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RESEARCH ARTICLE

Promoting collaboration and cultural competence for physician assistant and physical therapist students: a cross-cultural decentralized interprofessional education model

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Abstract

Purpose: As the United States health care model progresses towards medical teams and the country's population continues to diversify, the need for health professional education programs to develop and implement culturally specific interprofessional education (IPE) becomes increasingly imperative. A wide range of models exists for delivering and implementing IPE in health education, but none have included the cultural components that are vital in educating the health professional. **Methods:** A cross-cultural decentralized IPE model for physician assistant (PA) and physical therapy (PT) students was developed. This three-part IPE series was created using an established cultural curricular model and began with the exploration of self, continued with the examination of various dimensions of culture, and concluded with the exploration of the intersection between health and culture. We assessed student satisfaction of the IPE experiences and students' engagement and attitudes towards IPE using a three-item open-ended questionnaire administered after each cross-cultural activity and the Interprofessional Education Series Survey (IESS) upon the completion of the series. **Results:** IESS responses showed that PA and PT students reported benefits in interprofessional collaboration and cultural awareness and expressed overall satisfaction with the series. Qualitative analysis revealed growth in student response depth consistent with the scaffolded focus of each IPE module in the series. **Conclusion:** The trends in this three-part series suggest that institutions looking to develop culturally inclusive IPE educational initiatives may have success through a decentralized model mirroring the effective cultural progression focused on addressing exploration of self, examination of various dimensions of culture, and exploration of the intersection between health and culture.

Key Words: *Attitude; Cooperative behavior; Cross-cultural comparison; Personal satisfaction; Physician assistants*

INTRODUCTION

Strategies to confront growing health disparities and improve health outcomes within diverse, underserved populations are essential to the education of medical students [1]. The single-provider model presents a challenge to adequately addressing the complex needs of these populations and perpetuates health inequities [2-4]. The Institute of Medicine notes that "all health professionals should be educated to deliver patient-centered care as members of an interdisciplinary team" [5]. Medical teams in clinical practice contribute to positive health outcomes in underserved populations and allow health care professionals to utilize their strengths to manage a patient's health in a cost-effective, comprehensive manner [1, 4, 6, 7]. Interprofessional experience (IPE) training helps prepare health professions students to work effectively in medical teams [2, 4]. While the growing need for IPE as part of medical education has been identified, there are no best practice models on how to develop and implement IPE within medical educa-

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tion to address the challenges faced by underserved populations [1, 7]. A decentralized structure, where IPE activities are designed and implemented outside of core courses, is easier to implement and requires fewer "champions" compared to a large-scale shift to a centralized structure that integrates IPE [5]. While the gradual implementation of the centralized IPE approach has been trialed at institutions, the need for additional research in IPE curricular design has been proposed [5]. This short communication describes a sequence of scaffolded cross-cultural experiences within a decentralized model of IPE education for physician assistant (PA) and physical therapy (PT) students that includes a cultural component for applied practice in a diverse society and includes the evaluation of students' engagement and attitudes towards IPE.

METHODS

Program structure

In 2010 Carroll University received an American Recovery & Reinvestment Act and Health Resources and Services Administration grant that concentrates on integrating cultural components into the PA curriculum. Research stemming from grant activities has shown that students' cultural awareness improves through progressive integration of a cultural training model within the curriculum [8]. This model begins with the exploration of self (values, assumptions, perceptions, and biases), expands to the examination of various dimensions of culture (i.e. race, ethnicity, gender, sexual orientation), and concludes with the exploration of the intersection between health and culture.

Curriculum components

Based on this successful cultural training model, the PA and PT programs created a three-part decentralized, scaffolded cross-cultural IPE exploratory series, implemented over the course of twelve months for 20 PA and 51 PT students. The goal of this project was to move from uniprofessional to interprofessional cultural education using experiential IPE activities. The first cross-cultural IPE module in the series followed the existing cultural model by focusing on exploration of self [8]. Working together, PA and PT students increased awareness of their personal biases and perceptions of cultural differences, discovered the impacts of one's actions across cultures, and identified potential challenges to successful communication with cultures different from one's own. Using the *BaFa BaFa* simulation [9], large mixed groups of PA and PT students participated in one of two distinct cultures, assimilating into and interpreting observations of the foreign language and customs to report back to their own culture. During the randomly assigned small group interprofessional reflection following the activity, students reflected the emotions and biases experienced and extrapolated concepts to identify similar barriers when providing medical team-based services in future clinical practice. Students also discussed what they learned about the other health profession and how that knowledge would translate to improved patient care.

