per instrument	19 (100%)	10 (100%)	16 (100%)	24 (100%)	24 (100%)	30 (100%)	10 (100%)	18 (100%)	20 (100%)	35 (100%)

*The items present in the instruments that were not identified by the authors as belonging to one of the four domains of IPEC collaborative competences were grouped as "Others" and refer to general issues, such as satisfaction with the educational experience, recommendation of the activity for others students and preference between different teaching methodologies.

The domain "team and teamwork" was present in all the instruments evaluated, corresponding to approximately half of the items in the AITCS II (46%), T-TAQ (50%) and RIPLS (53%) scales, and representing 60% of the items in the SPICE scale. The domain "roles and responsibilities" was also contemplated in all instruments and predominated in SATP2C (67%), being less important in T-TAQ (10%) and SAIL-10 (10%).

The domain "interprofessional communication" corresponded to half of the items covered in the ICCAS instrument and approximately 30% in the ISVS and T-TAQ. Items related to this domain were not identified in the SPICE and SATP2C instruments. The domain "values and ethics" was not identified in three instruments (SPICE, ISVS and ICCAS), and the IEPS scale showed the highest proportion of items related to this domain among the instruments evaluated (28%).

The items present in the instruments that were not identified by the authors as belonging to one of the four domains of IPEC collaborative competencies were grouped as "others". The aspects evaluated by these items refer to general issues such as

satisfaction with the educational experiences, recommendation of the activity to other students, and preferences among different teaching methodologies.

The analysis performed on the instruments showed that their items fit the competences described by IPEC, and most of the items evaluated were concentrated in the domains: "team and teamwork" and "roles and responsibilities". The domain "values and ethics", in general, was the least evaluated in the instruments. The less prominent group of collaborative competences in the instrument items reflect a logic of care that still focuses mainly on technical issues, which is a strong feature of the training of health professionals. It is important to think about interprofessional work from a perspective that can be used to equalize the power relations between patients and professionals, and also among health professionals. Interprofessionalism should seek to horizontalize relationships, promote better and greater communication with ethics and values such as respect and dialogic capacities.

The tools presented great variability with regard to the domain of the key competence evaluated. Among the tools analyzed, RIPLS has the most items related to the "team and teamwork" domain (53%) and STAP2C has the most items involving the "roles and responsibilities" domain (69%). ICCAS is the instrument that most contemplated the "interprofessional communication" domain, and IEPS the one that most contemplated the "values and ethics" domain. In this sense, we hope that this analysis will help researchers and teachers in the selection of instruments that are more assertive according to the competence that is the focus of that specific educational experience.

This scoping review had some limitations. Some of the included studies provided sparse information, which made data extraction difficult. This issue highlights the need to improve the quality of descriptions in future articles, but at the same time reflects the reality of the publications. Although no gray literature search was performed, this review relied on an extensive literature search in seven electronic databases, in addition to the manual search. As a limitation of the scope review methodology itself, no analysis of the quality of the included studies was performed, since the objective was to present a map of the literature on the subject. Therefore, it was not possible to establish whether the methods and assessment tools employed by the studies were adequate for the interprofessional teaching and learning processes described.

Conclusion

This study allowed the identification of the methods and instruments used in the evaluation of experiences in IPE for decision making in drug therapy, revealing the predominance of the use of quantitative methods. A large number of validated quantitative instruments were identified with a focus on assessing the modification of students' attitudes and perceptions regarding interprofessional education and practice. Analysis of these instruments, according to the domains of key competencies described by IPEC, showed that the domains of "Team and Teamwork" and "Roles and Responsibilities' were predominant. The variety of instruments indicates the growing production of knowledge on the subject, but points to the challenge of conducting comparative analysis between educational experiences around the world.

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Authors' contribution

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Conflict of interest

The authors have no conflict of interest to declare.

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Resumo

Este estudo teve como objetivo descrever os métodos de pesquisa e instrumentos utilizados na avaliação de estratégias de Educação Interprofissional para a tomada de decisão compartilhada em farmacoterapia. Os tipos de avaliação empregados foram categorizados segundo o modelo adaptado de Kirkpatrick. Foi conduzida uma revisão de escopo, seguindo as recomendações do Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (Prisma-ScR). Entre os 21 estudos selecionados, houve predomínio dos métodos quantitativos na avaliação das experiências educacionais (n=18). Destes, o aspecto mais comum avaliado foi "atitudes e percepções dos estudantes em relação à Educação e à prática Interprofissional", por meio de instrumentos validados (n=13). Foram identificados dez diferentes instrumentos, que se mostraram em conformidade com as competências colaborativas do Interprofessional Education Collaborative. A variedade de instrumentos sinaliza a crescente produção de conhecimento acerca do assunto, mas aponta o desafio de realizar análises comparativas entre experiências educacionais ao redor do mundo.

Palavras-chave: Educação interprofissional. Tomada de decisão compartilhada. Avaliação de programas e instrumentos de pesquisa. Revisão.

Resumen

El objetivo de este estudio es describir los métodos de investigación e instrumentos utilizados en la evaluación de estrategias de educación interprofesional para la toma de decisiones compartida en farmacoterapia. Los tipos de evaluación empleados se caracterizaron según el modelo adaptado de Kirkpatrick. Se realizó una revisión de alcance, siguiendo las recomendaciones del PRISMA-ScR. Entre los 21 estudios seleccionados, predominaron los métodos cuantitativos en la evaluación de las experiencias educativas (n=18). De ellos, el aspecto más común evaluado fue el de "actitudes y percepciones de los alumnos con relación a la educación y a la práctica interprofesional□, por medio de instrumentos validados (n=13). Se identificaron diez diferentes instrumentos, que se mostraron en conformidad con las competencias colaborativas del *Interprofessional Education Collaborative*. La variedad de instrumentos señala la creciente producción de conocimiento sobre el asunto, pero muestra el desafío de realizar análisis comparativos entre experiencias educativas alrededor del mundo.

Palabras clave: Educación interprofesional. Toma de decisiones compartida. Evaluación de programas e instrumentos de investigación. Revisión.