






# A Scoping Review of Interprofessional Education in Saudi Arabia: Outcomes, Barriers, and Implementation Challenges

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**Abstract:** Interprofessional education (IPE) is an important concept in healthcare education. Evaluating IPE implementation is essential for identifying challenges, exploring opportunities, and strengthening integration. This study evaluated the available evidence on IPE in Saudi Arabia, focusing on its outcomes, barriers, and A scoping review methodology was employed to analyse research from four databases covering the period from 2000 to 2024. The search used keywords such as “IPE” and “Saudi Arabia” and followed the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) extension for scoping reviews. In total, 5,174 records were identified. After removing duplicates and screening for relevance, 21 articles were included in the final review. Most studies followed a cross-sectional design, used the Readiness for Interprofessional Learning Scale (RIPLS), and were conducted in Central Saudi Arabia. This review highlights the growing evidence for the implementation of IPE in Saudi Arabia. Although the findings indicate a positive attitude towards IPE, challenges remain in the implications for the educational system. Addressing this gap and ensuring a more structured and widespread implementation can enhance IPE and patient outcomes.

**Plain Language Summary:** Interprofessional education involves collaboration and learning between different professions. It has a huge contribution to healthcare outcomes, including patient safety. This method of education was established by the World Health Organization in 1973, and it became one of the core standards and competencies for healthcare education. Saudi Arabia is working to improve health education as part of its current changes. It is important to understand the basics of interprofessional education as a first step in improving healthcare education. This work is a review exploring IPE in Saudi Arabia with emphasis on exploring outcomes, barriers, and challenges.

**Keywords:** multidisciplinary, interprofessional, education, universities, Saudi Arabia, collaboration

## Introduction

Interprofessional education (IPE) was first introduced in healthcare education in the late 1990s. Harden et al argued that rather than questioning the effectiveness of IPE, efforts should be directed towards its successful implementation in healthcare education.<sup>1</sup> The IPE movement was advocated by major health organisations, particularly the World Health Organization (WHO).<sup>2,3</sup> The primary goals of developing IPE are to relieve tension between specialties, improve communication skills, and enhance teamwork, ultimately contributing to a common goal: “better and safer patient care”.<sup>4</sup> According to the WHO, the term “Interprofessional education” involves educators and learners from two or more health professions and their foundational disciplines who jointly create and foster a collaborative learning environment.

The goal of these efforts is to develop the knowledge, skills, and attitudes that result in interprofessional team behaviour and competence.<sup>5</sup>

Like Europe and the United States, the Middle East and North Africa (MENA) region has taken significant steps towards developing its healthcare system.<sup>6</sup> This progress has been supported by an increased investment in healthcare-related education. Many countries in the MENA region are showing a growing interest in exploring IPE.<sup>7-9</sup> Potentially taking the lead, Saudi Arabia is currently undergoing major transformations in all areas, including healthcare education.<sup>10</sup> This transformation, along with its economic impact, has positioned Saudi Arabia as a key player in advancing IPE in the region.<sup>11</sup> Interest in IPE within Saudi Arabia began with the expansion of healthcare education from the late 1990s to the early 2000.<sup>12</sup>

Consequently, various studies exploring IPE have been published in the context of healthcare education and expansion. This has been influenced by the significant transformation in Saudi Arabia's healthcare education system. Documenting and analysing the baseline status of IPE in Saudi Arabia is essential. A significant evidence gap exists regarding the implementation and outcomes of Interprofessional Education (IPE) within health profession programs in Saudi Arabia. Our comprehensive search revealed no longitudinal studies or intervention-based research that could serve as an empirical foundation for this review. Therefore, the current study aimed to evaluate IPE research in health professionals' programs in Saudi Arabia, to identify the barriers, and challenges facing IPE implementation, and to explore the outcomes of IPE implementation in the country. As such a scoping review approach was used. This is the first review of its kind in this area and serves to highlight the educational transformation under Saudi 2030 vision.<sup>10</sup> Exploring the barriers and challenges of IPE implementation in Saudi Arabia and its reported outcomes can help guide future efforts in revising and updating healthcare educational programs.<sup>13</sup>

## Methods

### Study Design

This study is a scoping review of Saudi studies on IPE, guided by the Preferred Reporting Items of Systematic Reviews and Meta-Analyses extension for scoping reviews (PRISMA-ScR).<sup>14</sup> Protocol registration was not performed.

### Eligibility Criteria

All studies referencing IPE in Saudi Arabia were included; non-human studies, editorials, and review articles were excluded.

### Information Sources

The following databases were searched from 2000 to February 2024: Medline database (via OVID interface), Science Direct interface, EBSCO, and PubMed. No language restrictions were applied. Other studies were identified by reviewing the references of eligible articles.

### Search and Selection of Sources of Evidence

Databases were searched using the following keywords: ("Interprofessional" OR "Inter-professional" OR "Multiprofessional" OR "Multi-professional" OR "shared" OR "Multidisciplinary" OR "interdisciplinary" OR "Interdisciplinary") AND ("education" OR "learning" OR "teaching" OR "understanding" OR "instructions" OR "knowledge" OR "Informations" OR "training") AND ("Saudi Arabia" OR "Kingdom of Saudi Arabia" OR "Saudi"). The search strategy was modified according to the requirements of each database. Data were screened for inclusion in duplicate and articles that met the inclusion criteria were identified.

