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Abstract

Interprofessional education (IPE) relates to effective learning and collaboration amongst students from two or more professions (WHO, 2010). To enrich students' knowledge of healthcare professions and prepare them for the workforce in the fields of communication disorders, it is imperative that IPE and interprofessional practice be included in the curricula for the students to collaborate and consult with other professionals, while providing comprehensive care to their clientele and caregivers/families. Given that IPE is a current trend in healthcare/education, investment in training the future speech-language pathologists can enhance clinical and research collaborations among the health professionals. Implementation of specific IPE activities into the curricula in collaboration with other health professionals can help enhance interdisciplinary training outcomes in terms of knowledge, values, skills, and attitudes. Furthermore, the workforce demand in healthcare warrants IPE training for students in academic and clinic settings.

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Background

Interprofessional education (IPE), endorsed by the Institute of Medicine, has been an area of focus in communication disorders for the past several decades. IPE was introduced to the allied health curricula to improve teamwork, increase the understanding of roles across health professions, enhance interprofessional collaboration (IPC), and quality of care (Olson & Bialocerkowski, 2014). To enhance competent service delivery by speech and hearing professionals, American Speech-Language Hearing Association (ASHA) has been supportive of IPE within the academic programs of speech-language pathology and audiology. Since IPE has been increasingly prevalent in health professions, the goal is to prepare professionals to work together in clinic settings. IPE offers a social platform that binds together various health professionals such as, speech-language pathologists, nurses, occupational therapists, physical therapists, dietitians, and others (Olson & Bialocerkowski, 2014). When healthcare professionals effectively work and communicate in a team, their understanding of unique professional roles enhances team productivity, which, in turn, improves patient care significantly (Reeves et al., 2008). Based on IPE needs, interprofessional learning pathways should be offered to students enrolled in allied health disciplines so that they can be effective communicators and collaborators within healthcare settings for improving their

clinical learning outcomes.

Need for IPE in Curricula

Given that IPC leads to optimization of health outcomes in effective team-based care, specific training components of IPE should be systematically integrated into undergraduate and graduate curricula (Farnsworth et al., 2015). The concepts should be introduced to students early on, during their professional education, since students' attitudes and understanding of roles of various health professionals on the platform of interprofessional socialization offer realistic views to training and evaluating learning outcomes. Talwalkar et al. (2016) discussed the importance of readiness for interprofessional learning among healthcare professionals in medical, nursing, and physical associate students. The authors also found that students demonstrated optimum readiness for IPL. Hence, there is a need to teach students about the scope of practice of various disciplines, management of collaborative learning practices, and clinical experiential learning and encourage them to participate in interprofessional, community-based, and real-world experiences as a basis of understanding their own as well as other professionals' clinical roles in patient care. Also, diverging from the rigid model of education concerning a discipline, students learn more in an interdisciplinary setting, a fluid envi-

ronment, where there are opportunities to develop more wholistic and integrative approaches to treatment besides developing interpersonal communication, empathy, caring, conflict resolution, leadership, cultural competency, social intelligence, and self-confidence (e.g., Hammer et al., 2012; Ross & Kabidi, 2017). Given the importance of providing quality care based on team collaborations, interprofessional education should be a priority for every department that is training students to join healthcare (Blue et al., 2010).

Competencies for IPE

The goal of IPE is to increase the effectiveness of clinical education and patient care. The students need to understand the IPE dynamics by focusing on knowledge, skill, and values that pertain to patient-centered care in a collaborative manner (Buring et al., 2009). The team establishes a common standard goal for patient care and based on their individual expertise; they synthesize their observations and treatment recommendations that enhance optimal patient care (Buring et al., 2009). During this process, each team member participates in decision-making and collaboratively develop treatment plans that are non-conflicting in nature.

The Institute of Medicine (2013b) identified five IPE competencies regarding patient-centered care, quality improvement, evidence-based practice, information, and interdisciplinary teams. There are other competency domains such as, community-oriented care, professional relationships, sensitivity to practice settings, and integration of knowledge (Olson & Bialocerkowski, 2014). The International Professional Educational Collaborative (IPEC, 2016) identified four core competency domains: 1) values and ethics; 2) roles and responsibilities for collaborative practice; 3) interprofessional communication; and 4) teamwork and team-based care. To prepare to work in an interprofessional team, students should be cognizant of values and ethics including scope of practice of other participating professionals. Additionally, students are expected to maintain high levels of integrity and privacy while delivering clinical services to patients and families with other team members. They should be trained to share professional responsibilities and accountability with other team members. Collaboration among various disciplinary team members is essential to ensure that curriculum and outcomes match the IPE competencies to prepare the students for real-world experiences. In various clinical scenarios, students should be trained to share assessment and treatment information with the team members. They should be open to constructive feedback about their performance on the team and respond respectfully as a team

member. They should also be able to participate in active learning and discuss appropriate treatment pathways for patients and include relevant team members in providing optimal patient care. To enhance competency-based learning, clinical simulation program with well-crafted case scenarios can be used by engaging students in both disciplinary and interdisciplinary knowledge domains.

