Illustrating the implications of TBI on clinical practice

This is the second in a two-part series detailing the neurophysiology and allied clinical implications for counselors of traumatic brain injury (TBI).

In the first article (December issue), we provided an overview of the various neurological processes that are disrupted during and following an acquired brain injury. Such injuries arise from both impact and inertial forces. They include not only damage to cortical tissue and axons but also disruptions of blood flow, flow of cerebral spinal fluid, electrochemical transmission and neurotransmitter release. Both the immediate and secondary damage arising from a TBI can have implications on the therapeutic process that warrant careful consideration.

Our first column discussed overarching clinical implications and therapeutic approaches that are beneficial in working with this population. This month, we present a series of case studies to directly illustrate such principles.

Tomalin

Tomalin is a 6-year-old boy of Western European decent who started first grade five months ago. His teacher has voiced concerns that Tomalin has difficulty with math, following instructions, switching from one task to the next and managing his emotional reactions. At home, Tomalin's parents have recently noticed that he quickly loses patience when playing with his siblings. In addition, his emotional responses seem exaggerated relative to what they used to be, and he is easily distracted.

Following the recommendation of Tomalin's school counselor, Tomalin's parents bring him to a registered play therapist for the first time. During the intake session, the counselor asks Tomalin's parents if he has ever had any significant illnesses or injuries. The parents report that when Tomalin was 3, he was in a car accident. At the hospital, doctors diagnosed him with a moderate TBI, and he stayed in the hospital for two nights. After a month of outpatient therapies, Tomalin seemed to return to typical functioning for a 3-year-old.

During their first three sessions together, the play therapist notes similar behaviors and emotional responses in Tomalin as those reported by his teacher and parents. Although Tomalin speaks frequently during sessions, the play therapist is uncertain if he understands and is processing what is said to him, especially when she moves from tracking him to tracking objects or when she communicates with Tomalin using metaphor. (In play therapy, tracking is when the therapist states, as objectively as possible, what she or he sees the child, or an object the child is using, doing in the room.) When the play therapist had to set a limit with Tomalin, he had great difficulty identifying an alternative behavior to express his feeling.

The counselor considers Tomalin's history of TBI, especially the age of onset. She recognizes that 3 is a critical period in brain development, particularly around the development of language, declarative memory systems and basic emotion regulation skills. Given the possible damage incurred by the TBI, Tomalin's presentation in play therapy and the reports of his teacher and parents, she recommends that Tomalin complete a neuropsychological evaluation to gain additional insight.

The neuropsychological evaluation reveals that Tomalin has difficulty with receptive language skills, working memory, math and attention. Based on these findings, the play therapist modifies her approach with Tomalin. She breaks each component used in play therapy into smaller, more manageable steps (such as during limit setting or the process of leaving the play therapy room). In addition, she uses more concrete language, checks in with Tomalin more frequently to ensure he has understood what was said to him and, when possible, communicates with him in more than one way (e.g., modeling things with toys and using visual or written cues in addition to verbal cues to see what type of information Tomalin responds to best).

Knowing that Tomalin has difficulty with receptive language, the play therapist keeps her reflections brief and focused on a single action or emotion at a time. She also limits her use of metaphor. When tracking, she remains consistent in choosing to track either Tomalin or the objects, recognizing that switching between the two makes it more difficult for Tomalin to process her words and gain meaning from them. Given Tomalin's difficulty with working memory, the play therapist adjusts her approach the next time she needs to set a limit with him. Rather than using her preferred approach of asking Tomalin to identify an alternative behavior to express what he is feeling (which would pull more heavily on problem-solving and working memory, requiring Tomalin to retain the feeling he is having and the limit that was set, all while considering new ways to communicate his initial emotion), she offers him a single alternative behavior he may engage in to express his feeling.

Although each of these modifications appears minor, the play therapist notices that Tomalin seems better able to follow what she is saying. In turn, he expresses less frustration during sessions. The play therapist shares the changes she made with Tomalin's parents and his teacher, suggesting that they might see if similar approaches result in similar shifts in

Tomalin's behavior in the classroom and at home.

