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Interprofessional Education (IPE) in Developing Countries: Challenges and Lesson Learnt from its Implementation in the United Kingdom: A Systematic Review

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ABSTRACT

Background: Evidence of effectiveness of the Interprofessional Education (IPE) in improving collaboration practice, patient and family satisfaction, and patient outcomes had been widely published. Most developed countries, including the United Kingdom, have implemented IPE in their healthcare curriculum, whereas some developing countries are starting the IPE initiative program.
Purpose: This study aims to examine the challenges of implementing IPE.
Methods: Primary studies to be included in this systematic review were searched from electronic databases such as MEDLINE (OVID) 1996, CINAHL, and ERIC (EBSCO). Hand searching through the journal of interprofessional care was also conducted. The included studies were critically appraised using the JBI QARI appraisal tool. The findings of the included studies were extracted using JBI finding extraction form and appraised based on the JBI level of credibility. The analysis of the study was presented in narrative form.
Results: This review produced five qualitative studies using focus groups and interview methods. A total of 5 out of 88 papers met the inclusion criteria included in this systematic review. Three synthesis findings of the challenges in implementing IPE and possible solutions were identified in the literature: inter-professional relationship, IPE curriculum, and administration, and resources.
Conclusions: The evidence of implementing IPE in developing countries is limited. However, the challenges in implementing IPE in developing countries remain similar to those faced by developed countries. This can be a guide for developing countries to plan, initiate, and implement IPE. Future studies about the implementation of IPE in developing countries are highly recommended.

Keywords: Inter-professional education; challenges; developing countries

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BACKGROUND

In the current global era, healthcare professionals face an increasing number of health problems and patients' health needs. The collaborative practice among healthcare professionals is required to overcome these problems and improve the quality of health services. According to the Canadian Interprofessional Health Collaborative (2010), collaboration occurs when healthcare professionals work together with colleagues, other professions, patients, and their families. After nearly 50 years of research, there is sufficient evidence to show that effective collaborative practices are optimizing health care services, strengthening healthcare systems, and improving health outcomes (Instuture of Medicine [IOM], 2015). Collaborative practices can also reduce the number of complications, length of hospitalization, conflicts between healthcare teams, and mortality rates (Frenk et al., 2010). The absence of good collaboration among health workers will have a negative impact on patient outcomes, resource wastage, and decreased job satisfaction (Freeth, 2001).

Communication skills, as a part of collaboration practice, also play an important role in producing quality care (D'amour & Oandasan, 2005). One of the communication problems that can be found in clinical practice is the job overlapping in the inter-professional team caused by ineffective communication among the team members, which subsequently affects the patient outcome (Frenk et al., 2010). The joint commission (JCAHO) reported that 63 percent or nearly two-thirds of the incidences of medical errors conducted by health professionals were caused by poor communication (D'amour & Oandasan, 2005). These findings show how important the implementation of collaboration among health workers to improve the quality of health services is. However, the practice of collaboration does not occur easily as it requires a process to get health workers to work in teams and communicate effectively.

Education is the key to develop and change the methods and quality of health services (Steinert, Janny, Rocky, & Leins, 2005). The first Institute of Medicine (IOM) conference recommended that all health education providers be obliged to encourage cooperation between different health professions within the health care team (IOM, 1972). Inter-professional education (IPE), where students from two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes (WHO, 2010), provides an opportunity for health students to engage in interactive learning with other health professional students so that when they enter the workforce, they have the knowledge, skills, and confidence to work in teams that impact on better patient care (IOM, 2015). Shared learning experiences with various health professions can prevent barriers between them and change their attitudes into more respect for other professions (Hammick, Freeth, Koppel, Reeves, & Barr, 2007). IPE is an effective strategy for students to develop their clinical knowledge and skills, change attitudes, and increase their interest in patient care (WHO, 2010).The application of IPE is not limited to the field of health care. There are some disciplines that integrate IPE into the academic curriculum. A large Midwestern United States (US) university established an IPE program for an early childhood education program and a school counseling program (Dobbs-Oatesa & Morris, 2016). The IPE program included an experimental practice in a public school where the students of both programmes worked collaboratively to develop an academic plan and decide the functional need for children

with a disability. Another field that integrates IPE into the academic curriculum is communication sciences faculty in the US (Goldberg, 2015).

