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INTERPROFESSIONAL COLLABORATION AND TRAUMATIC BRAIN INJURY

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INTRODUCTION

What is Traumatic Brain Injury?

Traumatic brain injury (TBI) is an acquired disorder caused by displacement of the brain within the skull (ASHA, 2016). This displacement can be caused by a fall, a blast injury, or any external physical force to the head (ASHA, 2016). According to the *Diagnostic and Statistical Manual of Mental Disorders*, 5th edition (DSM-5; APA, 2013), those with TBI typically present with at least one of the following characteristics: “changes in levels of consciousness, memory disturbances, confusion associated with deficits in orientation, and neurological signs” (p. 625).

A TBI can be classified as mild, moderate or severe, depending on the individual’s particular injury. Classification of severity is “based on the extent and nature of injury, duration of loss of consciousness, posttraumatic amnesia, and the severity of confusion at initial assessment” (ASHA, 2016, p. 1). The lesion can be focal, meaning it is confined to one area of the brain; or the injury can be diffused, meaning it is widespread to multiple areas of the brain. Both focal and diffused injuries can cause severe damage, depending on where the lesion is located.

Incidence and Prevalence of TBI:

The incidence of TBI has consistently increased, as documented by reports from emergency department visits, hospitalizations, and deaths ranging from 2001 to 2010 (ASHA, 2016). Across all age groups, every year the United States has an occurrence of 1.7 million TBIs. Currently, the prevalence is between 3.2 and 5.3 million persons. These individuals live with long-term disabilities that result from a TBI injury and require long-term care. TBI is the leading cause of disabilities in persons under the age of fifty (ASHA, 2016).

Speech and Language Pathology & TBI:

Within the scope of practice of speech-language pathology, the goal of intervention for patients with TBI is to achieve the highest level of independent function possible to facilitate participation in daily living. Treatment is always individualized for individuals with TBI based on the specific characteristics present. It is best to provide treatment in the language(s) used by the individual as well as incorporate and consider the cultural values and norms of the individual. There are several treatment options available for patients with TBI, which include identifying the best service delivery model appropriate for their lifestyle (ASHA, 2016).

At the time of injury, physicians will administer the Glasgow Coma Scale (GCS) to rate the patient's severity and perform imaging tests of the brain. A GCS score of 13 or higher indicates a mild TBI, a score of 9 through 12 indicates a moderate TBI, and a score of 8 or lower indicates a severe TBI (NICHD, 2016). The speech-language pathologist will create a treatment plan for the patient that integrates two methods: direct therapy and functional therapy. Direct therapy encompasses many domains of language that are executed via cognitive-communication treatment and drill training. These treatment approaches focus on strengthening complex cognition skills, such as attention, executive function, memory, and training newly learned skills. Patients will also undergo functional therapy tasks that will adapt them to managing daily living situations to reduce impact of deficits in functional settings (ASHA, 2016).

Evidence Based Practice:

Evidence based practice is comprised of three legs: clinical expertise, current scientific evidence, and patient/caregiver perspectives. In order to provide high-quality care to patients, service providers must create a treatment plan that incorporates their clinical expertise, best

current evidence, and the wants and needs of the patient and their caregivers. Part of clinical expertise is understanding and collaborating with other professionals who have roles and experiences different from your own, which will enhance the individual's fullest potential. In terms of research, the practice of evidence-based TBI therapy requires that clinicians apply the most effective, proven, and efficacious techniques available to the client.

TRAUMATIC BRAIN INJURY

Populations at Risk:

Traumatic Brain Injury (TBI) is an acquired disorder that affects several populations: infants, children, teenagers, and adults (Harvey, 2015). Within each population, there are certain ages that are at a higher risk of acquiring a TBI. These ages include: children under the age of five, young adults between the ages of 15-24, and adults between the ages of 35-50 (Harvey, 2015). Adults over the age of 75 also have an increased risk of acquiring a TBI (Harvey, 2015). Although both men and women are affected, there is a higher incidence of men acquiring TBIs compared to women (ASHA, 2016).