Warren

Warren is a 19-year-old student of Asian American decent. He is an NCAA Division I collegiate baseball player whose right forehead was struck with a bat accidentally. At the time of the injury, Warren lost consciousness for five minutes and was immediately sent to the hospital to receive stitches and a thorough examination. He was diagnosed with a concussion, which the athletic trainers at his university are monitoring. They have determined that Warren will take a three-week break before returning to play.

At the advice of his coach, Warren seeks counseling for increased agitation and anger following the accident and to request to receive special accommodations in his classes. He reports increased sensitivity to light, decreased ability to concentrate and decreased inhibition. In addition, he is experiencing irritability and feels like his emotions are taking control of him.

Warren's counselor begins by obtaining informed consent. The counselor considers the extent of Warren's injury and the results of associated tests conducted in the emergency room and with the athletic trainers. Given that Warren was hit on the center-right side of his forehead, the blow likely impacted not only his prefrontal cortex but also the back-left side of the brain, perhaps around the left occipital lobe and cerebellum, because of the contrecoup movement. Thus, Warren may experience difficulties with attention, working memory, top-down processing, decision-making, behavioral disinhibition and emotion regulation, in addition to possible challenges to his vision and coordination. Although he is found to have some difficulty with working memory and decision-making, he is still deemed capable of making informed decisions regarding his care.

At Warren's request, the counselor helps him initiate the process of receiving academic accommodations. With Warren's permission, she discusses his symptoms with the school's academic accessibility adviser. It is decided that for the first three weeks following his injury, Warren will be allowed a five-minute break midway through any classes lasting longer than 50 minutes.

This break will allow Warren to rest his brain and manage the cognitive fatigue that can result from concussions and exacerbate other post-concussive symptoms. For any exams, Warren will be given extended time to finish and a similar break period during the exam. Warren will also be given extensions on his assignments outside of class. It is agreed that if Warren's post-concussive symptoms continue beyond three weeks, further evaluation of his symptoms will be necessary and his academic accommodations will be reassessed.

Warren's counselor also gets permission to consult with Warren's coach, athletic trainer and physician. In this way, a treatment team is developed that will help to collectively support his integrated physical, psychological and intellectual well-being.

Warren's counselor provides psychoeducation on the neurophysiological, emotional, cognitive and behavioral effects of TBIs. She also gathers additional information about Warren's personal and mental health history, including any prior head injuries. The counselor learns that Warren had one diagnosed concussion while in middle school. He also informs the counselor that he experienced depression during his sophomore year of high school, which he states remitted without treatment after approximately six months. He reports that during this time, he did have thoughts of suicide but never attempted suicide.

Warren tells the counselor that he currently feels some guilt over not being able to play baseball for three weeks because he worries he is letting down his team. Considering Warren's current symptoms and feelings of guilt, in conjunction with his mental health and concussion history, the counselor plans to monitor and continue to assess for depression and suicidal ideation.

The counselor also decides to help Warren develop mindfulness and associated grounding techniques. She knows that after a TBI, mindfulness has been found to decrease depression and anxiety, improve emotional tolerance and support attentional processes. She informs Warren that practicing mindfulness during the rest breaks he will be getting during classes and exams, or at home when working on assignments, will help him refocus and calm his reactivity to stimuli.

In addition, the counselor uses a cognitive behavior therapy (CBT) approach with Warren to process his reactions to his concussion, most notably the guilt he feels about letting down his team. The counselor chooses CBT because of its noted effectiveness among clients who have mild TBIs and those who have a greater awareness of the effects of their injuries. Furthermore, the structured nature of this approach can reduce the demand on Warren's working memory and attention.

Diane

Diane is a 74-year-old single female living in an assisted living facility. Six weeks ago, Diane lost her balance as she was getting into bed. She hit the back of her head against her wooden headboard but didn't tell anyone because the only thing she felt afterward was a mild headache before falling asleep. She soon forgot the incident even occurred.