Some systematic reviews report positive results in the application of inter-professional education, such as improving collaboration skills, increasing clinical and medical knowledge, reducing the incidence of medical errors in patient management, and ultimately improving patient satisfaction (Hammick et al., 2007; Revees et al., 2010; Lapkin, Levett-Jones, & Gilligan, 2013). The integration of inter-professional education into the health education curriculum is also effective in changing the knowledge, attitudes, and interests of health students on other health professions so that they are more able to respect other professional associates (Steinert et al., 2005). Moreover, it increases their awareness to communicate and work in teams effectively, resulting in better patient outcomes. Therefore, based on the reports of IPE effectiveness and the demands of collaborative practice among health practitioners, World Health Organisation strongly recommends the transformative health education to include IPE in its curricula (WHO, 2010).

IPE has been implemented for many years, mostly in developed countries (Reeves, Perrier, Goldman, Freeth, & Zwarenstein, 2013). One developed country that already has an established IPE program is the United Kingdom (UK). For the developing of inter-professional education program, United Kingdom governments have allocated substantial funding and have adopted a clear regulation to integrate inter-professional education into health professional education (Barnsteiner et al., 2007). Now, inter-professional education is a mandatory requirement for pre-registration training in health and social care in the UK (Lapkin et al., 2013).

Almost all of the latest evidence on IPE implementation comes from developed countries (Reeves et al., 2013). The evidence available from developing countries is limited (Lapkin et al., 2013). Some developing countries such as Qatar, Japan, Egypt, Philippines, India, Indonesia, and Thailand have been applied IPE in their curriculum; however, the implementation is not full IPE (Barr, 2016). Some of them only include IPE in their extra-curriculum activities, and some countries still develop an IPE initiative program (El-Awaisi, 2017). The lack of IPE evidence requires the establishment of IPE programs in developing countries based on assumptions and tools derived from developed countries. Lessons learned from challenges and constraints faced in planning, initiating, and implementing IPE in developed countries are essential to encourage the adoption of IPE globally and assist in the implementation of IPE programs in developing countries (Reeves et al., 2013). Therefore, this systematic review is important to be conducted in order to contribute knowledge about challenges in the implementation of IPE in both developed and developing countries.

PURPOSE

This study aims to examine the challenges in implementing IPE

METHODS

Research design

This study used a systematic review as the study methodology to answer the research question of: "What are the challenges in implementing inter-professional education in developing countries?" The studies included in this review are primary research in a qualitative design that evaluate the planning, initiating, or implementing an IPE program. These studies include interviews, focus groups, and other methods of qualitative research. This review considered the population of interest, which includes students, staff, and faculty members of health and social care programs in the United Kingdom and developing countries. The exclusion criteria of this systematic review are studies that did not concern in planning or implementation of IPE, research on IPE outside of the health care field, and non-primary studies including reviews, commentaries, opinion articles, and editorials. Studies conducted before the year 2008 and presented in non-English languages will also be excluded. The studies were restricted to the last ten years (2008-2017) due to the initiative of IPE in developing countries, which began in 2007 (Barr, 2016).

Search strategy

The search strategy found both published and unpublished studies that are limited to the English language and full texts only. Electronic databases such as MEDLINE (OVID) 1996, CINAHL, and ERIC (EBSCO) were searched using several combinations of terms to identify any relevant studies (Table.1). Hand search to find the relevant unpublished studies through the Journal of Inter-professional care was also conducted, but it resulted in similar articles as those found in MEDLINE. Titles and abstracts of the studies resulted from the search were assessed based on the inclusion criteria.

