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Experiences of interprofessional learning among students in primary healthcare settings: a scoping review

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ABSTRACT

Objective Previous research on interprofessional learning in primary healthcare has been focused on students' learning in the encounter with the patient. However, the research is limited, and a review of the experiences of patients, students, and supervisors of interprofessional learning in primary healthcare is lacking. The focus of this scoping review is to describe the current knowledge and also to identify knowledge gaps.

Design A scoping review in which blocks of keywords and synonyms were used for achieving a high level of subject precision together with a qualitative thematic analysis for the presentation of the results.

Data sources Publications from 2012 to 2024 were searched for in the PubMed, CINAHL and ERIC databases.

Eligibility criteria for selecting studies Peer-reviewed studies with a qualitative design describing the experiences of patients, students and supervisors of interprofessional learning in primary healthcare were included.

Data extraction and synthesis The articles were retrieved, stored and reviewed in a shared online folder. All the authors participated in the scoping review. The decisions on inclusion/exclusion were made after a systematic, multidisciplinary team approach, which involved all the authors in the discussions to reach a consensus.

Results The results showed that interprofessional learning helped the students to focus on the patient and that the students broadened their perspectives when working together. The results showed that supervisors planned for interprofessional learning by setting aside time for the students to get to know each other. The supervisors confirmed that interprofessional learning contributed to the primary healthcare employees remaining abreast with high professional standards, with updated knowledge, more resources and the implementation of several organisational changes.

Conclusions Interprofessional learning contributed to a patient-centred approach that provided new insights and expanded knowledge for students in professional training. More research is needed to understand how interprofessional learning between different professions can be developed.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ This is the first attempt to review academic papers on the experiences of patients, students and supervisors of interprofessional learning in primary healthcare with a qualitative approach.
⇒ A broad, structured search strategy was performed in scientific databases and included papers with caring, medical and pedagogical foci.
⇒ Studies were restricted to those published between 2012 and 2024.
⇒ A limitation is that the search was conducted in three databases and only a limited number of papers were identified reporting on the experiences of patients, students and supervisors of interprofessional learning in primary healthcare.
⇒ A limitation is the exclusion of non-academic papers and publications other than those published in English.

BACKGROUND

The development of interprofessional learning (IPL) in primary healthcare is based on the provision of qualitative learning strategies to meet the students' future challenges as professionals in a changing healthcare system. Several studies have shown that IPL promotes cooperation between different healthcare professions and ensures high-quality care and patient safety.[1–3] Students participating in IPL in various healthcare settings have reported feeling more secure as they discern different perspectives on patient care from the different professions.

Qualitative research in the field has shown that students learn by interacting with each other when they plan and evaluate patients' care and rehabilitation, including reflection on the care provided.[3–5] It has been reported in another study, which highlights the importance of different professions working together in primary healthcare to achieve common goals for patient care, that common learning strategies are essential for facilitating IPL among students from different professions.[6]

Factors that hinder IPL include a lack of understanding of each other's roles and of mutual respect, as well as the need to create

