

Results from a longitudinal curriculum to develop empathy in PharmD students

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Background

Traditional science-based curricula rely heavily on the cognitive and psychomotor domains of learning, leaving less time to emphasize development in the affective domain, including the ability to demonstrate empathy. Data suggests that health care professionals with higher degrees of empathy have demonstrated improved patient adherence to therapies, reduced adverse outcomes, and have a decrease in malpractice lawsuits.^{1,2,3} Currently, there are gaps in the literature regarding longitudinal assessments of health professional students' empathy.^{4,5} Past studies have focused on short-term interventions and self-assessments of empathy. The purpose of this study is to assess changes in empathy throughout a Doctor of Pharmacy (PharmD) program using a self-assessment tool and assessment by standardized patients (SPs).

Curricular Learning Objectives

After participating in the multi-year empathy program, students will be able to:

1. Reflect on their own attitudes, behaviors and beliefs and how they relate to providing empathetic care.
2. Identify the personal barriers to providing empathetic care.
3. Demonstrate empathy when dealing with patients.

Methods

This study was conducted in three phases over the course of a three year, accelerated PharmD curriculum. Phase I and II focused on empathy development during the didactic curriculum. During Phase III, students applied empathy skills and participated in interprofessional workshops during their Advanced Pharmacy Practice Experiences (APPEs). Each phase included both self and SP assessments of students' empathy.

Phase I

A baseline objective structured clinical examination (OSCE) to assess students' empathy prior to any intervention was conducted in first-year PharmD students. SPs rated students' empathy using The Jefferson Scale of Patient Perceptions of Physician Empathy (JSPPE) and students' self-rated their empathy using the Jefferson Scale of Empathy-health professional student version (JSE-HPSE). Following the OSCE, a team-based learning (TBL) seminar was conducted on providing empathetic care. Students practiced self-reflection, team-reflections and empathetic counseling to a vulnerable patient.

Phase II

In their second year, students practiced empathetic communication and self-reflection during their community pharmacy and hospital pharmacy introductory pharmacy practice experiences (IPPEs). A subsequent TBL seminar facilitated inter- and intra-team discussions regarding how they used empathy to provide care to an actual patient on IPPEs.

Table 1. Project timeline and interventions

Study Phase	Student Year	Trimester	Student Activity / Empathy Intervention	Assessment
Phase I	P1 Year	Fall 2019	Introduction to empathy via TBL (calibration)	Baseline OSCE, JSPPE, JSE-HPSE, Self-reflections
			TBL on treating patient at end-of-life	
Phase II	P2 Year	Summer 2021	Self-Reflection on patient experiences during IPPE	Self-reflections
			TBL based on IPPE patient encounter	
Phase III	P3 Year	Fall 2021	Interprofessional TBL with SPs	Group OSCE
		Spring 2022	Morbidity & Mortality Conference focused on medication safety	JSPPE, JSE-HPSE, Individual OSCE
		Summer 2022	Graduation	