Table 1. The search strategy of the review

Search Number		Search Terms	Results
ERIC (EBSCO)			
1.		Inter-professional AND education	3402
2.		Inter-professional AND learning	991
3.		1 OR 2	3493
4.		3 AND Health education	409
5.		Limiters- Full text; date published; 20080101-20171231	57
MEDLINE			
1.	Inter-professional	Exp inter-professional relation	44453
2.		Exp patient care team	41855
3.		2 or 3	92450
4.	Education	Education$ OR Learn$	5326
5.		Exp education	20348
6.		4 OR 5	19804
7.		3 AND 6	2089
8.	Students	Exp Student	43890
9.		7 AND 8	754
10.		Limiters- Full text; date published; 2008-2017	31

Data extraction

The data extraction tool used in this review is JBI-QARI (Joanna Briggs Institute Qualitative Assessment and Review Instrument) (Emily, 2008). This tool is used to collect information regarding the participants, methods, methodology, geographic locations, settings, cultural contexts, data analyses, and the authors' conclusions of the studies. This systematic review uses the critical appraisal tool of JBI QARI, which consists of ten criteria. It has been selected rather than the other critical appraisal tools because every question item on this checklist is presented very clearly and includes all the information needed to assess the quality of a study, including the nature and appropriateness of the methodological approach, specific methods and the representation of the voices or meanings of study participants (Emily, 2008).

Data analysis

A meta-synthesis was undertaken for the included papers according to the framework provided by JBI. Findings from qualitative research were collected using JBI QARI. The findings were collected according to their level of credibility (Level 1 findings) in keeping with the JBI criteria. The findings were then categorised by the similarity of meaning (Level 2 findings). These Level 2 findings were then subjected to meta-synthesis resulting in a series of synthesised findings that can be used as a basis or recommendation in evidence-based practice (level 3 findings). If textual pooling is not possible, then the findings will be presented in a narrative form.

RESULTS

The search strategy resulted in 88 potentially relevant papers to be examined. After examining the abstracts, 12 studies were selected. A more detailed examination was conducted to determine the relevant papers that meet the inclusion criteria, and 5 papers were left to be included in this systematic review: 4 papers from the UK and 1 paper from a developing country (Egypt). The process can be found in Figure 1.

A meta-synthesis was undertaken for the five included papers (Anderson & Lennox, 2009; Fook et al., 2013; Forte & Fowler, 2009; Hosny, Kamel, El-Wazir, & Gilbert, 2013) according to the framework provided by JBI. A total of twenty findings (Level 1) and their illustrations were drawn from the qualitative studies, and each finding was assigned a level of credibility in keeping with the JBI criteria. The findings were then identified, matching the objectives of this systematic review to produce nine categories (Level 2) according to the similarity of the findings in meaning. The nine categories were then treated to a meta-synthesis in order to produce three synthesised findings (Level 3) that could potentially be used as a basis for evidence-based practice relating to the initiative and implementation of inter-professional education. The three synthesized findings were: inter-professional relationships, IPE curriculum, and administration, and resources (Table 2).