How Patients Are Affected:

TBI is a leading cause of disability in the United States affecting approximately 1% of the population (Arciniegas, Zasler, Vanderploeg, & Jaffee, 2013). These individuals are living with long-term disability as a result. According to the DSM-5 (2013), a TBI diagnosis encompasses cognitive problems classified as mild or major neurocognitive disorders (NCD). This diagnosis states that impaired cognition does not result from congenital or other early developmental causes, but is due to a decline from pre-morbid cognitive performance (Arciniegas et. al, 2013). Wortzel and Arciniegas (2014) state:

The cognitive domains affected include: complex attention, encompassing selective attention, processing speed, sustained attention, divided attention, learning and memory, including immediate memory, recent memory, long-term memory, and implicit learning; language, including naming, word-finding, fluency, grammar, syntax, and comprehension; perceptual-motor abilities, praxis, and recognition; executive function, including working memory, planning, error correction, overriding habits/inhibition, mental flexibility, and decision making; and social cognition, including recognition of emotions and theory of mind; (p. 617).

The most significant difference between mild and moderate NCD in individuals with TBI is how they affect functional living (Arciniegas et. al, 2013). Functional living skills allow an

individual to effectively, confidently, and independently carry out tasks in their home and work environments. The goal of rehabilitative services for individuals who manifest a TBI is to improve functional living skills. Individuals diagnosed with severe TBI have more difficulty regaining functional living skills. Such skills include: paying bills, managing medication, filing taxes, making dinner, doing the laundry, learning a new task, reading and managing a map in unfamiliar places, etc. (Harvey, 2015).

The clinical consequences of TBI will be specific to a patient's pre-morbid state, injury-related factors, and post-injury factors. The damage that occurs to the brain during a TBI affects many domains of cognition. There may be deficits in attention, processing speed, memory, and executive function. Each cognitive skill can affect an individual's ability to complete a task effectively and their ability to communicate effectively. Studies of patients after TBI treatment have shown an improvement in cognitive function one-year post injury in individuals who manifest a TBI, however their brain function does not match healthy control subjects (Arciniegas et. al, 2013). "The level of cognitive deficit at 1 year becomes predicative of persistent chronic deficits" (Arciniegas et. al, 2013, para. 24).

Approximately 43% of individuals who receive in-hospital treatment in the United States after a TBI develop a long-term disability. This results in lifestyle changes for individuals with TBI. These challenges present with economic, family, and psychosocial burden (Arciniegas et. al, 2013).

Individuals with TBI lack awareness of suffering a brain trauma. These individuals have a self-concept based on who they were before the TBI and they struggle to see themselves as they are post-TBI. There will also be deficits in theory of mind that impact pragmatic skills. These individuals will demonstrate difficulty in conversational rules that include: giving

feedback to a listener, presupposing, turn-taking, topic selection and maintenance, and verbosity. Within pragmatic language, nonverbal communication, such as eye contact, gestures, and body language, will also be affected (Harvey, 2015)

There are many consequences post-TBI. As previously stated, there will be evidence of cognitive disturbances. In most severe cases, individuals will be in a coma, vegetative state, and/or minimally responsive. In the domain of language, individuals with TBI may demonstrate aphasia, pragmatic disturbances, and other cognitive-communication deficits. In the domain of speech and swallowing, individuals with TBI may present with dysarthria, apraxia, dysphagia, and poor control over the articulators required for speech output. (Harvey, 2015)

Characteristics of the Disorder:

According to the Center for Disease Control (2016), falls are the leading cause of TBI in adults. Other causes of TBI in adults include unintentional blunt trauma, motor vehicle accidents, sports injuries, military injuries, and assaults (ASHA, 2016; CDC, 2016).

There are several mechanisms of injury that cause a TBI. TBI is defined as a “traumatically induced physiological disruption of brain function and/or structure resulting from the application of a biomechanical force to the head, rapid acceleration and/or deceleration, or blast-related forces” (Arciniegas et. al, 2013, para. 3). The causes of TBI may be: motor vehicle accidents (MVA), falls, sporting accidents, occupational injuries, violent crimes, abuse, suicide attempts, and military actions. Among these causes, the most common are: falls at 28%, MVAs at 20%, blunt force by or against something at 19%, and assaults at 11% (Harvey, 2015).

Symptoms of TBI fall into six different categories: physical effects, visual effects, auditory and vestibular effects, neurobehavioral effects, cognitive-communication effects, and dysphagia (ASHA, 2016). Communication deficits include problems with language, speech, and

voice. Symptoms vary in severity and combination from patient to patient depending on the nature of the injury (ASHA, 2016).

TBI presents as mild, moderate, or severe, depending on the individual's particular injury. When a doctor rates the severity of a TBI, it is based on "the extent and nature of injury, duration of loss of consciousness, posttraumatic amnesia, and the severity of confusion at initial assessment" (ASHA, 2015, p. 1). TBI can be classified utilizing neuroimaging and "the clinical severity of physical injuries to the brain and body" (Arciniegas et. al, 2013, para. 3).

