







Review Article

Interprofessional Education Opportunities and Challenges for Public Health Students

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ABSTRACT

Interprofessional education (IPE) in communities is often underrepresented in IPE initiatives, while, in practice, the need for collaboration is high enough. Interprofessional collaborative practice is challenging, especially for public health workers because some health professional education is unprofessional. Therefore, this brief review aims to comprehensively discuss the opportunities and challenges of public health students to perform interprofessional education. Study Review and data collection had been carried out within 2015-2020. Based on our review, IPE has a positive impact on students. Many students showed positive attitudes after participating in the Interprofessional Education session. Additionally, IPE is applicable for identifying benefits, challenges, and areas for modification when implementing and developing competencies. Managing interprofessional work team training is a major challenge. The approach to overcome these challenges can be realized by public health students by applying the basic skills and soft skills of public health workers, including a graphical model of public health. The model has four main tools, and particularly in the behavioral and social sciences, and health administration and policy will be a force to overcome the barriers to implementing IPE in the community. The results of the evaluation provide insight into the experiences of students, staff, facilitators, and their self-perception of competency development. Public health students perceive positively and believe that IPE can improve communication skills, collaboration, self-efficacy, readiness for interprofessional learning, and appreciation of professional roles. However, there is still a need for training modifications and expanding student roles that can improve understanding of primary health concepts and appreciation of interprofessional collaboration. This will increase students' potential to become effective healthcare providers.

Keywords: Education, Healthcare, Interprofessional, Public Health, Students

INTRODUCTION

One of the collaboration services is to carry out interprofessional collaboration practice in health professional education. To manage it, it takes a righteous understanding of interprofessional education (IPE). IPE is an innovation that is being explored in the world of health

professional education. This education involves a group of health professionals with different backgrounds who carry out joint learning within a certain period. The main goal is to collaborate in promotive, preventive, curative, rehabilitative efforts, with the concept of patient-centred-care-based health which demands that health workers can provide all their abilities for clients. IPE refers to the opportunity when two or more professionals get the opportunity to study together to enhance a culture of collaborative practice (Guraya and Barr 2018). IPE emerges when two or more professionals learn about, from, and with each other to enable effective collaboration and improve health outcomes (Gilbert, et al. 2010). IPE can increase students' Self-efficacy, coordination (*Planning*), control and calm (*Anxiety reduction*), and commitment (*Persistence*) in supporting patient-centered care (Peterson and Brommelsiek 2017).

Several studies stated that there was no difference between students from different study years on readiness perceptions for interprofessional education (Al-Eisa et al. 2016; Brisolaro et al. 2020). Most of the unrevealed barriers are at the cultural level and the level of the facilitator process (Visser et al. 2017). One of the obstacles to implementing IPE is knowing how to construct IPE content into meaningful clinical and community experiences (Mast et al. 2015). Interprofessional education already exists in a variety of formats, but public health schools are often underrepresented in IPE initiatives (Anderson et al. 2019). Meanwhile, students consider the need for IPE support and awareness to collaborate between professions (Tran et al. 2018a).

Although many reviews on IPE have been conducted, the majority of these articles focused on implementing IPE in a clinical setting. Like; produced positive results in the areas of diabetes care; emergency; collaborative team behavior and reduced clinical error rates for emergency teams; collaborative team behavior in the operating room; care management; and competence of mental health practitioners (Reeves et al. 2013). The comprehensive review focused on clinical problems experienced by patients and in hospital management. However, in public health practice, it has never been implemented. Even though this understanding is very important, especially to evaluate the readiness of public health students in implementing IPE competencies along with the opportunities and challenges. Therefore, this review article is highly possible to figure out the opportunities and challenges of public health students in implementing IPE competencies.

MATERIAL AND METHODS

Systematic search was performed using PICOS (Population, Intervention, Comparison, Outcomes, and Study design) framework in electronic databases. The review analysis and data collection have been conducted on journals and articles from 2015 to 2021. This literature search was performed on the specialized database but was not limited to (i.e., Google Scholar, PUBMED, and Scopus) with specific keywords such as interprofessional, education, healthcare, public health, and students. The specific keywords were selected based on our goals to review and identify journals and articles related to evaluating the readiness of public health students in implementing IPE competencies. The search strategy based on the PICOS framework resulted in the use of the following concept filters: (1) interprofessional or interdisciplinary; (2) student; and (3) public health. The selected journals and articles were manually reviewed starting from title to abstract to full-text and the information extracted were grouped and discussed accordingly.