Over the next few weeks, however, staff at the facility and Diane's two adult children noticed that Diane seemed forgetful and somewhat confused. They also noticed that Diane was more tired than usual, depressed and easily frustrated with staff and other residents, which was unusual for Diane. Wondering if Diane might be displaying early symptoms of dementia, they scheduled an appointment for her with her primary care physician.

At the appointment, one of the questions the doctor asked was whether Diane had hit her head recently. Diane stated that she could not recall hitting her head. The doctor ordered a CT scan to continue ruling out the cause of Diane's symptoms. The CT scan revealed a subdural hemorrhage near Diane's occipital and parietal lobes. Based on the staff's reports of Diane's symptoms, the doctor suspected that it could be a chronic hemorrhage that had been building over time, likely causing Diane's symptoms. The doctor scheduled Diane for surgery to treat the hemorrhage. Following surgery, Diane continues to exhibit symptoms of depression and frustration, prompting her doctor to recommend that she participate in individual counseling.

Diane starts individual counseling with the counselor who comes to the assisted living facility twice a week to see clients on-site. Her counselor begins by ensuring that informed consent is feasible and by obtaining a signed release to consult with her physicians. He also provides psychoeducation around how her head injury may have led to symptoms similar to those of dementia. In addition, he explains the related cognitive, emotional and behavioral ramifications of such injuries, especially to the occipital, parietal, and frontal and prefrontal cortices. The psychoeducation also includes a description of the neurodevelopmental shifts taking place during Diane's age bracket.

Upon beginning counseling with Diane, the counselor recognizes that her TBI has brought up issues of grief and loss. Diane is fearful of losing more of her independence, of another fall and of being seen by others as less capable than she knows herself to be. Diane has felt that staff at her facility, and her two children, have been monitoring her more closely and that some of her freedoms have been revoked. The counselor works with Diane to process these feelings and to address the depression and grief she is experiencing. He consults with Diane's physician regarding medication management for her symptoms of depression, but together they decide to see how Diane progresses after some time in individual counseling before adding medication to her treatment.

The counselor recommends that, in addition to individual counseling, Diane engage in some brief family counseling. He refers Diane and her family to another counselor in the area who has experience in the Brain Injury Family Intervention (an approach introduced briefly in our December column). Following this approach, among other interventions, the counselor guides Diane and her children in processing with one another their reactions to Diane's TBI, identifying appropriate goals, developing effective approaches to solving problems and improving their communication, all while keeping in mind the effects of Diane's TBI.

Additionally, the counselor works closely with the nurses, rehabilitation therapist and staff at Diane's facility to develop a care team. This allows the counselor to work collectively to find ways of supporting Diane in maintaining as much independence as is feasible given her acute needs. Together,

the team identifies ways to increase the choices available to Diane in her daily life, recognizing that Diane's sense of her freedom being restricted is contributing to her depression and frustration. One approach that proves effective is for Diane to carry a notepad to catalog key discussions and important happenings, both inside and outside of counseling sessions. This simple act helps to empower Diane, enhance her autonomy and promote coherence across counseling sessions.

Conclusion

These case studies provide insights into some of the necessary considerations of working with clients who have experienced TBIs. In addition to the type, location and severity of the TBI, counselors must take into consideration the age of the client and certain neurodevelopmental shifts that may be occurring naturally at the time of the injury.

Key components of counseling work with such clients include:

- Ensuring informed consent
- Conducting a thorough assessment
- Providing psychoeducation
- Incorporating supportive and empowering skills in session (e.g., note taking)
- Building a treatment team
- Supporting the development of adaptive grounding and mindfulness skills
- Incorporating family and loved ones in treatment
- Utilizing established and emergent evidence-based practices
- Serving as an advocate for clients

To close, we offer two additional resources that may be beneficial in enhancing your knowledge of TBIs and the necessary considerations when working with this population.

- *Psychotherapy After Brain Injury: Principles and Techniques* by Pamela S. Klonoff, The Guilford Press, 2010
- "Traumatic brain injury and post-acute decline: What role does environmental enrichment play? A scoping review" by Diana Frasca, Jennifer Tomaszczyk, Bradford McFadyen and Robin Green, in *Frontiers in Human Neuroscience,* April 2013.

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