There is specific terminology with related symptoms according to the severity of a TBI. A TBI can range in diagnoses of a mild concussion to a severe brain injury (NICHD, 2016). A head injury refers to a wide range of damages including small bumps to severe injury. Brain damage is described as damage to living tissue or brain cells. Acquired brain injury occurs at the cellular level and is most associated with pressure on the brain that did not occur pre- or perinatal. TBI is the preferred terminology when describing damage that occurs due to an external force or trauma (Harvey, 2015).

TBI can also be classified as a primary or secondary injury. A primary injury occurs at the moment of initial trauma when an external force causes damage to the brain. Primary injuries are categorized as open-head or closed-head injury. An open-head injury is known as a penetrating injury that "involves an open wound to the head from a foreign object (e.g., bullet)" (ASHA, 2015, p.4). In an open-wound injury, the damage will be made to the skull, meninges, and brain tissue (Harvey, 2015). A close-head injury or a non-penetrating injury is demonstrated by "brain damage due to indirect impact without the entry of any foreign object into the brain" (ASHA, 2015, p. 4). Closed-head injuries may or may not have damage to the skull, but there will be no damage to the meninges. Typically, coup-countercoup injury is manifested in non-

penetrating acceleration injuries, causing additional contusions in the brain as opposed to non-acceleration injuries, in which the damage is focal to the meninges or brain.

Secondary injuries associated with TBI occur “as an indirect result of the insult (ASHA, 2015, p. 4). These injuries evolve over time and include: ischemia, hypoxia, hypotension and hypertension, cerebral edema, intracranial pressure, hypercapnia, meningitis, biochemical changes, and epilepsy. Secondary injuries result from “processes initiated by the initial trauma” (ASHA, 2015, p. 4).

INTERPROFESSIONAL EDUCATION AND COLLABORATION

What Is Interprofessional Education & Collaboration?

In 2010, The World Health Organization (WHO) released a document titled, *A Framework for Action on Interprofessional Education and Collaboration*, which explains the need for a new structure among service providers. The WHO (2010) states that interprofessional education (IPE) “occurs when two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes” (p.13). The organization believes that, when pre-professional students from one discipline are trained with other students from different disciplines, they will be prepared for intercollaborative practice (IPP; WHO, 2010). The WHO (2010) states that collaborative practice “occurs when multiple health workers from different professional backgrounds provide comprehensive services by working with patients, their families, carers and communities to deliver the highest quality of care across settings” (p.13). Intercollaborative practice can take place in both clinical and non-clinical patient care settings (WHO, 2010). Professionals who have been effectively trained to carry out IPP are a part of what the WHO calls a “collaborative practice-ready workforce,” (p.10) meaning they are ready to work as part of an interdisciplinary team, which will improve overall health outcomes.

Many individuals, all operating at different levels, are involved in IPP: pre-professional students, educators, health-care workers and leaders, and policy makers (ASHA, 2015; WHO, 2010). All of these stakeholders are needed to create a collaborative workforce. Educators across multiple disciplines need to collaborate and train their students together; policy makers and leaders in health-care are needed to create a functional structure that will support health care professionals manage and succeed as interdisciplinary teams (WHO 2010; ASHA 2015). The WHO (2010) states that IPP “is not only about agreement and communication, but about creation

and synergy” (p.36). Health care professionals need to do more than just communicate their expertise to one another, they need to work together to create and provide comprehensive services to patients across multiple settings (WHO, 2010).

ASHA’s Stance on Interprofessional Education & Collaboration

The American Speech-Language Hearing Association (ASHA), a professional organization that provides communication disorders information to the public and supports speech-language pathologists and audiologists, has adapted the WHO (2010) definition of interprofessional education and collaboration. The association has created a long-term goal for the future of audiology and speech-language pathology, titled: The Envisioned Future 2025, which consists of eight strategic objectives and outcomes (ASHA, 2015). The second objective is to “advance interprofessional education and interprofessional collaborative practice (IPE/IPP)” (p. 3) and the intended outcome is “academic programs employ IPE approaches to personnel preparation and both students and ASHA members engage in interprofessional collaborative practice” (p. 3).