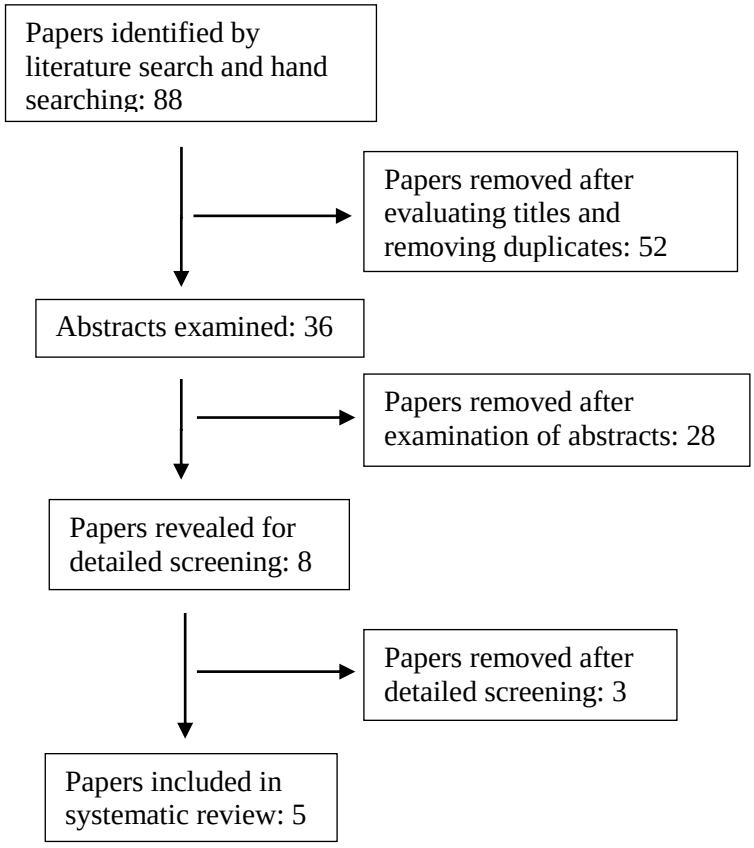

Figure 1. Retrieval process in the study

Table 2 presents the three synthesized findings of the study, including inter-professional relationships, IPE curriculum, and administration and resources.

Table 2. Categories of synthesized findings

Synthesized Findings (Level 3)	Categories (Level 2)	Findings (Level 1)
1. Inter-professional relationship	Teamwork	- No collaboration - Engage in - Professional domination
	Different perception and understanding of IPE	- IPE is unimportant - IPE is about collaboration - Enjoyable activity
2. IPE curriculum	Scheduling	- Hectic timetables - Different academic calendars
	Material content	- Professions' terminologies - different thought process
	Teaching and Learning approach	- learning styles - separate lecture versus student group - small groups

Synthesized Findings (Level 3)	Categories (Level 2)	Findings (Level 1)
3. Administration and resources	IPE planning	- Lack of central planning
	Leadership	- Strong commitment - Enjoyment - Contribution of all staff
	Faculty resources	- Lack of administrative staff - Lack of competent facilitators
	IPE evaluation	- Listening to students feedback

DISCUSSION

Inter-professional relationship

Inter-professional learning requires students from different professions learning and working together in a team (Rotz & Duenas, 2016). The diversity within student groups in age, life experience, attitude to learning, expectation, and tolerance of differences, influences the relationship between student groups and has the potential to cause conflict (Altin, Tebest, Kautz-Freimuth, Redaelli, & Stock, 2014). In line with this statement, this systematic review has found that developing a good relationship in which students can learn and work collaboratively in a team was challenging. Students were perceived to be unconfident to work with other profession groups, especially in group presentations (Anderson & Lennox, 2009), and they did not really work together in practice (Forte & Fowler, 2009). This inhibits the achievement of the IPE goal of creating collaborative practices (Altin et al., 2014). This problem is also found in a study by Coaster (2008), which has reported the low level of student contact with other professional groups within the interprofessional learning approach.

Interpersonal capabilities are suggested to be an important factor that influences students' willingness and openness to engage with other professions (Croker, Fisher, & Smith, 2015). These capabilities are included giving and receiving respect to other professions, being interested in other professions, developing interpersonal bonds to facilitate interprofessional interactions, being inclusive of other professions, and bringing a sense of own profession to interprofessional interactions (Morison, Boohan, Jenkins, & Moutray, 2003).

Another factor that encourages the synergetic interactions between students from different professions is a balance of professions during interactions (Thurston, Chesson, Harris, & Ryan, 2017). The unbalanced proportion of students from the variety of disciplines involved in an IPE session will create a sense of professional domination, which can create a gap between professional students (Thurston et al., 2017). This strengthens the finding in this review that some students felt unconfident in a group presentation dominated by medical students (Anderson & Lennox, 2009).

Student readiness for interprofessional education may have a significant impact on students to be involved in collaborative learning. A study conducted by Grice and Mccorkle (2016) has identified the readiness of healthcare students for interprofessional learning that showed significant differences in outcomes among professions. Results indicate that the teamwork and collaboration index of medical students is lower than

that of pharmacists, nurses, and other health professional students (Grice & Mccorkle, 2016). This finding suggests that medical students are less appreciative of teamwork and considers that collaborative learning has no significant impact on their ability to understand clinical problems. It can be a barrier to IPE learning.