In both undergraduate and graduate curricula, the IPE activities that may be introduced initially could include structured and instructor-led dialogues among professionals to build the foundational pillars of interprofessional learning. An effective interprofessional team is formed by members from different allied health professions who have specialized knowledge, skills, and abilities, and when students from two different professions receive the same learning experience and interact, interprofessional learning takes place (WHO, 2010). The decision-making responsibility should equally involve the represented professions. For example, using a forum on a given case scenario, two or more health professions can get involved and based on their foundational knowledge; they may develop a set of common skills and attitudes that can foster a learning environment. They can collectively decide on assessment and management options of their clients.

Examples of IPE activities that can help strengthen the IPE curriculum may include simulation-based education, clinical grand rounds, clinical placements in the community, patient-centered care, interprofessional practice-related workshops, and student-led community educational workshops in collaboration with other health professionals (Blue et al., 2010; Reeves et al., 2008). Additional IPE team activities may include motivational counseling, telehealth practice sessions, problem-based learning, professional role-playing, and other activities geared toward leadership development and entrepreneurial skills (e.g., Hammer et al., 2012). At a university or college setting, an example of IPE activity is to provide patient-centered care involving multiple professions, students, and faculty members (see Table 1 for a list of potential IPE activities on college campus for students in communication disorders).

Clinical assignments can be provided to the team of health professionals that suggest multidisciplinary inputs into assessments and treatments for clients. For example, a team of health professionals can work together to provide comprehensive care to a person with stroke and dysphagia. After attending formal lectures from individual disciplines such as communication disorders, nursing, psychology, occupational therapy, physical therapy, dietetics, and social work, small interprofessional group teachings may take place to improve attitudes toward learning from other professionals, meaning-

Table 1: Examples of College-Based Collaborative Activities for Students in Communication Disorders

Activities	Involved departments
Educating students (music major) regarding vocal hygiene	Vocology and Music
Assessing voice/respiratory conditions in athletes	Physical Education
Establishing diets for patients with dysphagia	Dietetics and Nutrition
Working on clients with psychogenic voice disorders	Psychology, Counseling
Treating fluency disorders in children	Special education, Childhood Education
Treating dysarthria in persons with Parkinson's disease	Nursing, Occupational Therapy, Physical Therapy
Counseling clients with dementia	Nursing, Gerontology, Social Work
Community education for stroke prevention	Nursing, Gerontology, Social Work, Physical therapy, Occupational therapy

ful interactions, and client-oriented discussions on management of stroke and dysphagia. Following the teaching modules, the team can meet to discuss the assessment and treatment plans. After the assessment tasks, the team can meet again to discuss how the reports from individual disciplines can be integrated to create a comprehensive treatment plan for the client. The treatment recommendations as well as management strategies are implemented along with identification of community resources such as, support groups, counseling services, and additional services from related professional groups in the community (Reeves et al., 2008).

IPE Training Outcomes

In IPE contexts, when multiple service providers from various backgrounds provide comprehensive healthcare services to patients and their families or caregivers, students can learn about strategies that enhance highest quality of care. As part of the IPE training, the skills such as, team work, leadership, consensus building, and quality of patient care are likely to improve in students (Abu-Rish et al., 2012). With team work, each professional involves in group problem-solving and service-delivery or medical-based errors are reduced, leading to effective navigation of available resources for patient care (Institute of Medicine, 2013b). As a result, patients can benefit from a team who can coordinate care while working with other team members, patient, and family members. With today's rapidly evolving knowledge, the team members can participate in journal club discussions, clinical grand rounds, and small group training modules to help cultivate the importance of evidence-based practice for patient care (Johnson, 2016; Reeves et al., 2008). The tools and resources used by the interprofessional team, automatically enhances patient satisfaction and perception of

competent service delivery by the team (Abu-Rish et al., 2012; Gilkerson et al., 2017).