### Data Charting Process

A data collection sheet was constructed prior to including the author, year of publication, study design methodology, participant demographics, intervention (if any), baseline characteristics of population, outcome, or measures of effect (where available).

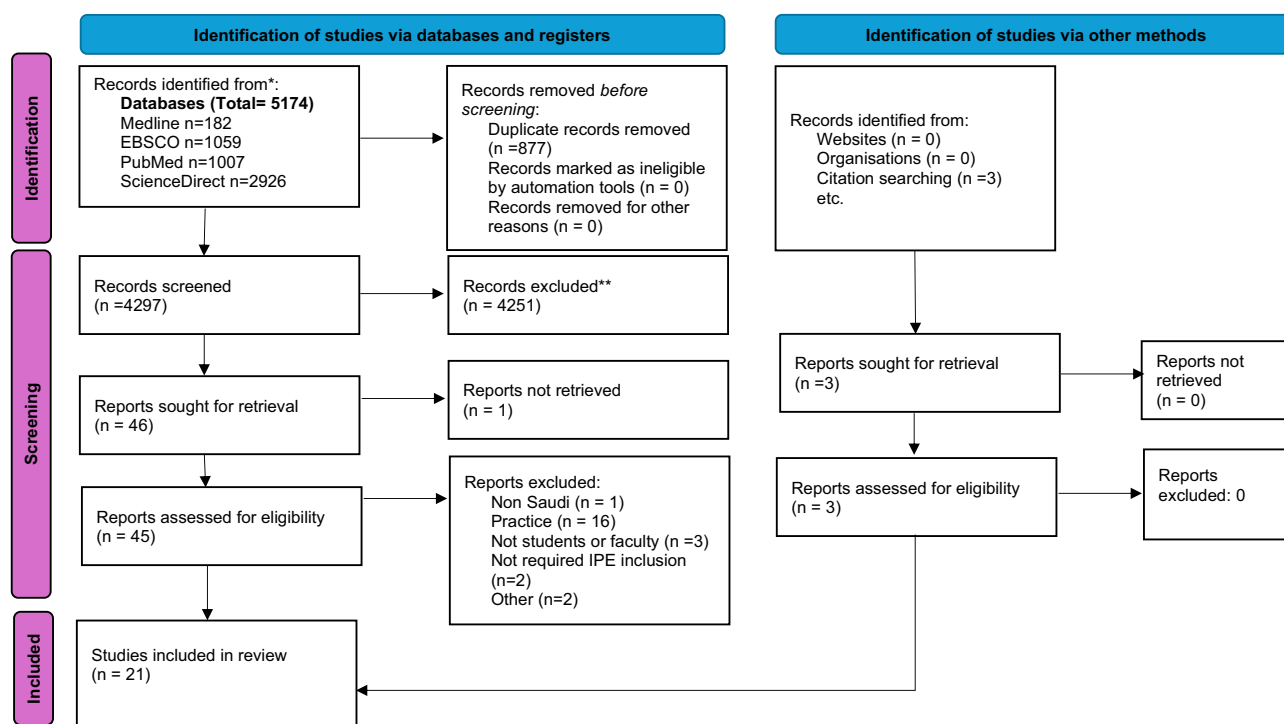
## Synthesis of Results

Only a description of different studies involving inter-professional education in Saudi Arabia was provided.

## Results

A total of 5,174 records were identified during the initial screening of four databases (Medline: 182, EBSCO: 1,059, PubMed: 1,007, and Science Direct: 29,526). After removing duplicates and review, a final number of 21 articles met the inclusion criteria (Figure 1; PRISMA Flow Diagram). Sixteen studies evaluated interprofessional collaboration, which will be explored in the second part of this scorpion review. Five major disciplines lead IPE studies: applied medical sciences, medicine, nursing, pharmacy, and dentistry. Most published research has been conducted through collaborations between multiple specialties. However, four studies were conducted within a single profession, specifically in nursing. The total number of students involved in these studies was 3,630, and 1,096 faculty members. Eighteen academic institutions were included in the study. The frequency of involvement in each specialty was as follows: applied medical sciences (N=13, 62%); Nursing (N=12, 57%); Medicine (N=11, 52%); Pharmacy (N=8, 38%); Dentistry (N=3, 14%); and Paramedics (N=1, 5%) (see Table 1). A total of 23 tools were used to evaluate interprofessional IPE among students and faculty members. Almost half (48%) of the participants had used the Readiness for Inter-Professional Learning Scale.<sup>15</sup> Other IPE assessment tools were used by one-third of the participants to evaluate IPE (26%), followed by author-designed tools (13%), theory and topic guides (9%), and a designed model for faculty development (4%) (see Figure 2). Although the search was conducted using 2000 as the starting point, actual research publications started in 2015, with a peak in the number of publications occurring in 2022 (24% of all publications) (see Figure 3).