In order to achieve this goal, ASHA plans to find and create resources that define and explain IPE/IPP to distribute to its members (ASHA, 2015). These resources will explain the value of IPE/IPP and give examples of how to implement it into the curriculum and daily practice. ASHA will also need to collaborate with other disciplines, such as physical therapy and occupational therapy, in order to educate them about IPE/IPP and begin implementing the concept across program curricula. ASHA plans to increase collaborative development by connecting with other like organizations. Within the fields of audiology and speech-language pathology, ASHA will encourage and promote research about IPE/IPP in order to expand upon the existing body of literature. ASHA also plans to create new standards for certification,

accreditation, licensure, the code of ethics, and the scopes of practice that incorporate IPE/IPP competencies for both audiologists and speech-language pathologists. Lastly, ASHA plans to determine a valid way to measure the growth of IPE/IPP in the field of communication sciences and disorders so that trends can be evaluated.

What This Means for Higher Education

Speech-language pathologists (SLPs) work in settings where opportunities for collaboration with other professionals are plentiful (ASHA, 2015). Whether SLPs work in a hospital, school, or private clinic, they are required to work with a number of professionals from different disciplines in order to provide care. Because these many service providers are required to work together on the job, it would be most beneficial for them to be trained together in their pre-professional programs. ASHA (2015) says that learning “from, about, and with” (p. 8) others in pre-professional programs will teach them the skills, strengths, and expertise that each person brings to the situation. With this knowledge, they will enter the workforce able to engage with other professionals to serve patients in an intercollaborative way.

Interprofessional education and collaboration is a new concept to the field of communication sciences and disorders (CSD). Presently, many SLPs work as part of multidisciplinary teams (ASHA, 2015). However, according to ASHA, IPP is different than multidisciplinary teams or cross-training. In a multidisciplinary team, each professional works “independently in parallel or sequentially to one another” (p. 9). Cross-training teaches professionals how to do certain job functions of other professions (ASHA, 2015). Neither of these approaches to patient care achieve the WHO’s or ASHA’s goals for interprofessional education/collaboration. When professionals work together as an interdisciplinary team, there is no hierarchy among them. Instead, ASHA indicates “members of the team are simultaneously

considering the client's issues, considering best alternatives, and negotiating an approach that recognizes the role that each professional brings to the concerns raised" (p. 9). Because they have been trained interprofessionally, each provider understands and appreciates the functions that the other providers bring to the situation.

ASHA's Ad Hoc Committee of Interprofessional Education convened to discuss IPE/IPP and generate recommendations for action. Committee members agreed that leading audiologists and speech-language pathologists be educated on IPE/IPP so that they can, in turn, educate and train educators, practicing professionals, and pre-professional students (Burkard et al., 2013). The committee emphasized the importance of infusing IPE into the pre-professional curriculum immediately. Because the current literature regarding the efficacy of IPE/IPP is limited, committee members see this as an opportunity to begin conducting meaningful research. In order to understand the efficacy of IPE/IPP, the committee highlighted the need of competency tools and metrics to objectively measure the cost and quality of intercollaborative care in order to determine its overall value.

In regards to the other disciplines CSD professionals will collaborate with, the committee discussed a three pronged approach with a small group of service providers (Burkard et al., 2013). This includes physical therapy, occupational therapy, and social work in the health care settings, and physical therapy, occupational therapy, and regular and special education teachers in the educational settings.

In order for IPE/IPP to be successful across settings, the committee discussed the importance of establishing a functional framework, consisting of consistent steps for everyone to follow in order to achieve the goals of IPE, which will in turn lead to successful IPP (Burkard et al., 2013). Creating this framework requires a blend of knowledge and practice with other

professionals. The goal of IPE/IPP is not to take away each profession's specific identities, but to come together and synthesize everyone's efforts in order to more successfully prevent disease/disorders, reduce medical errors, promote patient safety, and improve population health (Burkard et al., 2013).

The final report also included a list of recommendations that were rated by the committee as either high priority or low priority actions (Burkard et al., 2013). The high priority recommendations have many implications for higher education. Educating students, faculty, and practitioners about IPE/IPP is of high priority; ASHA recommends an education initiative to teach and train all of the necessary stakeholders. In efforts to create this initiative, the committee recommends creating a list of leaders who can speak and/or write on the topic of IPE/IPP to encourage change among CSD professionals, creating a PR campaign to raise awareness about the value of IPE/IPP, and to encourage ASHA continuing education to offer more units in IPE/IPP. Recommendations also included the development of a research agenda and incorporating IPE/IPP competencies into certification, accreditation, and licensure for audiologists and speech-language pathologists. The committee also recommended nurturing ASHA's already existing connections with other organizations to seek opportunities for collaboration and information sharing on IPE/IPP.

When put to action, these recommendations will have an impact on higher education. A change in curriculum will affect what students are learning, how they are learning, and with whom they are learning. Setting a new standard for higher education is bound to be a long, sometimes complicated process, which will require many trials and much practice to perfect. However, once the standard is set, patient care will be much improved.