RESULTS AND DISCUSSION

There are four studies involving public health students who reported that IPE was highly positive and seven studies that measured student readiness using RIPLS also stated that students

had a positive perception of interdisciplinary and were able to work with other health professionals. IPE among students of the health professions, overall considers that the experience is very beneficial for learning and developing interprofessional skills (Anderson et al. 2019; Jorm et al. 2016; Van Lierop et al. 2019; Runyon et al. 2016).

Have a positive perception of Interprofessional Education (Kovalskiy et al. 2017; Syahrizal et al. 2020). This includes opportunities to learn with, from, and about other health professionals to review shared care plans, and to feel collectively responsible (Dyess et al. 2019; El-Awaisi et al. 2017; Zanotti, Sartor, and Canova 2015). This will improve the ability to understand clinical problems (Maharajan et al. 2017) and able to appreciate the importance of education and interprofessional collaboration (Zechariah et al. 2019). Thus, the experience of interprofessional education can increase perceptions regarding the importance of population health and teamwork (Brisolara et al. 2020). Student perceptions change after inter-professional students interact for one semester with more emphasizing the specific role of each profession. This will prepare students for collaborative practice after graduated (Wilby et al. 2016). Based on this growing evidence, it becomes important information to gain a better understanding of the conceptual frameworks and design elements essential for effective IPE practices and the need for further research to measure their impact.

Table 1. Data Summary Applications and Professions measured in readiness for IPE

Outcome Measure	Student Types	Main Finding	Reference
Qualitative/ RIPLS	Medical, nursing, PA	The results suggest that irrespective of prior exposure to IPE,	(Zechariah et al. 2019)
Cross-sectional/ RIPLS	medical students, pharmacy students, dentistry students, and health sciences students	Shared learning with other healthcare professional students increased their ability to understand clinical problems	(Maharajan et al. 2017)
Quantitative/ IEPS	medical students	Statistically significant improvements were found in students' overall attitudes as measured by the IEPS and four subscale scores.	(Zanotti, et al. 2015)
Systematic review/ RIPLS	Residents, medical and nursing students	Most of the uncovered barriers are at the cultural level and most of the facilitators are at the process level. Factors at the individual level need more research	(Visser et al. 2017)
A cross-sectional study/ RIPLS	female undergraduate healthcare students	The differences between health-care disciplines in the perceptions and readiness toward IPE were statistically significant, but there were no differences between students of different study years in their perception and readiness toward IPE.	(Al-Eisa et al. 2016)
Quantitative/ RIPLS	first and second-year medical students	Overall results showed that both volunteers and non-volunteers had an overall positive perception of interdisciplinary teams and working with other healthcare professionals	(Kovalskiy et al. 2017)
Quantitative/ RIPLS	health care students and health professionals	A good internal association was found between items in Positive Professional Identity.	(Nørgaard, et al. 2016)
A pre-post intervention	medicine, pharmacy, pharmacy technician, and public health	Most of the students reported having a positive attitude toward IPE; the	(El-Awaisi et al. 2017)

Outcome Measure	Student Types	Main Finding	Reference
research design/RIPLS		number of students having a positive attitude toward IPE increased after the IPE session. Students from different disciplines was similar in their attitude scores	

This review provides an up-to-date knowledge about the impact of interprofessional simulation on improving learning and interprofessional competence in health students. However, further research should be carried out using more robust research methods and reliable assessment methods. Through interprofessional simulation experiences, health schools can adequately prepare students for future collaborative practice. Interprofessional simulation activities in all classes can assist prepare students for interprofessional learning.

To establish readiness for IPE implementation, a strategic plan is needed as a target for the sustainability of IPE implementation, they are:

1. Establish an IPE center that has the authority to implement curriculum and activities related to IPE across public health schools and ensure that it has dedicated resources that can implement the IPE plan effectively.
2. Creating recognized lecturer candidates with IPE competency teaching skills.
3. Establish competency-based IPE as a standard in educating students of health professions, and
4. Facilitate student-led leadership and learning in interprofessional education (Tanya M Uden-Holman et al. 2015).

Students as representatives of various disciplines must actively contribute to IPE programs and activities through joint planning, investment of time, accountability, and commitment to facilitate interprofessional learning. Likewise, facilitators become role models in the implementation of interprofessional learning. This is important to increase trust and acceptance of interprofessional practice and will support students in building the knowledge and skills for which learning is responsible.