More than half of the published studies used a cross-sectional design (n=14, 67%). This was followed by quasi-experimental studies (n=4, 19%), qualitative studies (n=2, 10%), and finally, another study (n=1, 5%) in which a model



**Figure 1** Search Flow Diagram.

**Notes:** \*Consider, if feasible to do so, reporting the number of records identified from each database or register searched (rather than the total number across all databases/registers). \*\*If automation tools were used, indicate how many records were excluded by a human and how many were excluded by automation tools. PRISMA figure adapted from Rethlefsen ML, Kirtley S, Waffenschmidt S et al. PRISMA-S: An extension to the PRISMA Statement for Reporting Literature Searches in Systematic Reviews. *Syst Rev.* 2021;10(1):39.<sup>14</sup>

**Table 1** Summary of Saudi Arabian Studies Reporting Interprofessional Education

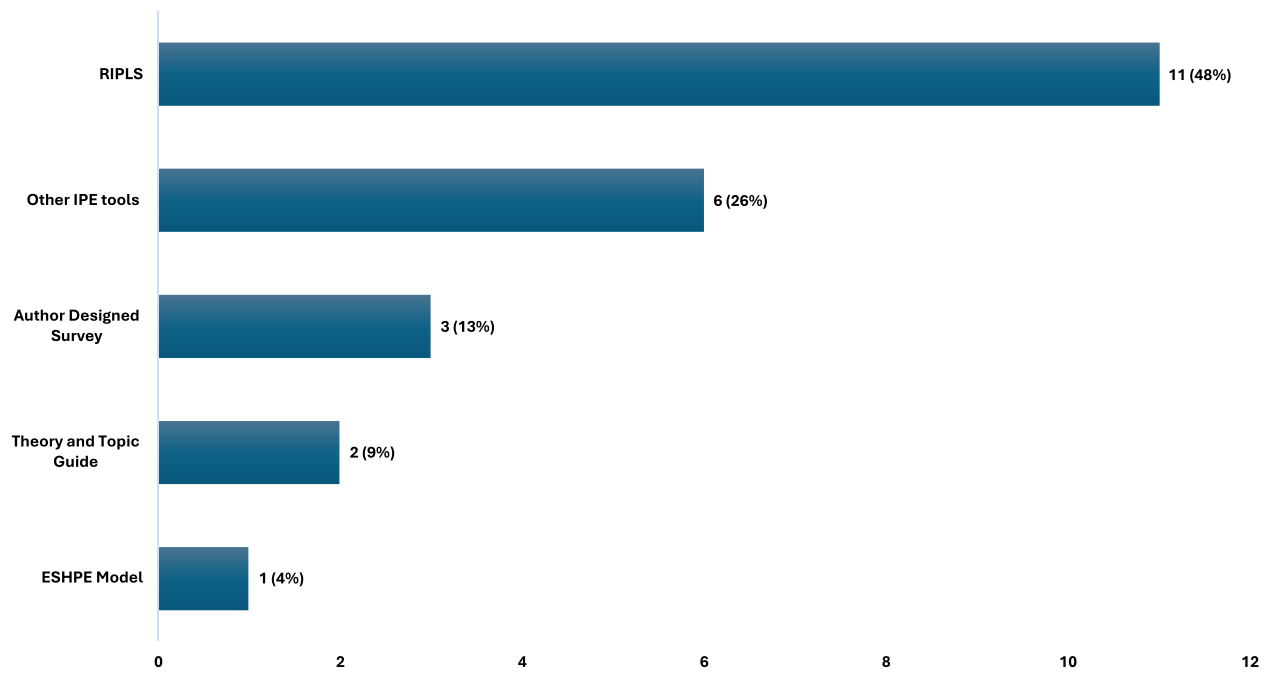
	Author	Date	Title	Aim/Region	Sample/ Specialties/NO.	Research Approach/Method and Tools Used
1	Bashatah <sup>16</sup>	2023	Assessment of nursing undergraduate's perception of Interprofessional learning: A cross-sectional study	Assessing the perception of IPE among students from three different universities in Saudi Arabia. (Riyadh)	Students Nursing 3 universities in Saudi Arabia F 281, M 236 = total 517	Cross-sectional study (Readiness for Interprofessional Learning Scale-RIPLS)
2	Alruthia et.al <sup>17</sup>	2022	Exploring the opportunities and challenges to implementing interprofessional education in Saudi Arabia: a qualitative study among faculty.	Exploring the challenges, benefits, and incentives to establishing IPE from the perspective of healthcare faculty at King Saud University. (Riyadh)	Faculty members Medicine, Dentistry, Nursing, Pharmacy, Applied Medical Sciences & Emergency Medical Services F 36, M 9 = total 45	Qualitative -Focused group (Topic guide)
3	Bashatah et al <sup>18</sup>	2022	Psychometric appraisal of the Readiness for Interprofessional Learning Scale (RIPLS) Arabic-version	Develop & psychometrically evaluate an Arabic language version of the Readiness for Interprofessional Learning Scale with Saudi nurses. (Riyadh)	Students Nurses F 380, M 238 = total 618	Cross-sectional Survey; (RIPLS)
4	Albalawi <sup>19</sup>	2022	Health Sciences Students' Attitude, Perception, and Experience of Using Educational Simulation in Saudi Arabia: A Cross-Sectional Study.	Assessing health sciences students' attitude, perception, and experience of simulation-based medical education in Saudi Arabia. (Dammam, Jazan)	Students Respiratory care and Anaesthesia technology Nursing F 165, M 81 = total 246	Cross-sectional survey (KidSIM scale)
5	Almazrou and alaujan <sup>20</sup>	2022	Knowledge and Readiness for Interprofessional Learning Among Pharmacy and Clinical Nutrition Students at King Saud University	Assessing the impact of IPE on pharmacy and clinical nutrition students' knowledge in food–drug interactions and readiness for <b>interprofessional</b> learning. (Riyadh)	Students Pharmacy & Clinical nutrition F 48 = total 48	Quasi-experimental- Pre-post study workshop (authors developed knowledge tool and RIPLS)
6	Almalag et al <sup>21</sup>	2022	Evaluation of a Multidisciplinary Extracurricular Event Using Kolb's Experiential Learning Theory: A Qualitative Study	Reviewing and assessing the impact of a multi-disciplinary public awareness event on the acquisition of core interprofessional competencies by participating students from health sciences using Kolb's experiential learning theory as a framework. (Riyadh)	Students Pharmacy, Nursing Dentistry, Medicine & Applied medical sciences F 19 = total 19	Qualitative study -semi-structured Zoom interviews/a pre-designed topic guide based on Kolb's experiential learning theory (KELT) Thematic Analysis
7	Algahtani et al <sup>22</sup>	May 2021	Perceptions and attitudes of different healthcare professionals and students toward interprofessional education in Saudi Arabia: a cross-sectional survey.	Examining the perceptions and attitudes towards IPE in a Saudi specialised health sciences university. (Jeddah)	Students Medicine Nursing & Applied medical science. F 131, M 537 = total 668	Cross-sectional survey Pre-designed self-administered questionnaires Nebraska Interprofessional Education Attitude Scale (NIIPEAS), and Student Perception of International Clinical Education Revised (SPICE-R).