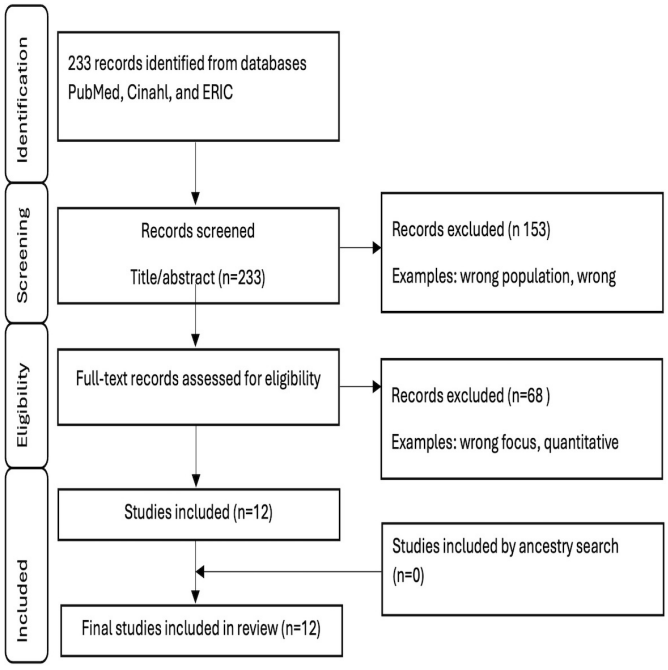

Figure 1 PRISMA flow chart. Summary of the process of article selection using the PRISMA framework. The flow chart includes four stages: identification, screening, eligibility and inclusion. A total of 233 articles were retrieved from PubMed, CINAHL and ERIC. PRISMA, Preferred Reporting Items for Systematic Reviews and Meta-Analyses.

structured opportunities for interprofessional work and learning.[1 3 4] Communication failures have been associated with patient safety,[4] such as medical errors and negative health outcomes, underscoring the importance of addressing communication in future interprofessional teams.[7] It has been maintained that it is essential to incorporate IPL into the students' education to prepare them for interprofessional cooperation for the enhancement of patient safety.[7]

IPL in primary healthcare has received sparse attention in previous research, which has mainly focused on qualitative investigations and IPL models. We found one scoping review in which the current existing IPL models are described.[8] Little research has been performed on the subject of, IPL and more research is needed to fill a knowledge gap and create guidelines for its application in primary healthcare.

AIM

The aim of the study was to describe the current knowledge of IPL in primary healthcare settings based on the experiences of patients, students and supervisors.

METHOD

The scoping review was carried out as a part of a larger project about IPL in primary healthcare, with the aim of identifying research gaps and learning strategies for IPL. The first step in the larger project was to explore earlier research by searching for experiences of patients, students and supervisors, and a scoping review was thus carried out to identify research gaps and future strategies in the field.

The study applies the methodological framework for conducting a scoping review as presented by Arksey and O'Malley.[9] This framework comprises five stages: identifying the research question, identifying relevant studies, study selection, charting the data, and collating, summarising, and reporting the results.[9] Data collection is presented using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (figure 1) extension for Scoping Reviews.[10] Publications from 2012 to 2024 were searched for in the PubMed, CINAHL and ERIC databases.

Identifying the research question

The research question was formulated in discussions within the research group in which keywords and synonyms were identified and combined in different blocks to clarify the focus of the review in accordance with the framework (population, concept and context), as shown in table 1.[11] The population group was defined as patients being cared for by nursing students, medical students and physiotherapy students, and their supervisors. The concept was defined as IPL, interprofessional education and clinical practice and the context was defined as primary healthcare and rural healthcare services.

The experiences of patients, students and supervisors were searched for based on the importance of creating future learning strategies on factors that have been shown to provide qualitative caring and learning. The patient perspective has not often been highlighted in relation to learning strategies but is seen as an important factor. The database search concentrated on qualitative studies in order to find those that focused on and described experiences in caring and learning. The research question was formulated: 'What are the experiences of interprofessional learning in primary healthcare according to patients, students, and supervisors?'.

Identifying relevant studies

The data collection involved searching three electronic databases: Public/Publisher MEDLINE (PubMed), Cumulative Index to Nursing and Health Literature (CINAHL) and Education Resources Information Center (ERIC), using blocks of keywords (table 1).

A search was made for controlled terms in the subject dictionary (thesaurus) to achieve a high level of subject precision in the databases. MeSH terms were used in PubMed, subject headings were used in CINAHL and ERIC Thesaurus was used in ERIC. Free-text searches were also carried out to broaden the search with increased sensitivity and accuracy. Boolean operators and truncation were used with search operators AND and OR to obtain relevant literature selection. The search operator OR was used in the blocks to get hits on some or all of the

