COLLABORATIVE HEALTHCARE

INTERPROFESSIONAL PRACTICE, EDUCATION, AND EVALUATION

A publication of
Jefferson Center for Interprofessional Practice and Education

Using Trauma Case-Based Learning to Inspire Interprofessional Readiness Among Future Health Professionals

BACKGROUND

It is well established in the literature that patient outcomes and quality of care are optimized when disciplines work together (Chomienne et al., 2010). Interprofessional practice (IPP) among health professionals is even more important when working with individuals exposed to trauma, which can result in disrupted physical, cognitive, and social development, and manifest in an array of physical and psychological symptoms (e.g., Felitti & Anda, 1998). Consequently, professionals across social service and healthcare systems may encounter and simultaneously serve trauma-affected individuals. However, healthcare and behavioral health systems are historically fragmented and frequently fail to provide the coordinated and integrated care that is most effective in treating individuals with high levels of trauma exposure, resulting in ongoing unmet health needs (World Health Organization [WHO], 2010). Philadelphia residents require coordinated, collaborative care, as they experience rates of adversity in childhood three times more often than those found in a national sample (Public Health Management Corporation [PHMC], 2013). The overwhelming prevalence and pervasive impacts of childhood trauma, coupled with the patient care benefits of interprofessional practice, provide strong evidence to support the establishment of interprofessional training curricula for emerging health and behavioral health professionals at Jefferson, a University committed to improving lives in Philadelphia and beyond.

IPP education and training is one vehicle that allows Jefferson health programs to address the need to train a "collaborative practice-ready workforce" (WHO, 2010, p. 7) that is prepared to respond to complex community health needs in a city with extremely high levels of trauma exposure (PHMC, 2013). The purpose of this study and educational module was to explore how the implementation of a multi-disciplinary trauma-focused case-based educational module impacted graduate students' readiness for interprofessional learning and engagement, their perceptions of the need for professional engagement in interprofessional practice, and their understanding of trauma from a multi-disciplinary perspective (mental health, sensory, and medical).

METHODOLOGY

Pedagogy

The pedagogy for this educational module was a modified version of a pilot module implemented within the Community and Trauma Counseling (CTC) and Occupational Therapy (OT) programs on the Jefferson East Falls campus, which integrated trauma-focused knowledge and skills from both professions and seeded skills in interprofessional practice. With funding from a University Nexus Learning grant, the authors researched the efficacy of an expanded trauma-focused interprofessional module across the CTC, OT, and Physician Assistant Studies (PA) programs on the Jefferson East Falls campus. The module was delivered in a blended format, beginning with a 90-minute online module that included trauma-focused content specific to each professional discipline. The online module was aimed at providing a shared foundation across disciplines that could be further developed during an on-campus session. The module was followed by a 4.5 hour on-campus session where students engaged in a combination of team-based learning (TBL) and problem-based learning (PBL) on interprofessional teams around a clinical child trauma case study.

Sample

The module was delivered within required courses in the CTC and OT programs. The PA program required their students from the East Falls and Atlantic City campuses to attend as part of their ongoing programmatic learning activities. Although students were required to complete the online module and attend the on-campus session, participating in the research study was voluntary. Informed consent was conducted across all three programs by a research assistant not associated with any of the participating programs. In total, 107 graduate students across the CTC (N = 25), OT (N = 26), and PA (N = 49) programs participated. Seven additional students consented, but did not enter their program on the data entry forms.

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Instrumentation

Data from the module were analyzed using a mixed methods design (e.g., Caracelli & Greene, 1993). Quantitative instrumentation included the Interdisciplinary Education Perception Scale (IEPS) (McFadyen, Maclaren & Webster, 2007), perceptions of actual cooperation and competency and autonomy sub-scales, which were the two sub-scales that showed good internal consistency (McFadyen et al., 2007). Additionally, the study included the Readiness for Interprofessional Learning Scale (RIPLS) (McFadyen et al., 2005). The Health Science Graduate Student Trauma Knowledge Scale was the third quantitative measure used in this study. This scale is a modified version of the Health Care Provider Self-Assessment (Kassam-Adams et al., 2015), which was originally developed for nurses in hospital-based settings. The authors replaced language specific to professional nurses with language specific to graduate health students, while attempting to keep the context of each item consistent with the original version. Figure 1 illustrates the instruments used and the data collection timeline for the module.

For qualitative analysis, 10 written questions were administered on the day of the training module to gain a deeper understanding of the students' experiences and impact of the training. See Appendix A for the full set of qualitative questions.

Figure 1: Instrumentation and Data Collection Timeline

Start Summer Term	Day of module	Start of Fall Term
Pre-Test Quantitative	Post-Test Quantitative (+ ~30 days from baseline)	Post-Test Quantitative (+ ~90-120 days from baseline)
1. RIPLS 2. IEPS 3. Health Science Graduate Student Trauma Knowledge Scale; modified Health Care Provider Self-Assessment (Kassam-Adams et al., 2015)	1. IEPS 2. Health Science Graduate Student Trauma Knowledge Scale	1. IEPS 2. Health Science Graduate Student Trauma Knowledge Scale

Results

Data from the RIPLS showed that all students across disciplines demonstrated high positive attitudes toward interprofessional learning. Results showed that the training experience significantly increased students' perceptions of actual cooperation (IEPS) across disciplines and these gains were maintained over time ($p < .05$), regardless of the level of readiness (RIPLS). However, scores on the competency and autonomy sub-scale (IEPS) remained stable over time across disciplines. CTC students scored significantly lower on both IEPS sub-scales than PA and OT students ($p < .001$). Additionally, all students made significant gains in trauma knowledge and confidence following the IPE training ($p < .001$), and gains were maintained over time (there were no significant differences by discipline when assessed again in fall 2017). OT students demonstrated significantly less trauma knowledge when compared to CTC and PA students ($p < .001$), but demonstrated the most growth in trauma knowledge and confidence post-module.