8	Alrasheed et al <sup>23</sup>	2021	Interprofessional Education Competition During the COVID-19 Pandemic at King Saud University: Benefits and Challenges	Exploring the value of virtual IPE competition that involved a COVID-19 case among healthcare students and the lessons that can be learned to improve this experience in the future. Riyadh	Students Medicine, Pharmacy, Nursing, and Emergency Medical Services F 10, M 6 = total 16	Quasi-experimental. A semi-structured focus group discussion with pre- and post-evaluation (Simulation-enhanced interprofessional education (sim-IPE))
9	Almalki <sup>24</sup>	2021	Needs Assessment for Interprofessional Education: Implications for Integration and Readiness for Practice	Examining the perception, understanding, and attitude of health profession students and faculty members towards IPE. (Taif)	Students & Faculty members Medicine, Pharmacy, Laboratory Sciences, Nursing, Radiology, and Physical Therapy N=152	A cross-sectional study. (RIPLS).
10	Bashatah et al <sup>25</sup>	2020	Interprofessional Cooperation: An Interventional Study Among Saudi Healthcare Teaching Staff at King Saud University	Exploring the attitudes of teaching staff towards <b>interprofessional</b> collaboration across a range of professions in Health at King Saud University. (Riyadh)	Faculty members Medicine, nursing, pharmacy, Dentistry, Applied medical science, and Emergency medical services F 23, M 30 = total 53	A quasi-experimental (pre-test and post-test design) and (The Interdisciplinary Education Perception Scale-IEPS)
11	Alzamil & Meo, sultan ayoub <sup>26</sup>	2020	Medical students' readiness and perceptions about Interprofessional Education: A cross sectional study.	Evaluating the medical students' readiness and perception of Interprofessional Education in a medical college in Saudi Arabia. (Riyadh)	Medical students and trainees F 89, M 69 = total 158	Cross-sectional survey Readiness for Interprofessional Learning Scale (RIPLS)
12	Alrasheedy <sup>27</sup>	2020	Multidisciplinary Integrated Pharmacotherapy Curriculum in a Doctor of Pharmacy Program: Educators' Perceptions, Views, and Perspectives.	Evaluating the perceptions, views, and experiences of academic faculty members regarding the impact and implementation of the multidisciplinary integrated pharmacotherapy curriculum in the PharmD program. (Qassim)	Faculty members F 11, M 21 = total 32	A cross-sectional study. Web-based survey, open-ended section (author-constructed survey)
13	ALahmari <sup>28</sup>	2019	Interprofessional Education: Saudi Health Students' Attitudes Toward Shared Learning	Demonstrating the attitudes of students in respiratory care, nursing, and clinical laboratory sciences during their last semester prior to graduating. (Riyadh)	Students Respiratory care, Nurses Clinical laboratory sciences F 34, M 33 = total 67	Cross-sectional survey The Readiness for Interprofessional Learning Scale (RIPLS) questionnaire
14	Salih et al <sup>29</sup>	2019	The Readiness For Interprofessional Education (IPE) In The School Setting Among The Internship Students Of Applied Medical Sciences At Taibah University	The study aims to assess the readiness of Interprofessional Education (IPE) in the school setting among the Internship Students of Applied Medical Sciences at Taibah University. Madinah	Internship students Applied Medical Sciences; (Diagnostic Radiologic, Technology, Medical Laboratory Technology, and Clinical Nutrition) N = 40	A cross-sectional survey Readiness for Inter-professional Learning Scale (RIPLS)
15	Alsheikh <sup>30</sup>	2018	Interprofessional faculty development program: ESHPE model	Breaking the shackles of interdisciplinary barriers and encourage rich interaction and exchange between different health professions to enhance mutual understanding and awareness. (Dammam)	Faculty members N = 169	Reported experience (program)