The Existing Literature

The current body of literature on the topic of IPE/IPP consists of smaller studies with a limited number of randomized controlled trials (Zwarenstein, Goldman, & Reeves, 2009). Much of the research has been done outside of the United States in places such as Canada, Australia, and in European countries. However it has been difficult to study IPE/IPP due to many terms being used interchangeably to describe the same concept (Zwarenstein et al., 2009). The words: collaboration, communication, teamwork, and coordination, have all been used in research to address the same topic (Zwarenstein et al., 2009). According to a systematic review conducted by Zwarenstein et al. (2009), there are multiple types of interprofessional collaboration strategies and none of the types have been used more than once or in more than one setting in any research study thus far. There is a need for more efficacy studies in order to learn more about what, how, and why IPE/IPP should be implemented into patient care. Although the current body of evidence is small, the research supplies us with many important implications for the future.

Current research provides insight into student perceptions of interprofessional education. Byrne and Pettigrew (2010) conducted a study to learn more about the knowledge and attitudes of allied health professionals regarding the stroke rehabilitation team in an Ireland based hospital. The authors surveyed students of occupational therapy, physical therapy and speech-language pathology; the results reveal both advantages and disadvantages of collaborative practice.

According to Byrne and Pettigrew (2010), students reported varying amount of contact time with other professionals during training; some had more contact with students from other disciplines than others. Regardless of how much contact the students had with other professions, the majority of them favored an interdisciplinary and transdisciplinary approach over a multidisciplinary approach, as they had more positive experiences with intercollaboration (Byrne

& Pettigrew, 2010). In many health care settings, there is a lack of equality among professionals, as the leadership role tends to default to one discipline. The students in the Byrne and Pettigrew study favored shared leadership to promote more equality among professionals. These students had experienced situational leadership, where the professional who was most qualified to treat the primary impairment of a particular patient took the leadership role. As each patient will have their own unique needs, situational leadership allows for leadership roles to be rotated within the team.

Despite these advantages, the students also identified some disadvantages of working with an interdisciplinary team. Although the students had experienced contact with other professionals during training, their classroom curricula did not provide them many opportunities to learn together (Byrne & Pettigrew, 2010). This lack of interprofessional education led to role identification and communication problems. The students reported role confusion and a lack of understanding about the specifics of the other professions' responsibilities for patient care (Byrne & Pettigrew, 2010). A need for a clear team structure under which to operate was identified as a solution of any communication problems that are likely to occur amongst the team (Byrne & Pettigrew, 2010). The identified disadvantages have implications for future endeavors in IPE/IPP, as educators and professionals can learn what it takes to make an interdisciplinary team operate successfully. Most importantly, this study emphasizes infusing IPE into the curricula as early as the undergraduate level (Byrne & Pettigrew, 2010).

The current body of research also provides us with the perceptions of the practicing professionals regarding IPE/IPP implementation. Regardless of setting, all professionals have a different set of strategies, priorities, and values in regards to patient care (McCartney, 1999). Many professionals see themselves as the "expert" and carry out their work with their respective

peers and associates, rather than working with others outside of their discipline (McCartney, 1999). When a team of different professionals are brought together, every one brings different assumptions about the underlying nature of their working relationship; this may lead to role confusion and communication problems (McCartney, 1999). For example, McCartney (1999) reported that many professionals are unaware of a SLP's scope of practice; conversely, SLPs often misunderstand the roles of other professionals as well. Role confusions lead to misunderstandings, which may negatively impact working relationships by causing a lack of trust and respect amongst the professionals involved (McCartney, 1999).

McCartney (1999) identifies other barriers that hinder interprofessional collaboration in practice. Depending on the setting, the timing of services differs, which can lead to tensions between professionals when creating and implementing a care plan for a patient. Professionals may differ over when to begin care, the amount of time to be spent giving care, or when to discontinue care, based on their individual priorities and expertise. Similarly to pre-professional students, practicing professionals were given limited opportunities to interact with other professionals during training, so the concept is foreign to them. McCartney found that professionals may view collaboration as losing their independence when making decisions and taking action when caring for their patients. Despite barriers to intercollaborative practice, McCartney found that good planning and management can lead to successful collaboration.