Table 1 Database search

Databases searched 2012–2024							
Order of search	**Search action PubMed**	**PubMed**	**Search action CINAHL**	**CINAHL**	**Search action ERIC**	**ERIC**	
1	student* OR nursing student* OR medical student* OR physiotherapy student*	418 865	nursing student* OR medical student* OR physiotherapy student*	57582	nursing student* OR medical student* OR physiotherapy student*	32787	
2	interprofessional education [MeSH Term]) OR interprofessional learning OR IPL OR IPE	29 388	[SH] interdisciplinary education OR interprofessional learning OR interprofessional education OR IPL OR IPE	8478	interprofessional learning OR interprofessional education OR interdisciplinary education OR IPL OR IPE	33, 914	
3	clinical clerkship [MeSH Term] OR preceptorship* [MeSH Term] OR clinical practice OR clinical learning environment OR clinical supervis*	560 334	clinical clerkship OR preceptorship* clinical practice OR clinical learning environment OR clinical supervis* OR primary health care OR rural health services	188965	[ERIC] Clinical experience OR clinical clerkship OR preceptorship* clinical practice OR clinical learning environment OR clinical supervis* OR primary health care OR rural health services	17, 957	
4	primary health care [MeSH term] OR rural health services [MeSH term]	456 090					
Limits							
5	Qualitative; English; 2012–2024	102		105		230	
Combination							
6	1 AND 2 AND 3 AND 4 AND 5	83	1 AND 2 AND 3	81	1 AND 2 AND 3	69	Total number of articles: 233

Database Search summarises the search of publications from 2012 to 2024 in the three databases, PubMed, CINAHL and ERIC. The search was designed to identify articles related to nursing, medical and physiotherapy students, interprofessional learning, clinical learning and primary healthcare. The step-by-step combination of search and lists of the keywords and subject headings are presented as well as the number of articles retrieved for each search.

words in the block. Truncation was used, which entails writing the word stem for a broader search and enabling hits with the different inflections of the words.

The search in the current study was carried out in four blocks: professions, IPL, practice and intended place, which generated a search string. The blocks were combined with the search operator AND and qualitatively and with a filter that the articles were to have been published in the previous twelve years and were also restricted to sources in English. The selected search terms and search strategy are presented in table 1, database search. Duplicate entries were removed. A librarian with expertise in literature searches was consulted.

Even though scoping reviews allow for the inclusion of grey literature, it was decided to restrict the search to scientific articles only in order to adequately match with the research group's existing resources and given time frames.

Study selection

The following inclusion criteria were applied: studies describing experiences of patients, students and supervisors of IPL in primary healthcare, ethical consideration, peer-reviewed and qualitative design. The relevance assessment involved screening titles, abstracts and full texts to ensure alignment with the inclusion criteria. The inclusion/exclusion decisions were made through a systematic, multidisciplinary team approach, involving all the authors in discussions to reach a consensus.[9 12]

Qualitative and mixed-method studies were retained to address the research question. Quantitative studies were excluded since the aim was to focus on experiences of IPL and not on numeric data. A total of 12 articles were included in the scoping review, as shown in figure 1.

Charting the data

A data collection sheet as illustrated in online supplemental table S2 was used to enable screening based on author, year, country, journal, title, aim, method and result. Continuous discussions among the authors helped increase familiarity with the included data[12] in this multidisciplinary team approach. The first and last authors screened the articles individually, and diverging opinions were addressed in group meetings with all the authors. This meant that all the authors were involved in the decisions about the inclusion/exclusion of articles based on

the abstract as well as on the full-text level. Group meetings were held throughout all stages to discuss the decisions, for example, concerning inclusion criteria and selection process.[12] The articles were retrieved, stored and reviewed in a shared online folder.

Collating, summarising and reporting the results

The included articles were analysed according to a qualitative thematic analysis to identify key findings and themes and to present a summary of the existing literature.[9 12] The first step was to read the selected studies several times to get a feel for the content, focusing on the results. The second step was to identify the most prominent aspects of the results of each study and the key findings and themes in each article in relation to the purpose of the present study. The key findings from the results of each study were compiled in the third step and combined in an article matrix to provide an overview and to be able to see what was to be analysed online supplemental table S2.