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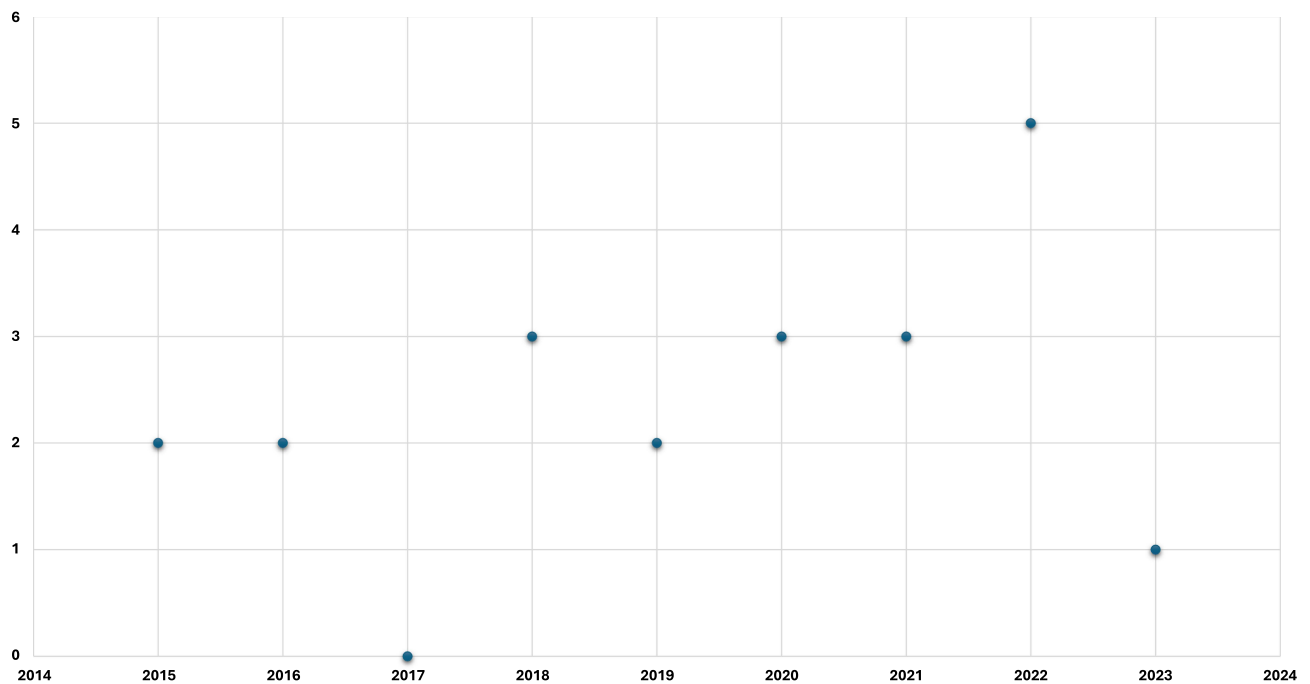
Table 1 (Continued).

	Author	Date	Title	Aim/Region	Sample/ Specialties/NO.	Research Approach/Method and Tools Used
16	Alshaikh et al <sup>31</sup>	2018	Interprofessional learning experiences: Exploring the perception and attitudes of Saudi Arabian medical and dental students.	Evaluating the awareness and attitudes of medical and dental students regarding <b>interprofessional</b> learning (IPL).(Riyadh and Jeddah)	Students Medical and Dental N = 278	A cross-sectional study (RIPLS)
17	Awan et al <sup>32</sup>	2018	Integrating an interprofessional education initiative: Evidence from King Abdulaziz University.	Examining current issues with interprofessional <b>education</b> (IPE) at King Abdulaziz University and discusses initiatives for integrating IPE into the medical curricula. (Jeddah)	Participants from the IPE programs N = 506	Quasi-experiment Report analysis of online survey after IPE program (Bristol Entry-Level Interprofessional Questionnaire)
18	Alqahtani et al <sup>33</sup>	2016	Measuring the attitudes of healthcare faculty members towards interprofessional education in KSA	Measuring healthcare faculty attitudes towards IPE and measuring possible significant differences in demographic characteristics of faculty for their readiness to incorporate IPE in existing curricula. (Dammam and Madinah)	Faculty members Two universities N = 126	Readiness for Interprofessional Learning Scale (RIPLS)
19	Alqahtani <sup>34</sup>	2016	Measuring healthcare students' attitudes toward interprofessional education	Exploring students' attitudes towards inter- professional education; to explore whether there are significant differences in the readiness of students in various healthcare professions; and to investigate whether demographic characteristics have any significant influence on their attitude and readiness. (Dammam)	Students Respiratory care, Physical therapy, cardiac technology, Clinical Nutrition & Clinical science laboratory F 299, M 81 = total 380	A cross-sectional study -The Readiness for Interprofessional Learning Scale (RIPLS)
20	Aleisa, et al <sup>35</sup>	Dec 2015	The perceptions and readiness toward interprofessional education among female undergraduate health-care students at King Saud University	Measuring the perceptions and readiness towards IPE among female undergraduate health-care students at King Saud University. (Riyadh)	Students Medicine, Nursing, Pharmacy, Physical therapy, Occupational therapy, Speech and hearing therapy, Health Education & Nutrition. N = 316	Cross-sectional survey (RIPLS)
21	Fallatah et al <sup>36</sup>	2015	Interprofessional Education as a Need: The Perception of Medical, Nursing Students and Graduates of Medical College at King Abdelaziz University	Identifying the awareness and importance of IPE among medical and nursing students and graduates at King Abdelaziz University. (Jeddah)	Students & Graduates Medical & Nursing N = 107	Cross-sectional (author-constructed survey)