Interprofessional Education & Collaboration for TBI Patients

Many health care settings around the world have been using a holistic, multidisciplinary, and educational approach for assessment of and treatment for patients with TBI (McElligiott, et al., 2011; Lefebvre, Pelchat, & Levert, 2007). Due to the variety of possible lesion sites, patients with TBI require a team of professionals for the varying rehabilitative treatment needs (ASHA,

2015). The care team for patients with TBI typically consists of physicians, nurses, physical therapists, occupational therapists, speech-language pathologists, neuropsychologists, ophthalmologists, and social workers (Evans, Sherer, Nakase-Richardson, Mani, & Irby, 2008; deGuise, et al., 2008; McElligiott et al., 2011). These team members come together and collaborate during the assessment process and when providing treatment services. Each team member brings different knowledge and expertise to the patient's care plan and the professionals provide service in parallel with one another.

Technology and modern medicine have increased the rate of survival for people who have experienced head trauma resulting in a TBI (Speicher, Walter, & Chard, 2014). With increased survival, more patients require services from a number of professionals to treat their complex impairments (Speicher et al., 2014). As expectations for the standard of care and the number of TBI patients continue to increase, more research is being conducted on the use of an interdisciplinary approach to patient care in both acute care and rehabilitation settings (Lefebvre et al., 2007). Much of the research on the topic of interprofessional collaboration for patients with TBI has been conducted in Canada and Europe, where researchers are studying the effectiveness of IPP on patient care in a variety of contexts. Many of the research studies involve military veterans who also suffer from posttraumatic stress disorder (PTSD) and/or major depressive disorder (MDD); the research explores treating these disorders in combination with TBI (Speicher et al., 2014).

The rationale for an interdisciplinary approach is that the patient is a global entity and requires comprehensive assessment of the various domains of functioning involved in their daily lives (deGuise et al., 2008). Patients with TBI typically present with a combination of physical, cognitive, and psychological symptoms (Speicher et al., 2014; Lefebvre et al., 2007; Stergiou-

Kita, Dawson, & Rappolt, 2012). This array of complex impairments calls for services from a variety of specialized health care providers (Speicher et al. 2014). Not one specialty can assess and treat all of the impairments that accompany a TBI; a team that represents various disciplines offers a beneficial approach to patient care. Researchers have also explored the integration of the family members as an equally important part of the care team (Lefebvre et al., 2007; Evans et al., 2008).

Stergiou-Kita et al. (2012) researched and created interdisciplinary guidelines for vocational evaluation for patients with TBI; the authors recommend following these guidelines when preparing patients to re-enter the workplace. However, these guidelines can be applied to throughout all stages of interdisciplinary assessment and treatment. Stergiou-Kita et al., (2012) guidelines state that assessment of patients should evaluate the individual being, the physical domain, neuropsychological and cognitive domains, psychosocial functioning, communication abilities, and any supports that the patient may require. Professionals must also observe the patient's general behaviors in multiple settings in order to understand their strengths and areas of challenge (Stergiou-Kita et al., 2012). Once assessments and observations have been conducted, the information needs to be analyzed and the findings needs to be synthesized in order to draw conclusions and develop a plan (Stergiou-Kita et al., 2012). These guidelines further support the needs for intercollaborative education and practice, as more than one professional from multiple disciplines will be needed to assess, observe, and treat these many areas of impairment. In order to collaborate, the professionals need to understand one another's roles in patient care.

The research has found that many professionals involved on TBI care teams did not necessarily receive interprofessional education in their pre-professional training (Lefebvre et al., 2007). However, education methods have been implemented. For instance, hospitals have

utilized in-services, weekly staff meetings, and online learning tools in order to help practicing professionals expand their interdisciplinary knowledge and skills (Lefebvre et al., 2007; Evans et al., 2008). Professionals interacted with one another throughout every stage of their patient's care plan and worked together to implement treatment methods consistently across therapy sessions (Lefebvre et al., 2007; Speicher et al., 2014). This helped them to better understand the roles and responsibilities of the other professionals, which in turn strengthened the partnerships between them (Lefebvre et al., 2007; deGuise et al., 2008).

Better understanding of roles and stronger partnerships teaches professionals the importance of open communication between professionals of different disciplines, as it provides each patient and their family members with a more integrated and comprehensive care plan (Lefebvre et al., 2007; Speicher et al., 2014). Research showed that on-site training helped professionals develop empathy, clinical analysis skills, credibility, and confidence (Lefebvre et al., 2007). The professionals were able to develop more comprehensive and systematic hypotheses and create an effective and functional intervention structure for their patients (Lefebvre et al., 2007). These findings further support the need for implementation of interprofessional education in pre-professional training programs, and continued education for practicing professionals across disciplines. When a team works together to synthesize ideas, it promotes more functional improvement of the patient's overall abilities, rather than just treating their individual symptoms (Speicher et al., 2014; Stergiou-Kita et al., 2012).