The second cross-cultural IPE module followed suit with the established cultural model by introducing a broader examination of various dimensions of culture [8]. Mixed large groups of PA and PT students applied communication concepts to a simulation called *Food for Today Hunger Simulation* [10], in which they portrayed fictional characters faced with socioeconomic and cultural barriers to food security over a simulated three days of trying to feed their families. Following the simulation, randomly assigned small groups of PT and PA students shared what they learned from this experience and implications for future practice, such as opportunities for improved collaboration.

The final cross-cultural IPE module mirrored the third phase of the successful cultural model with the exploration of the intersection between health and culture [8]. The students provided medical team-based services in a clinical setting to community members through randomly assigned teams of one PT, one PA, and one Spanish medical interpreter student. Team members conducted interprofessional health assessments, which included physical wellness screenings, health history intakes, and client education, at a Hispanic-serving senior center. They observed each other throughout the module to gain a better understanding of the other profession "in action" and developed active strategies for overcoming cultural and language barriers in a diverse population. Interprofessional and cultural aspects of the activity were explored in a debriefing session with PA and PT students, at which time students also completed the Interprofessional Education Series Survey (IESS) to assess their engagement and attitudes towards IPE throughout the three-part series.

RESULTS

The Institutional Review Board approved data collection, and the students consented to participation in the research by completing the feedback questionnaire and the IESS. Completion of all forms was voluntary and no identifying information was included on either assessment.

Quantitative data

At the end of the series, 20 PA and 51 PT students completed the IESS, a ten item survey that uses a four point Likert scale (1 = Strongly Disagree; 2 = Disagree; 3 = Agree; 4 = Strongly Agree). Results from the survey (Table 1 and Table 2) revealed

Table 1. Quantitative data for 51 physical therapy students - Interprofessional Education Series Survey (IESS) Results

	Survey items	Number and percentage of respondents who rated the item as:			
		Strongly agree (%)	Agree (%)	Disagree (%)	Strongly disagree (%)
1	Beneficial to self-growth	32 (62.7)	19 (37.3)	0	0
2	Unique need met in program	40 (78.4)	11 (21.6)	0	0
3	Importance of interprofessional collaboration	37 (72.5)	14 (27.5)	0	0
4	Better understanding of other discipline	24 (47.1)	23 (45.1)	4 (7.8)	0
5	Prepared for interprofessional environment	26 (51)	23 (45.1)	2 (3.9)	0
6	Cultural awareness for future practice	40 (78.4)	11 (21.6)	0	0
7	Greater depth of appreciation for diverse needs	34 (66.7)	17 (33.3)	0	0
8	Capable of utilizing interpreters	35 (68.6)	16 (31.4)	0	0
9	Enjoyed experience	37 (72.5)	14 (27.5)	0	0
10	Beneficial, should continue	38 (74.5)	13 (25.5)	0	0

Table 2. Quantitative data for 20 physician assistant students - Interprofessional Education Series Survey (IESS) Results

	Survey items	Number and percentage of respondents who rated the item as:			
		Strongly agree (%)	Agree (%)	Disagree (%)	Strongly disagree (%)
1	Beneficial to self-growth	8 (40)	12 (60)	0	0
2	Unique need met in program	13 (65)	6 (30)	1 (5)	0
3	Importance of interprofessional collaboration	10 (50)	10 (50)	0	0
4	Better understanding of other discipline	11 (55)	9 (45)	0	0
5	Prepared for interprofessional environment	12 (6)	8 (40)	0	0
6	Cultural awareness for future practice	11 (55)	9 (45)	0	0
7	Greater depth of appreciation for diverse needs	13 (65)	7 (35)	0	0
8	Capable of utilizing interpreters	15 (75)	5 (25)	0	0
9	Enjoyed experience	10 (50)	9 (45)	5 (1)	0
10	Beneficial, should continue	11 (55)	9 (45)	0	0