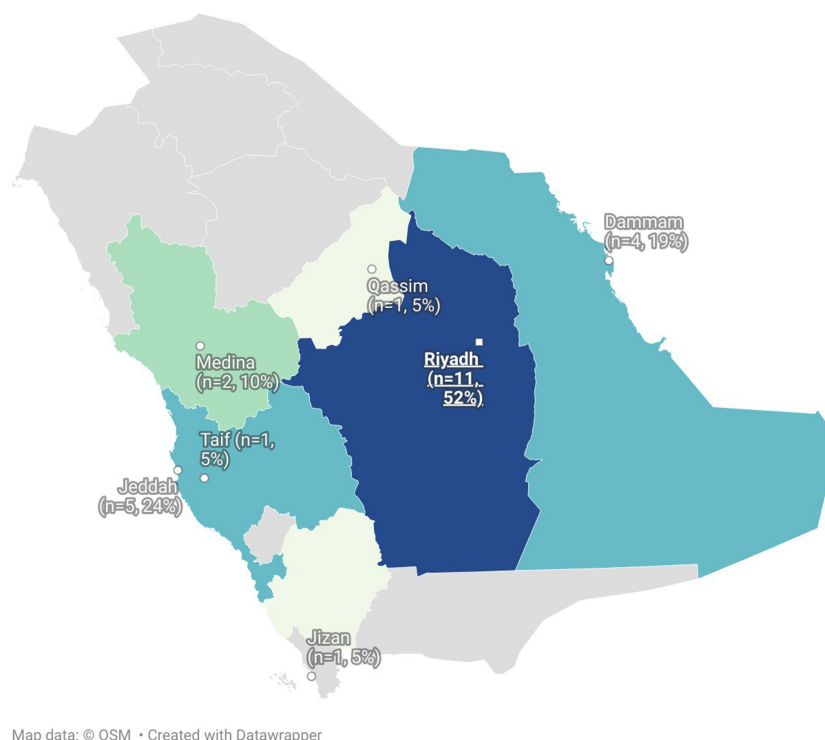
**Figure 2** Tools Used in Saudi Arabia for Interprofessional Education-Related Research.

**Abbreviations:** RIPLS, Readiness for Interprofessional Learning Scale; IPE, Interprofessional education; ESHPE, Essential Skills in Health Professions Education.



**Figure 3** Number of publications in Saudi Arabia regarding interprofessional education.

was developed to enhance faculty awareness of IPE. Regarding geographical distribution, more than half of the studies focused on students or faculty in the Riyadh region (n=11, 52%), followed by Jeddah (n=5, 24%), Dammam (n=4, 19%), Madinah (n=2, 10%), Taif (n=1, 5%), Jizan (n=1, 5%), and Qassim (n=1, 5%) (see Figure 4).



**Figure 4** Interprofessional education research by city/region of Saudi Arabia.

## Discussion

IPE plays a vital role in improving patient outcomes by enhancing the quality of healthcare delivered through the diverse skills and competencies of healthcare teams. Effective IPE fosters collaboration among healthcare professionals and ensures a more coordinated approach to patient care. This scoping review highlights the increasing focus on IPE in Saudi Arabia, with most studies assessing student readiness for interprofessional learning. Although the findings generally indicate a positive attitude towards IPE, some challenges still exist. One major challenge is the inconsistency in IPE implementation across institutions and regions. Most of the studies included in this review were conducted in the central region, suggesting an uneven distribution of IPE initiatives. This geographical distribution reduces the generalisability of the findings and emphasises the need for nationwide strategies to ensure a more structured and widespread implementation of IPE.

Several important conclusions about the perceptions and benefits of implementation were found in the scoping review of 21 articles on IPE in Saudi Arabia (see [Table 2](#)). Overall, instructors and students had a positive view of IPE, as they understood how it may improve interdisciplinary collaboration, teamwork, and holistic patient care. All healthcare students included in these studies demonstrated readiness for IPE, with no noticeable variance in readiness across professions. Improved knowledge, enhanced collaborative abilities, and a deeper understanding of professional roles and responsibilities are some of the advantages of IPE. However, challenges such as psychometric limitations in assessment tools (eg, the RIPLS-Arabic version), logistical barriers such as the time and effort required for curriculum integration, and the need for clearer role definitions among healthcare professionals have been identified. Incorporating IPE into the formal curriculum, adopting various teaching methods, encouraging faculty participation, and raising awareness of professional obligations are some recommendations for effective implementation. Furthermore, medical students and graduates agreed that IPE could improve both patient care and practitioner satisfaction. The review emphasises broad support for IPE while also emphasising the importance of structured approaches to overcome implementation challenges and optimise its educational and clinical benefits.