SIMULATION EXPERIENCE

Our experiences in the simulations taught us many valuable lessons. The simulations were very realistic, as they modeled a variety of settings and situations. We saw patients who were in hospitals, acute care, and nursing facilities. We also saw patients who were recently admitted and some who were receiving outpatient services. This gave us the opportunity to see how assessment and patient care differ across settings and situations. Regardless of a particular situation, the simulations taught us that we will need to think critically and quickly when we are in the field.

This experience demonstrated the value of interprofessional collaboration in comparison to a multidisciplinary team. It was interesting to experience collaborating with the nursing students within a simulation rather than sharing notes after individually examining a patient. In the moment, we learned new terminology of each other's field and how we can come together to assist the patient and work through a decision making process together. This gave the nursing and speech-language pathology students the chance to learn from and with each other.

Each simulation exposed us to a different disorder and a variety of concomitant deficits. This shows how wide our scope of practice really is; we will be seeing patients with a variety of needs, from swallowing and cognition, to those who use alternative augmentative communication. This variety also showed us that each patient is unique, with his/her own individual set of needs. Assessment and management will be unique to every patient, depending on a number of factors.

The debriefing after simulations were very helpful. Our supervisors would discuss our performance and we would describe our thought process throughout the simulation. When we would make errors in the process, our supervisors allowed us to reflect and understand what we

could do differently next time in order to meet the patient's clinical needs and collaborate with the other professionals present. It was helpful to debrief with nursing students and learn how they differentially diagnose and also recognize their code of ethics as well as their process of formulating lesson plans and goals for patients. The debriefing was done in a room with a large oval table that made it comfortable to share our experiences and to ask questions to further our knowledge of intercollaboration. Listening to our supervisors discuss personal real-life experiences of similar cases of intercollaboration was also beneficial.

Our video demonstrates the introduction, history and chart review, and initial screening of an adult patient with a traumatic brain injury in a hospital setting. The video compares and contrasts two different examples; there will be examples of what professionals should and should not do in this situation.

The video first shows examples of things to avoid when assessing a patient in collaboration with another professional. Some things to avoid include, interrupting the nurse or other professionals if they are currently assisting the patient and unable to stop, improperly introducing yourself and your role, not sanitizing your hands when upon entering the room, ignoring or not talking directly to the patient, failing to read the patient chart prior to examination and assessment, recommending medications, and conducting unsafe procedures or those outside of your scope of practice. Our video demonstrates many of these examples and explains why they should be avoided.

Our video next shows examples of an ideal examination and assessment of a patient in collaboration with another professional. Some things to remember include, introducing yourself and your role in patient care, reading the patient chart prior to entering the room, sanitizing hands upon entering the room, asking the patient questions to assess the patient's orientation, working

with the nurse or other professional prioritize procedures, directly acknowledge the patient first, and conducting procedures that are both safe and within our scope of practice. The video then provides a debriefing of why these examples are part of an ideal assessment situation.

The viewer should use this video as a basic guide for what to do and what not to do in an assessment situation in a medical setting. We provide a checklist (see Appendix A) with guidelines to perform during an initial assessment of a patient that can be used and/or modified in the field.

References

- American Psychiatric Association (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.
- American Speech-Language Hearing Association (2015). *Strategic pathway to excellence*. Retrieved March 15, 2016 from asha.org.
- American Speech-Language-Hearing Association (2016). *Traumatic brain injury in adults* (Practice Portal). Retrieved March 8, 2016, from www.asha.org/Practice-Portal/Clinical-Topics/Traumatic-Brain-Injury-in-Adults/.
- Bigler, E.D., & Maxwell, W. L. (2013). Overview of traumatic brain injury. In Arciniegas, D., Zasler, N., Vanderploeg, R., Jaffee, M., & Garcia, T.A. (Eds.), *Management of Adults with Traumatic Brain Injury*. doi: <http://psychiatryonline.org/doi/book/10.1176/appi.books.9781585625154>
- Burkard, R. F., Apel, K., Jette, D. U., Lewis, N. P., Moore, R. E., Page, J. L., Rambur, B., Turner, R. G., Shepard, N. T., McNeily, L., Brown, J., Fagan, E. C., & Nunez, L. M. (November 2013). *Final report: Interprofessional Education (IPE)*. Ad Hoc Committee on Interprofessional Education for the American Speech-Language-Hearing Association. Retrieved on 13 March 2016 www.asha.org/uploadedFiles/Report-Ad-Hoc-Committee-on-Interprofessional-Education.pdf
- Byrne, A., & Pettigrew, C. M. (2010). Knowledge and attitudes of allied health professional students regarding the stroke rehabilitation team and the role of the speech and language therapist. *International Journal of Language & Communication Disorders*, 45(4), 510-521.
- Centers for Disease Control and Prevention. (2014). *Traumatic brain injury in the United States*”