Table 3. Qualitative Data - Representative Student Feedback

Elements of previous cultural model	Representative quotes
Exploration of self	Collected from *BaFa BaFa* Experience: *"I think I will be more aware of my perceptions of different cultures and how I interact with that culture and try to understand it as best as I can."* *"I will try to alter my behavior to fit the patient and their values and will not judge off of my first impressions of little information."* *"It is important to be in constant self-assessment."* *"It is important to realize how your behavior is impacting your patient."*
Examination of various dimensions of culture	Collected from hunger simulation experience: *"Everyone is going through a different situation with different stressors, therefore, it's important to know how that will impact our patients lives."* *"People's personal situations play a big role in their ability to pay, live healthy, and adhere to health professional suggestions."* *"I can apply my experience to my future practice by incorporating my experience and empathy to the biopsychosocial aspects of patients and understand how poverty can affect a patient's treatment outcomes and prognosis."*
Exploration of the intersection between health and culture	Collected from hispanic health assessment experience: *"In our future we will always have barriers, whether it will be language or complications elsewhere."* *"I gained a valuable experience working with a diverse patient population."* *"I will take away an understanding of the importance of working with other cultures and the importance of community."*

that 100% of PT and PA respondents agreed or strongly agreed with 6 of the 10 items (1, 3, 6, 7, 8, and 10). Between 3.9 and 7.8% of the respondents disagreed with 4 of the 10 items (2, 4, 5, and 9), and no survey items were rated as "strongly disagree" by the PA or PT students. PA and PT students reported benefits in interprofessional collaboration and cultural awareness

and expressed overall satisfaction with the series. However, PA students' responses had a more even distribution across the strongly agree (57%) and agree (42%) categories, while PT students' responses were skewed more toward the strongly agree (67.2%) than agree (31.6%) category.

Qualitative data

A three-item open-ended questionnaire was administered after each cross-cultural module to both student groups. The questions were "What do you think you will take away from this experience?", "How does this experience apply to your future practice?", and "What do you think you will take away from this experience in regards to communication with other healthcare providers?" Representative quotes from each of the three experiences are highlighted in Table 3.

DISCUSSION

A wide range of models exist for delivering and implementing IPE in health education [7], but none have included cultural components that are vital in educating health professionals. This IPE series was created using an established cultural curricular model [8]. Trends in student responses provide insight into a successful decentralized model for integrating cultural components into IPE in order to develop culturally competent health care providers who will work effectively in medical teams. Students quantitatively reported benefits in interprofessional collaboration and cultural awareness and expressed overall satisfaction with participation in the series. Qualitative analysis of student comments revealed growth in cultural awareness consistent with the scaffolded focus of each IPE module in the three-part series.

Organizational culture and processes, power differentials across programs and the university, and challenges with logistics and scheduling have been identified as barriers to implementing IPE activities [5]. Consistent with these findings, the primary challenge faced during the developmental stages of this series was scheduling each IPE activity. Because both programs have extensive classroom hours, the courses linked to each IPE activity did not fall on the same day or time each semester. The key to overcoming this barrier was having the flexibility to schedule activities outside of class hours. Though introducing cross-cultural interprofessional experiences into a health professional program may seem like a daunting task, this example demonstrates that cultural IPE modules can be implemented without revisions of either curriculum. The use of a decentralized model that relied on a few "champions" to spearhead efforts across health professional programs and who were willing to integrate IPE activities into existing courses was critical to the success of this series.

Steps in the future that will be taken to strengthen the series include: first, more rigorous pre- and post-evaluation of students and an integration of a community participant evaluation; second, increased discussion and reflection time between PA and PT students; and third, development of additional community-based IPE opportunities.

In conclusion, as the United States health care model progresses towards interdisciplinary medical teams and the country's population continues to diversify, the need for health professional education programs to develop and implement culturally specific IPE is imperative. This modular series suggests that institutions looking to develop culturally inclusive IPE initiatives may have success through a decentralized model mirroring the effective cultural progression focused on addressing exploration of self, examination of various dimensions of culture, and exploration of the intersection between health and culture.

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CONFLICT OF INTEREST

No potential conflict of interest relevant to the study was reported.

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SUPPLEMENTARY MATERIAL

Audio recording of abstract.

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