Furthermore, in step 4, similarities and differences were identified and the data was grouped into new themes with the aim in focus. The analysis was formulated and presented based on the themes that emerged during the analysis in the fifth step.[13] The research group decided at this stage to structure the thematic analysis based on the different perspectives (ie, patients, students, supervisors and clinic/universities) that emerged from the data.[13] The results formed the basis for addressing the research question, identifying potential research gaps and discussing implications for future research, practice and policy.

Consultation exercise

The preliminary research results of our review were discussed with relevant stakeholders to increase the validity of the review and to gain the opportunity for knowledge transfer.[12] The results were presented at a research seminar, which was attended by academics and researchers with expertise in IPL.[9]

Patient and public involvement

Patients and the public were not involved in this study.

RESULTS

The results are presented by describing the included studies and highlighting the four themes that emerged from the analysis: focus on the patient, cooperation and learning between students, supervisor roles and cooperation between clinics, educational programmes and universities.

Description of the studies

A total of 12 studies were included in the scoping review, as presented in online supplemental table S2. These studies were published between 2012 and 2024 in various journals with varying impact factors. Nine of them were qualitative, while three were mixed-method studies. Data collection was carried out in several countries, with a majority of studies originating from Australia (4), Norway (2) and Sweden (2). One study focused on patients' experiences, and two focused on supervisors' experiences.

The final inclusion criteria were based on participants in the studies included students from various healthcare professions (medical, nursing and physiotherapy) who had experienced IPL (learning together with other professions) in primary healthcare supported by supervisors and patients who had experienced care from students engaged in IPL in primary healthcare, qualitative studies, primary healthcare and rural healthcare.

Focus on the patient

Eight of the 12 included articles[14–21] presented results about the importance of focusing on the patient. The research showed that students engaging in interprofessional clinical practice in primary healthcare contributed to improving patient care, as confirmed by supervisors. The students' aim was to care for the patients together, gaining new perspectives based on their different future professions. They broadened their perspectives, learnt to be open-minded when interacting with patients, and identified areas for improvement in primary healthcare.[14 15 18]

One study reported that patients were aware that students were learning interprofessionally and supported this approach.[14] Another study described that patient perspectives were crucial for obtaining information and influencing the quality of care. Planning for patient care involved discussions on ethical considerations related to the patients' experiences and the interaction with multiple professions. Students believed that their interprofessional planning improved patient-centred care, interpreting patient information differently after discussions.[20]

Two studies showed IPL to be perceived as less effective when the patient's care did not require cooperation between the professions, while patients with complex illnesses were a better fit and became naturally inclined to collaborate with one another.[16 19] Furthermore, one of the studies described IPL as being hindered by students who focused mostly on their own profession and their expert role.[16]

Two studies stated that it was easier to listen to the patient's history and actual needs during home visits, and the understanding of the patient thus improved.[17 21] It became easier to imagine oneself in the patient's situation when the information was gathered in the home. A common feature of the studies was that a focus on meeting the patient at the primary healthcare centre, in an IPL situation, provided new insights and good results when the students used their new and expanded knowledge. The experiences contributed to a new dimension of understanding, which made them stronger as they learnt to trust each other's professional judgement.

Cooperation and learning between students

All the included articles showed results about the importance of creating positive cooperation and learning

between students.[14–25] One study stated that it was important to have a platform with positive expectations and a good atmosphere in which to get to know each other before cooperating in the care of the patient in order for the cooperation between students to work. The composition of student professions changed depending on the task, and they discovered that working with others and reflecting at the same time caused them to see their own profession more clearly.[17]

Furthermore, two studies described that IPL helped the students to realise that certain skills overlapped between the different professions.[15 22] Four of the 12 articles described that the students invited each other to participate with the intention of creating a deeper understanding and of sharing learning experiences. The insight about using each other's skills was developed through mutual reflection.[15 16 22 23] Sharing knowledge helped them learn from each other, and being part of IPL was considered beneficial and, at the same time, it challenged them to be motivated and see different perspectives.[15 17 18 21 23]