The faculty team has not yet completed the qualitative data analysis, but has engaged the support of an independent investigator to minimize biases.

Discussion

As we expected, student attitudes across programs were positive toward the concept of interprofessional learning. In addition to data from the RIPLS, informal student feedback suggested that the interprofessional module was well

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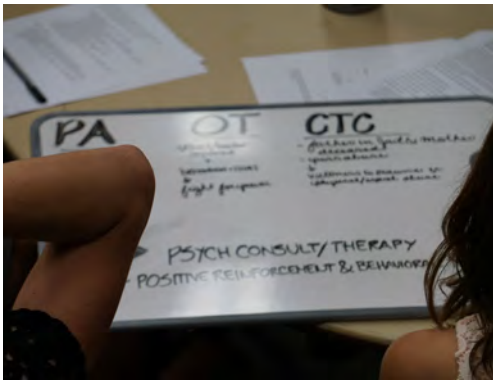

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received. Students recognized the value of collaborating and are now seeking opportunities to practice collaboration skills and competencies in their training. The qualitative data analysis will look to confirm the informal student feedback.

Student scores on the IEPS perceptions of actual cooperation sub-scale significantly increased after completing the IPE module for students across disciplines. This provides evidence that the experiential on-campus trauma case-based session increased the perceived level of collaborative care the students' discipline engages in professionally. It is important to note that students who participated in this module had not yet engaged in clinical placements in their graduate training, hence these findings are limited to perceived levels and do not provide evidence into if their profession actually engages or is willing to engage in interprofessional practice. The competency and autonomy IEPS sub-scale scores remained stable across time. This sub-scale investigates students' perceptions of their own discipline's competencies and capacity to engage with others, versus how they actually cooperate with other disciplines. We expected that students' confidence in their own profession's competence and autonomy would increase through discussions with students from other disciplines about what their respective professions could bring to the treatment of a trauma-exposed child. However, this IPE module explicitly aimed to increase students' awareness of the importance of engaging with other disciplines, more so than convincing others of their own profession's value in trauma treatment.

As expected, each discipline made significant increases in trauma knowledge. Trauma knowledge was delivered through the online and on-campus modules. Not surprisingly, the CTC students, who engage in trauma education in each course of their degree program, had the highest level of trauma knowledge, followed by the PA program. The OT students showed the most growth in trauma knowledge from pre to post module. These findings have been shared with program directors to inform any needed curricular revisions.

Pedagogical Challenges

Faculty faced distinct challenges and learned important lessons that may be of value to the larger academic community when planning interprofessional training. One distinct challenge is the mere fact that the programs included in this training are delivered in very different formats. Consequently, finding a suitable time for students to convene was and will continue to be difficult. Further, this training included an online module that students completed prior to meeting on campus, designed to front-load students' learning. Students involved in the educational modules are accustomed to varying levels of online learning contingent on their program. Both of these challenges require forethought on the part of involved faculty to adjust course requirements to account for the online and on-campus trainings.

Future Directions

The CTC, OT, and PA programs have continued to engage interprofessional educational modules on a yearly basis. The team is considering ways to offer multiple shorter interprofessional trainings for students as they progress through their training programs in order to scaffold interprofessional competencies and knowledge across the graduate curricula. These and future trainings are aimed at providing the groundwork for students to be able to thrive and lead in their professional practice, which demands collaboration and interprofessional teamwork.

In addition, Drs. Felter and DiDonato modified and delivered the module during the inaugural Greater Philadelphia Trauma Training Conference in July of 2017, where over 200 professionals, paraprofessionals, and students across five disciplines (medicine, clinical mental health, juvenile justice, K-12 educators, and early child [0-5] professionals) engaged in a 3-hour IPP session. This module is currently being refined with the purpose of researching the efficacy of a trauma-informed interprofessional training module across graduate health programs and child-serving systems.

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APPENDIX A: QUALITATIVE SURVEY

1. Have you previously worked on an inter-professional team or observed an inter-professional team working to benefit a client? If yes, please give a brief description of this experience and identify the professionals that were present on the team.
2. Has this inter-professional module changed how you will think about or address the remaining time in your graduate studies here at Philadelphia University [Jefferson University]? Explain.
3. What aspects of this inter-professional training module were most useful for your clinical practice? Consider any new skills, attitudes, techniques, etc.
4. Has this inter-professional module changed how you (as a graduate student) think of trauma and the impact on trauma on our patients, families, ourselves, and other professionals?
5. Who would you choose to be on your clinical team when working with the client in the case provided? What is your role on the team? What is the role of the other professionals?
6. Has this inter-professional module changed how you would think about or structure your therapeutic interventions directly with the client in the case provided? Explain.
7. Has this inter-professional module changed how you would think about or structure your clinical engagement with the family of the client in the case provided? Explain.
8. Has this inter-professional module changed how you would think about how you would think about collaborating with other professionals from disciplines outside of your own? Explain.
9. What is the most important thing you've learned about the role of the other professional? What's the most important thing you've learned about your own professional role?
10. What is the most important thing you will bring to your graduate level clinical placement from what you learned or experienced during this inter-professional module?