The limitations and challenges of the included studies include small sample sizes, narrow sample characteristics (such as single-gender representation), focus on solo programs or a single university, methodological concerns (predominance of cross-sectional studies), data-related issues, time constraints, and limited external validity.

Table 2 Outcomes/Limitations

	Author	Date	Result/Outcome	Limitation
1	Bashatah	Jan 2023	<ul style="list-style-type: none"> <li>Students had positive perceptions of understanding IPE</li> <li>Students had a good level of preparation for IPE.</li> <li>IPE has benefits and it will improve the student's capacity to deliver holistic nursing care.</li> </ul>	<ul style="list-style-type: none"> <li>A self-administered online questionnaire, which could have increased the risk of biases</li> <li>Only one profession (nursing)</li> </ul>
2	Alruthia et al	Jan 2022	<ul style="list-style-type: none"> <li>Three main themes emerged and were related to barriers, benefits, and opportunities to facilitate the introduction of IPE.</li> <li>Suggestions on how to implement IPE and overcome challenges to establish an IPE curriculum.</li> </ul>	<ul style="list-style-type: none"> <li>All the participants were from the same university</li> <li>A lack of participation from the College of Applied Medical Sciences.</li> </ul>
3	Bashatah et al	2022	<ul style="list-style-type: none"> <li>The Readiness for <b>Interprofessional</b> Learning Scale-Arabic version has demonstrated some psychometric inadequacies and thus it is possible that this scale may not be appropriate for use with <b>Saudi</b> nurses.</li> </ul>	<ul style="list-style-type: none"> <li>A possibility that language or cultural issues exist with the translated questionnaire and its psychometric performance.</li> <li>Only one profession was involved.</li> <li>Different models of healthcare in the Arabic setting compared to those examined in previous studies.</li> <li>Unspecified types and extent of IPE within the included educational facilities in previous studies</li> </ul>
4	Albalawi	2022	<ul style="list-style-type: none"> <li>No significant correlations between other students' characteristic variables (gender, specialty, study year, experience in IPE, and prior critical care experience).</li> <li>Health sciences students' perception of SBE is generally positive</li> </ul>	<ul style="list-style-type: none"> <li>More than 50% of the participants having a high GPA (4.50–5.00) this may be a source of bias.</li> <li>The sample of participants was drawn from a single institution with strong history of curricular simulation-based learning.</li> </ul>
5	Almazrou and alaujan	2022	<ul style="list-style-type: none"> <li>Students' knowledge regarding food–drug interaction improved after the IPE session.</li> <li>Students also reported higher scores for <b>interprofessional</b> learning.</li> <li>Roles and responsibilities domain scores were slightly lower among both groups.</li> </ul>	<ul style="list-style-type: none"> <li>A small sample size; therefore, our statistical results need to be interpreted with caution.</li> <li>Only female students.</li> </ul>
6	Almalag et al	2022	<ul style="list-style-type: none"> <li>The event covered the most important concepts of interprofessional education and could be a potential tool to educate students from multiple disciplines.</li> </ul>	<ul style="list-style-type: none"> <li>The level of preparation, timing, class schedules.</li> <li>Insufficient advertisement as a possible reason for the small audience.</li> <li>A lack of interaction from some stakeholders.</li> <li>Teacher-student relationship which might affect the nature of students responses.</li> </ul>
7	Algahtani et al	May 2021	<ul style="list-style-type: none"> <li>Students and healthcare professionals have positive perceptions and readiness towards IPE.</li> <li>Implementation of shared learning is highly encouraged.</li> <li>The integration of IPE in the curriculum is recommended to improve teamwork and patient care outcomes.</li> </ul>	<ul style="list-style-type: none"> <li>A single institution.</li> <li>A new university.</li> <li>Students from specific health professions were disproportionately recruited.</li> </ul>
8	Alrasheed et al	2021	<ul style="list-style-type: none"> <li>Different IPE strategies could be used to enhance healthcare students' collaboration and understanding of their roles in the multidisciplinary healthcare team, especially during pandemic times.</li> </ul>	<ul style="list-style-type: none"> <li>A small sample size.</li> <li>Only two focus group discussions were conducted.</li> <li>No equal representation of the students from different professions.</li> <li>Only 59% of the students who participated in the IPE competition joined the focus group discussions.</li> <li>Study needs to be validated using more robust study designs.</li> </ul>
9	Almalki	2021	<ul style="list-style-type: none"> <li>No significant difference in the readiness of IPE between professions.</li> <li>Students and faculty members have positive attitudes towards IPE.</li> <li>IPE curriculum will improve the medical education.</li> </ul>	Not reported
10	Bashatah et al	2020	<ul style="list-style-type: none"> <li>The findings provided a baseline for development IPE.</li> <li>Faculty members have a positive attitude towards <b>interprofessional</b> collaboration.</li> </ul>	<ul style="list-style-type: none"> <li>A small pilot study representing 53 faculty members.</li> <li>One university.</li> <li>Lack of external validity.</li> </ul>

(Continued)

Table 2 (Continued).