It was also found that interprofessional work changed the students' view of each other's professions, from stereotypical descriptions to a deeper understanding, which was shown in the cooperation around the patient.[15 17] Working and being involved with several different disciplines gave a better understanding of the different roles and provided an opportunity to understand how they could be best used. It was also perceived as a good way to work closely and provide individualised care to all patients.[14 15 20–22]

However, hierarchy and prejudice between professions meant that some students avoided asking for help from other professional groups.[18] The relationships being developed were central to learning together with other professions. The key qualities that were considered important were to include each other, be open and positive about cooperation, and want to know more about each other's roles in healthcare. IPL was seen to contribute to reducing barriers between different professions in the future.[15 18 24]

Supervisor role

Eight of the 12 included articles described the role of the supervisors.[14 17–19 22–25] Having designated premises for IPL with sufficient space was a success factor. The supervisors planned for IPL by setting aside time for the students to get to know each other.[23 24]

The supervisors confirmed that IPL contributed to the primary healthcare employees keeping abreast with high professional standards, through updated knowledge, more resources and the implementation of several organisational changes.[14 18 22] The supervisors were influenced by the students' cooperation and wanted to introduce a similar way of working at the primary healthcare centre, as it improved the care of complex patients. Similarly, the supervisors acted as role models and good examples for the students in learning to collaborate with other professions.[19 25]

One article reported that a low level of cooperation, hierarchy and prejudice between different professions at a primary healthcare centre were perceived as organisational barriers to IPL.[19] Reflection with supervisors before and after meeting the patients supported the students in increasing their understanding of the patient's life situation by using their interprofessional competence.[17]

Cooperation between clinic, educational programmes and universities

Three of the 12 included articles described the cooperation between clinics, educational programmes and universities.[19 20 24] One article described that planning between educational institutions that prepared for joint educational and social activities resulted in synergy effects in IPL.[24] Students who knew each other improved their clinical work together. A balanced relationship between the different professions was considered as important to avoid the dominance of one or the other professions. Hierarchy and differences in the professions overshadowed their willingness to engage with the other professions.[24]

Students appreciated other parts of IPL activities such as seminars, workshops and reflections. Improved cooperation, more support and improved logistics between supervisors, clinics and training programmes were thus requested.[19] The importance of cooperation between healthcare centres, regional health authorities and universities was emphasised to achieve success in IPL in primary healthcare.[20]

Students considered IPL as an opportunity for increased cooperation in their future professional role by fostering intentional interprofessional cooperation throughout the education programmes. Difficulties in cooperation in primary healthcare were perceived due to them not working closely together.[19]

DISCUSSION

A summary of the principal findings

The results showed that IPL helped the students to focus on the patient and that the students broadened their perspectives when working together. Supervisors planned for IPL by setting aside time for the students to get to know each other. The supervisors confirmed that IPL contributed to the primary healthcare employees keeping abreast with high professional standards, through updated knowledge, more resources and the implementation of several organisational changes.

Furthermore, the experiences of IPL gave the students the insight that all professions were needed, that all were valuable, and thus contributed to the improvement of the patients' care. Despite the complexity of the patients' situation, it was perceived that the care given by those students who had learnt interprofessionally had improved. Learning became more effective when the students cared for patients suffering from complex conditions, which is important to consider when planning for IPL in primary healthcare. The best care was provided when the patient

was included in the group and together with the various student professions became a whole. They could simultaneously use each other's knowledge and contribute to a collegial patient-centred care.

The interprofessional work changed the students' view of each other's professions, from stereotypical descriptions to a deeper understanding, which was shown in the cooperation around the patient. A few articles described the importance of cooperation between clinics and educational programmes.