Besides patient satisfaction, interprofessional team members share positive attitude toward knowledge sharing and clinical service delivery while supporting one another in improving professional skills and quality improvement (Abu-Rish et al., 2012). With established group interactions and communications, positive energy flows in the system that helps professionals tackle work place challenges, enhance engagement, and increase synergistic productivity. Not only does IPE facilitate positive work environment, but also enables students in training to gain respect and trust of team members and confidence regarding interactions and communication skills (Zraick, Harte, & Hagstrom, 2014). This type of interprofessional practice environment is highly effective in shaping the attitudes and perceptions of students toward healthcare. As a result, students learn to appreciate work of other disciplines, their standards, and expertise in healthcare, besides experiencing improvement in content-specific disciplinary knowledge (Zraick et al., 2014).

The Barriers to IPE

Given that communication is the key to success of functioning of IPE teams, the ability to use communication strategies to enhance shared knowledge among the members would be ideal. Occasional communication breakdowns could serve as barriers that are likely to interfere with optimal teamwork. Also, differences in opinions and attitudes in health professionals, faculty members, and training students can influence the process of team communications and decision-making toward patient care (Abu-Rish et al., 2012).

Institutions participating in IPE may not have adequate funding or may not be able to share

resources amongst themselves (Abu-Rish et al., 2012). This could negatively affect the IPE training outcomes. It is important that the program directors, healthcare facility administrators and training professionals realize the interprofessional training needs in the current healthcare arena. IPE activities that require funds should be supported in order to demonstrate positive training outcomes. IPE activities must be implemented strategically with the support of institutional leadership, while building the program bottom up with adequate sustainability (Blue et al., 2010).

Space could be a significant barrier in IPE facilitation (Abu-Rish et al., 2012). Clinic and laboratory space should be available to facilitate treatment sessions with multiple team members that may help develop a foundation with appropriate curricular infusions. Common hour time slots on campus should also be planned for meetings and clinical grand rounds amongst various disciplines. Additionally, administrators must be able to provide resources to enhance classroom or clinic-based learning (Farnsworth et al., 2015).

Time management could pose as one of the barriers to IPE. Even with allotted meeting times offered by multiple facilities, the team members and students may experience time conflicts that may be detrimental to learning processes. In these situations, teams should be highly organized and team members from various disciplines should be able to participate in resolving time conflicts while emphasizing on patient services and advocacy efforts by setting patient treatment goals. Whenever there is a call for leadership tasks such as, setting up a meeting to write a comprehensive diagnostic team report or counseling patients and caregivers, it is important to build consensus amongst the teams for enhancing mutual understanding among the members and enhancing IPE outcomes (Farnsworth et al., 2015).

There exist many barriers to IPE implementation. Overall, based on persistence, commitment, and cost-sharing among departments that house various health disciplines in college or university setting, development of health infrastructure should facilitate IPE by providing teaching and learning spaces to promote professional interactions and interdisciplinary collegiality among students and professionals.

Implementation Strategies for IPE in Clinical Education

Implementation of IPE has its own challenges besides the established benefits. To provide a successful IPE experience to the students during their clinical practicum, healthcare professionals, administrators, and faculty members should be able to

work together while systematically reviewing the strategic plan to include the curriculum that supports IPE and related accreditation requirements of the college (Blue et al., 2010). Health professionals in one discipline should be able to invest in cultivating relationships with other health professionals while identifying partnering strategies. IPE curricular themes should be established based on curricula from other disciplines. Program assessment strategies should be implemented to encourage better participation and involvement. For example, an assessment strategy is needed to evaluate modes of delivery and duration of IPE activities, number of students in classes, inclusion of IPE assignments within the curricula, and overall IPE knowledge and skill-based outcomes (Farnsworth et al., 2015). In the area of interpersonal communication, effective discussions and interactions are needed for enhancing team functions. The dynamics of interpersonal communication also involve active listening, inclusion of ideas from other professionals, accountability, respectfulness, and providing timely feedback and suggestions for increasing efficiency of teamwork. At times, there may be conflicts during difficult situations where decision making is affected. For effective problem-solving, students and professionals should participate in conflict resolution while making advances in sharing knowledge and forging interdependent relationships (Johnson, 2016).

Conclusions

In healthcare settings, the provision of interdisciplinary and multidisciplinary approaches continues to demand that students receive optimum training at school so that they are prepared to face the real-world jobs. Incorporating IPE in curricula for students in communication disorders enhances an intellectual platform of service delivery by professionals who are committed to diversity, advocacy, collaborations, high standards of care, and inter-professional communication. Not only do students receive IPE training in the core competency areas (i.e., values/ethics, roles/responsibilities, inter-professional communication, and team care), they also assimilate unique 'soft skills' that pertain to honesty, integrity, empathy, understanding, and compassion (e.g., Ross & Kabidi, 2017) for providing quality patient care. It is crucial to offer IPE training to students so that they can successfully adapt to their job environments with confidence and ease.

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