Students' perception also influences the interprofessional learning process, including perception towards the other professions and perception towards IPE (Fook et al., 2013). A study from Zeeni et al. (2016) found that there is a positive correlation between students' perceptions towards the other professions and the readiness to work in an interprofessional team. It means that students who have a good perception and know about the role of other professions involved in interprofessional learning will show a positive attitude in teamwork, and this can create a harmonious interprofessional working group (Zeeni et al., 2016). However, this systematic review found that some students felt that medical is a superior profession and decision-maker in practice, while the other professions only follow their instructions (Forte & Fowler, 2009). It suggests that the students do not have a positive perception and understanding about the roles and responsibilities of each profession in healthcare teams. It is important that students identify and eliminate the wrong perceptions and stereotypes of other professions so that they can develop an effective collaboration on interprofessional teams (Hammick et al., 2007). Professional stereotypes that emerged during interprofessional learning may impede the ability of a team to work together and prevent effective communication between professional students (Thurston et al., 2017). This could be a barrier to implementing the IPE course. These problems can be prevented by creating collaborative learning among health professional students at the very beginning of their education (Hosny et al., 2013). This is supported by Barr (2016) that the introduction of IPE at the beginning of the academic level will prevent professional stereotypes and enhance the collaboration practice among healthcare students.

Staff members also have the same problem as the students regarding professional stereotypes (Bridges, Davidson, Odegard, Maki, & Tomkowiak, 2011). Barr (2016) suggested that the preferences of IPE facilitators towards their own professions can disrupt the learning process for students from other professions. For instance, in this review, it was found that some professions perceived that the medical profession is dominant in other professions (Anderson & Lennox, 2009; Fook et al., 2013). This results in a tendency to pay attention and reward students on their own professions greater than for other professional students (Wilby et al., 2015). It does not indicate healthy interprofessional teamwork because it has the potential to build an inter-professional gap that will ultimately impede collaboration and teamwork in implementing IPE (Altin et al., 2014). It will be more complicated when such professional stereotypical attitudes are transferred to their students, which can create conflicts and tensions among faculty members and students (Altin et al., 2014). To prevent this problem, at the beginning of the programme, faculty staff need to be equipped with knowledge about IPE, for example, by holding an IPE seminar (Barr, 2016). According to Bridges et al. (2011), staff and facilitators should have sufficient knowledge of the importance of IPE and the positive impact of collaborative practice. Thus, they will be motivated to cooperate in achieving the success of the IPE programme.

Curriculum

Curriculum development is one of the challenging parts of the process implementation of IPE (Anderson & Lennox, 2009; Fook et al., 2013; Hosny et al., 2013). Some problems regarding the teaching approach, material content, and scheduling have arisen as the consequence of different programme activities and student characteristics involved in interprofessional learning (Croker et al., 2015). Students may have different basic knowledge, learning needs, and learning styles.

Learning styles are student's preference toward a method of receiving information or skills from learning resources (Coffield, Moseley, Hall, & Ecclestone, 2004). The use of learning styles in accordance with the preference of students will facilitate the learning process resulting in a good outcome (D'Andrea, 2007). Therefore, the facilitator needs to identify the learning styles of the students in order to use appropriate teaching methods. This is a big challenge for the facilitator to determine the proper teaching method which can accommodate the learning style of the students in an interprofessional class. In terms of healthcare students, each of them has different practice approaches commonly used in their courses (Forte & Fowler, 2009). For example, doctors and nurses may have different approaches to the practice of patient care. Combining students of these two professions in a similar learning environment without considering their differences can be an obstacle in the process of interprofessional learning (Reeves, Goldman, & Oandasan, 2007). If this discrepancy is not addressed early on, it will provide a poor learning experience for students (Rotz & Duenas, 2016). In this condition, the role of faculty leader will be very important, especially in conducting regular meetings among IPE facilitators from different professions, giving the opportunity to share and evaluate interprofessional teaching approach within their wider interprofessional curricula (Reeves et al., 2007). Not less important, the faculty leader who provides opportunities for lecturers to attend training can improve their knowledge and skills in delivering an interprofessional course and create an interactive learning approach (Thurston et al., 2017).