Strengths and weaknesses of the study

One strength of the study is that it has a narrow focus on the IPL of medical, nursing and physiotherapy students at primary healthcare centres. This focus provides an opportunity to identify aspects that are important to consider when students from different professions learn to care for patients together. Another strength is that the patients' voices are highlighted in this study, which provides important insight into how they experience being cared for by students. In addition, the study provides insight into the supervisors' experiences and challenges, which can provide important knowledge when introducing IPL at primary healthcare centres.

A weakness of this study was that the search was limited to three databases. A limited number of papers reporting on the experiences of IPL of patients, students and supervisors in primary healthcare was found. Even though scoping reviews allow the inclusion of grey literature, it was decided to restrict the search to scientific articles only in order to adequately match with the research group's existing resources and given time frames. Restrictions are unavoidable, while acknowledging that this decision might result in potential limitations of the study.[9]

The study's findings in relation to other studies

The results in this study show that the patient is the centre of attention in IPL. This is in line with previous research in the area showing that students from different professions also observed different aspects of the care given to the patient, which led to a feeling of security and patient safety.[1–3] Learning that includes the patient perspective has been shown in previous research to contribute to the successful outcome of patient-centred learning and caring.[26–28] Questions and ideas could be discussed between students, supervisors and patients while learning from each other in a safe environment. Learning strategies for the different professions need to be coordinated and adjusted and implemented in the specific caring setting that includes the patient perspective.

Furthermore, supervisors have an important role in supporting the students' learning process to interweave theoretical and practical knowledge by applying a reflective approach.[26] The importance of using reflection as a learning aid in IPL to support the students' understanding of the patient's situation was also described.[29] This is also in line with another article describing that interprofessional reflection contributes to learning about one's own profession as well.[30] Reflection before and after meeting with a patient is described as learning more about each other's responsibilities.[31] Furthermore, reflection could be understood as an important support for the students' learning process, developing the students' understanding.[26]

Despite the fact that reflection has been shown to be important for learning in earlier research, it has also been found that poor communication led to a lack of understanding of each other's roles.[1] This lack of understanding and how to create structures for working and learning together interprofessionally was also found.[3 32] Having common goals and creating learning on the same terms are thus important.[6] Communication failures are associated with medical errors and negative health outcomes and are emphasised as being important to address in future interprofessional teams. It is important to practise improving communication skills and ensuring patient safety during the education in order to prepare students in interprofessional cooperation.[7] Furthermore, it has also been maintained that interprofessional communication and cooperation are vital and improve patient safety and population health in primary healthcare.[4]

The results in this study show that only a few of the included studies describe collaboration between the university's educational programme and the primary healthcare centre. Collaboration between these two instances is of great importance to create meaningful learning for the students. This is partly concerned with the opportunities to see the importance of IPL in relation to the goals that have been set for the course that the students are studying, which among other things can increase the students' motivation to share knowledge between different professions.

The meaning of the study, possible explanations and implications for clinicians and policymakers

The results in this study show that IPL improves the care of the patients when the supervisors support the students with a reflective approach, which improves the communication between the patient, students and supervisors. Collaboration between the university's educational programmes and primary healthcare is of utmost importance to develop successful interprofessional cooperation. IPL would benefit from common goals in the curricula for the students. The supervisors are shown to be important role models for the students, and their attitude to IPL is crucial for creating a positive learning atmosphere.

Unanswered questions and future research

Potential research gaps were identified as the field is poorly described and needs more research, especially from the perspective of the patients. Furthermore, a greater understanding of how IPL between different professions could be developed in primary healthcare is needed, for example, if common goals in curricula could contribute to meaningful IPL.

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Contributors MS, CE, BP and HH designed the study concept and the analytical approach. MS and HH carried out the literature search and first screening. MS, CE, BP and HH read and determined the final literature inclusion. MS and HH carried out the analysis, while all authors helped with the interpretation and had access to the data. MS and HH wrote the first draft and all the authors contributed to, revised, finalised and approved the manuscript. MS, CE, BP and HH gave final approval of the version to be published and agreed to be accountable for all aspects of the work, ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. HH was the corresponding author and responsible for submitting the manuscript. The guarantor is HH.

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