	Author	Date	Result/Outcome	Limitation
11	Alzamil & Meo, sultan ayoub	2020	<ul style="list-style-type: none"> <li>Medical students showed a positive perception and ready to adopt the <b>Interprofessional</b> Educational</li> </ul>	<ul style="list-style-type: none"> <li>A small sample size.</li> <li>Only one profession.</li> <li>Low response rate.</li> </ul>
12	Alrasheedy	2020	<ul style="list-style-type: none"> <li>Faculty members had positive perceptions of the IPE</li> <li>Faculty members had positive views and experiences</li> <li>Several factors that helped to implement of this curriculum.</li> <li>Several challenges (time and effort to implement this fully integrated curriculum)</li> </ul>	<ul style="list-style-type: none"> <li>A single institution.</li> <li>Only the faculty members' perceptions, views, and experiences.</li> </ul>
13	ALahmari	2019	<ul style="list-style-type: none"> <li>Healthcare students are ready for the implementation of IPE.</li> <li>The need to enhance nursing students' awareness of their professional roles and attitudes as well as the advantages of IPE</li> </ul>	<ul style="list-style-type: none"> <li>A small sample size.</li> <li>All students were of the same ethnicity and same age group.</li> <li>Only three professions among other nine professions.</li> </ul>
14	Salih et al	2019	<ul style="list-style-type: none"> <li>Internship student agreed that IPE could make them more collaborated and can enhance teamwork skill to them.</li> <li>A significant difference between the internship student level of the internship program towards the positive thinking about other healthcare professionals</li> </ul>	Not reported
15	Alsheikh	2018	<ul style="list-style-type: none"> <li>Enhanced teaching competence after successful completion of the program.</li> </ul>	<ul style="list-style-type: none"> <li>Limited time.</li> <li>Most trainers were from medical background.</li> <li>Struggled with providing examples from other health professions such as nursing or clinical pharmacy as opposed to medicine.</li> </ul>
16	Alshaikh et al	2018	<ul style="list-style-type: none"> <li>Students had a positive response towards IPE and the value of team work</li> <li>The need to enable students to learn about the specific roles of each profession in the healthcare team.</li> </ul>	<ul style="list-style-type: none"> <li>One university.</li> <li>Two healthcare disciplines were involved.</li> <li>All participants were females. (PNU)</li> <li>A small sample size.</li> </ul>
17	Awan, Almutazbellah et al	2018	<ul style="list-style-type: none"> <li>A hybrid conceptual framework is proposed, to tackle the issue of role clarification across all healthcare colleges</li> </ul>	<ul style="list-style-type: none"> <li>There was no baseline data to determine the knowledge and score change for pre and post workshops.</li> <li>The only data collected were student verbal responses of their understanding of IPE.</li> </ul>
18	Alqhtani et al	2016	<ul style="list-style-type: none"> <li>Positive attitudes of healthcare faculty from both universities towards IPE.</li> <li>Impetus for potential engagement of faculty in the delivery of IPE when implemented.</li> </ul>	<ul style="list-style-type: none"> <li>Two main universities.</li> </ul>
19	Alqhtani	2016	<ul style="list-style-type: none"> <li>A satisfactory degree of readiness and a generally positive attitude among students regarding shared learning and the value of teamwork and collaboration.</li> <li>Clinical nutrition students appreciated interprofessional collaboration more than students of other health professions.</li> </ul>	<ul style="list-style-type: none"> <li>One university.</li> </ul>
20	Aleisa, et al	Dec 2015	<ul style="list-style-type: none"> <li>The differences between healthcare disciplines in the perceptions and readiness of towards IPE were statistically significant</li> <li>No differences between students of different years of study in their perception and readiness towards IPE.</li> </ul>	<ul style="list-style-type: none"> <li>The short period of time.</li> <li>Insufficient statistical power.</li> <li>One university.</li> <li>Study design was a cross-sectional study that is not able to exactly determine the factors that affect the differences among the results.</li> </ul>
21	Fallatah, et al	2015	<ul style="list-style-type: none"> <li>Medical students and graduates valued IPE and thought that the implementation of IPE in their education would improve both patient care and health care provider satisfaction.</li> </ul>	<ul style="list-style-type: none"> <li>Most of the participants were of 4th year medical and dental students.</li> <li>That group might have different perception because of busier curriculum compared to 4th year students.</li> </ul>

## Conclusion

A significant barrier to IPE integration is the challenge of embedding it into existing curricula. Many healthcare programs operate independently, which makes it difficult to implement shared learning experiences. Addressing this requires institutional commitment, faculty development, and structured frameworks that promote interprofessional engagement beyond traditional coursework, such as extracurricular activities, clinical training, and faculty-led initiatives. Despite these challenges, this review highlights the promising opportunities for strengthening IPE in Saudi Arabia. IPE can be effectively integrated into healthcare education by addressing implementation barriers, fostering faculty collaboration, and expanding research beyond student readiness. This will cultivate a workforce better prepared for collaborative practice, ultimately enhancing healthcare delivery and improving patient outcomes.

## Declaration of AI Use

AI (Gemini 2.5 Pro Preview) was used to paraphrase some paragraphs.

## Data Sharing Statement

All data relevant to this study have been included in the article.

## Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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The authors report no conflicts of interest in this work.

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