- Fact Sheet*. Retrieved from www.cdc.gov/traumaticbraininjury/get_the_facts.html.
- deGuise, E., LeBlanc, J., Mitra, F., Meyer, K., Duplantie, J., Harle, T., Abouassaly, M., Champoux, M., Couturier, C., Howell, L., Lu, L., Robinson, C., & Roger, E. (2008). Long-term outcome after severe traumatic brain injury: The McGill interdisciplinary prospective study. *Journal of Head Trauma Rehabilitation, 23*(5), 294-303.
- Evans, C., Sherer, M., Nakase-Richardson, R., Mani, T., & Irby, J. W. (2008). Evaluation of an interdisciplinary team intervention to improve therapeutic alliance in post-acute brain injury rehabilitation. *Journal of Head Trauma Rehabilitation, 23*(5), 329-336.
- Harvey, J. (2015). *Traumatic Brain Injury: An Overview* [PowerPoint slides].
- Lefebvre, H., Pelchat, D., & Levert, M. (2007). Interdisciplinary family intervention program: A partnership among health professionals, traumatic brain injury patients, and caregiving relatives. *Journal of Trauma Nursing, 14*(2), 100-113.
- McCartney, E. (1999). Barriers to collaboration: An analysis of systemic barriers to collaboration between teachers and speech and language therapists. *International Journal of Language & Communication Disorders, 34*(4), 431-440.
- McElligiott, J., Carroll, A., Morgan, J., Macdonnell, C., Neumann, V., Gutenbrunner, C., Fialka-Moser, V., Christodoulou, N., Varela, E., Giustini, A., Delarque, A., Assucena, A., Lukmann, A., Tuulik-Leisi, V., & Zoltan, D. (2011). European models of multidisciplinary rehabilitation services for traumatic brain injury. *American Journal of Physical Medicine & Rehabilitation, 90*(1), 74-78.
- National Institute of Child Health and Human Development. *How do health care providers*

- diagnose traumatic brain injury (TBI)?* (2016). Nihd.nih.gov. Retrieved 19 March 2016, from <https://www.nihd.nih.gov/health/topics/conditioninfo/Pages/diagnose.aspx>
- Speicher, S. M., Walter, K. H. & Chard, K. M (2014). Interdisciplinary residential treatment of posttraumatic stress disorder and traumatic brain injury: Effects on symptom severity and occupational performance and satisfaction. *American Journal of Occupational Therapy*, 68(4), 412-421.
- Stergiou-Kita, M., Dawson, D., & Rappolt, S. (2012). Inter-professional clinical practice guideline for vocational evaluation following traumatic brain injury: A systematic and evidence-based approach. *Journal of Occupational Rehabilitation*, 22, 166-181.
- World Health Organization, Health Professions Networking Nursing and Midwifery Office within the Department of Human Resources for Health (2010). Framework for action on interprofessional education & collaborative practice. Retrieved from: http://www.who.int/hrh/resources/framework_action/en/
- Wortzel, H.S., & Arcinegas D.B. (2014). The DSM-5 approach to the evaluation of traumatic brain injury and its neuropsychiatric sequelae. *NeuroRehabilitation*, 34(1), 613-623.
- Zwarenstein, M., Goldman, J., & Reeves, S. (2009). Interprofessional collaboration: Effects of practice-based interventions on professional practice and healthcare outcomes. *Cochrane Database of Systematic Reviews* 2009, Issue 3, Art. No.:CD000072. DOI: 10.1002/14651858.CD000072.pub2.

APPENDIX A**Video Viewer Checklist**

Check All That Apply:

- Knock on the door before entering
- Verify patient's name upon entering
- Sanitize hands
- Introduce themselves and their roles/responsibilities
- Speak directly to the patient
- Ask questions/conduct procedures to assess orientation, memory, attention, etc.
- Acknowledge caregivers
- Answer questions, using patient-friendly language
- Discuss and collaborate with other professionals in the room
- Offer additional assessments and/or supports, interventions and solutions

Please visit <http://www.asha.org/policy/SP2016-00343/> for more information.