This interprofessional practice is challenging for public health workers because of the little empirical evidence. A public health expert must also be proactive and care about the surrounding environment and be an agent to improve the community health status. So far, in practice, it is still unprofessional and carried out according to the community health center' work program based on the needs of the time. Through IPE, it is expected to be able to better prepare students to interact socially with the environment, so that it will provide a more meaningful learning experience. The establishment of a supportive and inclusive learning environment must be seen from the beginning of every teaching activity (van Diggele et al. 2020). Providing increased independence learning method, interacting closely with the community towards a more meaningful learning experience is certainly a challenge that requires guidance from the facilitator as a practical form of "Interprofessional leadership". When organizing and implementing IPE, administrative and methodological challenges must be considered (Nowak et al. 2016). Providing good facilities is to share the depth of discipline knowledge, and focus on interprofessional collaborative outcomes, including appreciate and respect for the other health professionals' role.

Commitment and trust are also required in the achievement of this interprofessional team. In addition, the knowledge, skills, attitudes, and abilities of the team are important things that need to be considered in every scientific field involved in the interprofessional team (Yusuf 2015). Public Health students need support and awareness in implementing IPE either during in the study

programs and clinical setting. Teamwork is a sophisticated social activity requiring cognitive (knowledge), technical (skill), and affective (attitude) competencies and education for developing these. Activities of public health: Observation of community interprofessional health teams, interviews with local community experts, interviews with the users of community health services, etc.

Even though four IPE competencies are included, very few IPE experience properly (Tanya M. Uden-Holman et al. 2015). Therefore, a model is needed to continue education to the community according to their needs. Health students can use authentic assignments to develop interprofessional collaboration. The role of public health experts is needed to care about the surrounding environment and become a driving force to improve the health status of the community. Armed with basic skills as well as soft skills from a public health worker, such as a graphical model of public health which has four main tools, namely biostatistics, epidemiology, behavioural and social sciences, health administration, and policy. This will be a force to overcome obstacles in the implementation of IPE. This could be applied using an interprofessional team tasked with coordinating, leading, and mobilizing human resources based on service needs in the community, as illustrated in Figure 1 below:

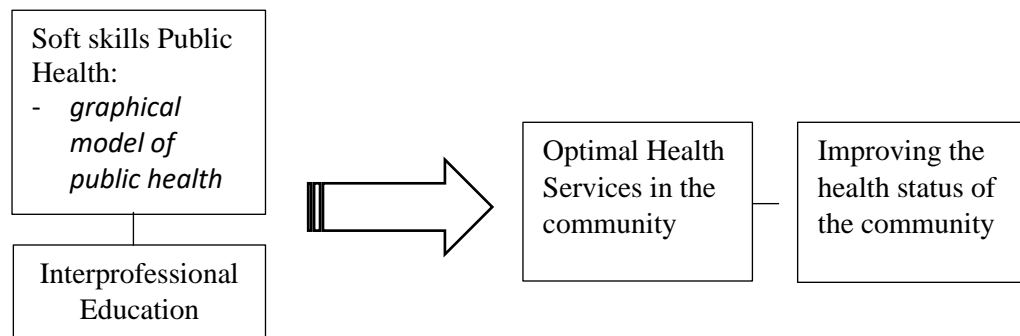


Figure 1. Framework Public Health in IPE

This review shows that IPE activities are an effective tool to improve attitudes towards teamwork, communication, shared problem-solving, knowledge, and skills in preparation for collaboration with other healthcare teams. Public health, health policy, and clinical topics can be taught effectively by a team of interprofessional community experts and lead to increased student understanding of the health policy importance for individual and population health outcomes (Clithero et al. 2016). Student experience in training will increase interest in the health profession and knowledge of public health issues (Austin et al. 2019). Students can play important and effective role in increasing health education opportunities globally (Moran et al. 2015). IPE training and experience had capabilities to lead to improved leadership, collaboration, and communication between healthcare teams, ultimately improving patient safety (van Diggele et al. 2020). For this reason, it is necessary to modify training and expand student roles that can increase understanding of primary health concepts and appreciation of interprofessional collaboration (Addy et al. 2015).

CONCLUSIONS AND SUGGESTION

Although most stated the readiness to implement IPE, it is still necessary to consider the facilitator' readiness to achieve the goals of interprofessional learning. The findings of the content analysis reveal five important themes: interprofessional communication, appreciation of interprofessional team roles, interprofessional teamwork or collaboration, self-confidence or self-efficacy, and a positive attitude or readiness towards interprofessional learning. The goals of the

interprofessional team are to collaborate and communicate closely with other healthcare professionals to achieve a common goal.

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CONFLICT OF INTEREST

There is no potential conflict of interest relevant to this article.

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