Developing material content to be provided to students is also part of the curriculum preparation. The preparation of the material should consider the diversity of the disciplines (VanKuiken, Schaefer, & Hall, 2016). Choosing a theme that involves the role of the entire professions will foster collaborative practice within an interprofessional team (Reeves et al., 2007). For example, the selection of themes in management for patients with diabetes mellitus in pregnancy. This theme may include the professional roles of doctors, nurses, midwives, pharmacists, and nutritionists so that each profession can take a role according to its discipline (VanKuiken et al., 2016). The preparation of educational materials should use appropriate terminology for all professional groups. The use of specific phrases in certain disciplinary groups makes it difficult for other professional students to understand the material (Anderson & Lennox, 2009). This can be a barrier to the delivery of IPE courses.

The most common problem in preparing the IPE curriculum is scheduling (Anderson & Lennox, 2009; Forte & Fowler, 2009; El-Awaisi., 2017). Every program has its own activities and the academic calendar, and sometimes it is difficult to find availability timetabling that can accommodate all professional students to attend the IPE sessions

(Anderson & Lennox, 2009). This is reinforced by a statement from (VanKuiken et al., 2016) that finding a consistent schedule that can accommodate all students from various health professions can be one of the biggest obstacles in the implementation of the IPE program. Multiple lobbying between departments may be required to determine the date of the IPE session, and it is important to appoint one of the staff responsible for ensuring mutually agreed dates (Dobbs-Oates & Morris, 2016).

Administration and Resources

It has been agreed that IPE is a complex program (Altin et al., 2016). It is not easy to organize interprofessional education, especially when faced with some administrative or logistical obstacles. The administrative barriers, that arise in the management of IPE programmes, call them as internal inhibitors (unequal numbers of student groups, campus distance, and different academic calendars) and external inhibitors (program accreditation, funds) (Rotz & Duenas, 2016). All stakeholders should coordinate to discuss these factors before starting the IPE programme (Thurston et al., 2017).

A study by Fook et al. (2013) showed that faculty members were frustrated as they have more workload, and at the beginning of the programme there is no clear distribution of jobs among the staff. This condition leads to a decrease in staff performance and impact on poor programme management. Therefore it is important to arrange some specific tasks and decide the right person to be involved in the programme (Altin et al., 2016).

Oandasan and Reeves (2005), in their study, suggested that planning is an important part of an IPE initiative. How an institution plans the IPE programme will influence the success of the programme. However, this modified systematic review found that some institutions faced some obstacles in the application of IPE because of the lack of central planning. Fook et al. (2013) showed that faculty members were frustrated as they have more workload, and at the beginning of the programme there is no clear distribution of jobs among the staff. This condition leads to a decrease in staff performance and impact on poor programme management. Therefore it is important to arrange some specific tasks and decide the right person to be involved in the programme (Altin et al., 2016). According to Altin et al. (2014), there are some issues that need to be taken into account in the planning of IPE initiatives, such as what drivers influencing the programme, who will be involved, what are the potential barriers and how to overcome, what teaching method used to achieve the goal, how to evaluate the activities, and how to sustain the programme. Careful planning is the first step that will lead to the success of a programme (Barr, 2016).

The lack of human resources including administrative staff and competent facilitators to support IPE was also found to be a major barrier in implementing IPE (Fook et al., 2013; Hosny et al., 2013). Expertise administrative staff are needed to organise the complex IPE sessions, including timetabling and placement (Hosny et al., 2013). In some cases, they should take additional responsibilities because of the over workload of the programme (Barr, 2016). Therefore, the lack of administrative staff will impede the application of IPE. Another issue is related to the availability of IPE facilitator (Fook et al., 2013). It is not only about the quantity but also the quality of the individual who will

teach IPE. According to Barr (2016), IPE facilitators should have the IPE competencies, which are skills of teamwork and collaboration, and value the role of other professions.

CONCLUSION

Four out of the nine challenge categories were found in research conducted in Egypt as representatives of developing countries. However, this systematic review suggests that the other five challenges need to be an important consideration for developing countries who will initiate or are currently implementing an IPE programme. The challenges of implementing IPE founded in this study were synthesised into three topics, which are inter-professional relationships, IPE curriculum, and administration resources. Being aware of these potential challenges will increase the chances of building a successful and sustainable IPE programme. Research on the implementation of IPE in developing countries is still very rare. Therefore, it is highly recommended to extend research in developing countries, especially those that identify challenges and obstacles in the planning and implementation of IPE.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

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