Phase III

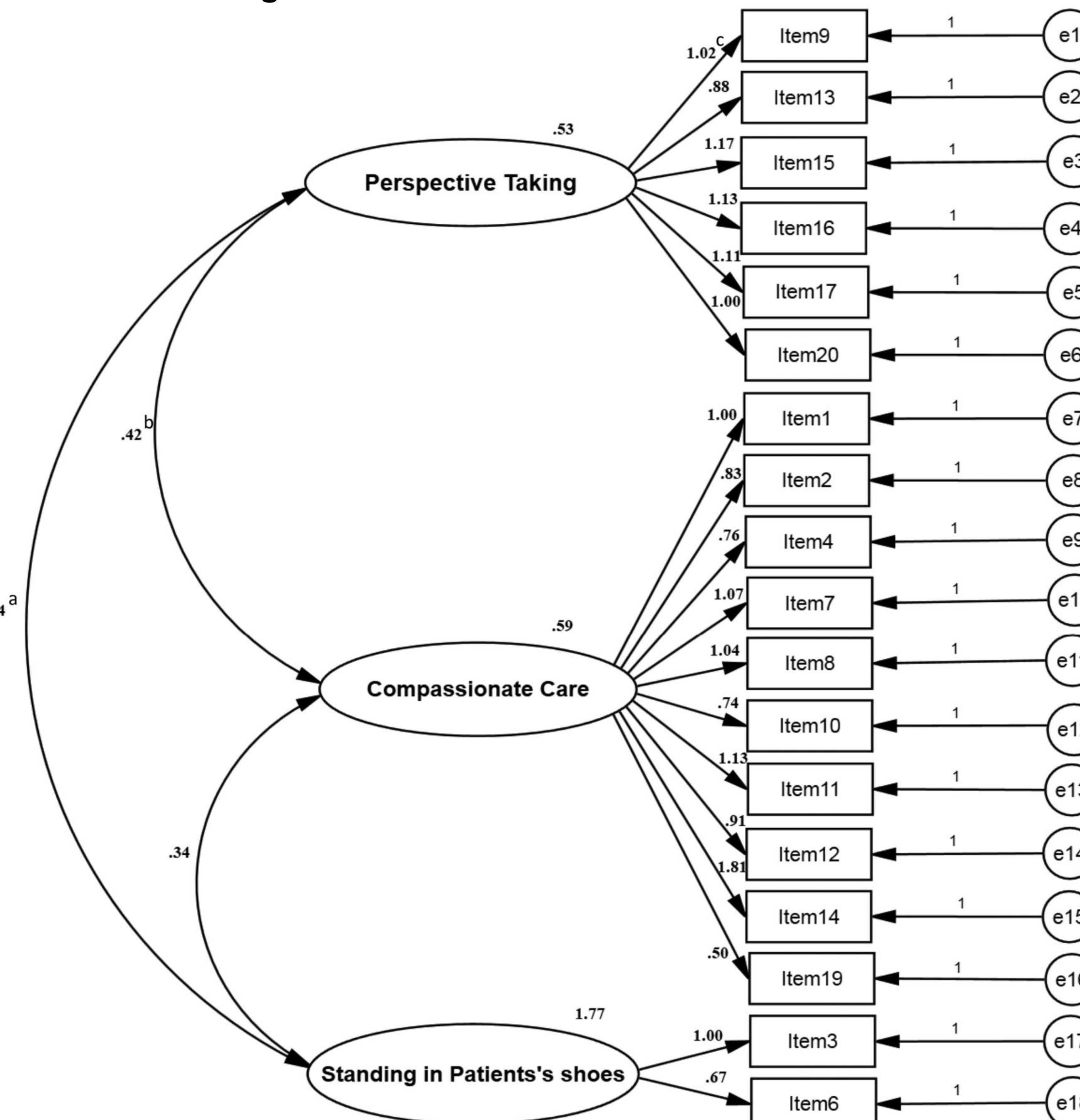
In the final phase, students completed self-reflections on empathetically managing patients during their APPEs. They also participated in an interprofessional TBL seminar and Morbidity & Mortality conference facilitated by a clinical chaplain, social worker, pharmacist and palliative care physician to enhance their empathetic skill sets. A final OSCE was conducted in the manner described above.

Results

Table 2. Student and SP Ratings of Empathy

Student Self Ratings of Empathy			
	Baseline Scores Mean (Median)	Final Scores Mean (Median)	P-values
Total	110.61 (112.63)	108.94 (115)	0.9
JSE-HPSE Factor 1	58.22 (59)	59.96 (63)	0.01
JSE-HPSE Factor 2	44.37 (44)	40.99 (47)	0.32
JSE-HPSE Factor 3	8 (8)	8 (8)	0.57
SP Ratings of Empathy			
	Baseline Scores Mean (Median)	Final Scores Mean (Median)	P-values
Total	21.02 (21)	27.51 (28)	<0.001

Figure 1. JSE-HPSE Factors and Item Numbers



Statistical Analysis

Statistical tests were done using "The R Project" software. Changes in cognitive empathy as measured by the JSE-HPSE and the JSPPE were evaluated with a Wilcoxon signed rank test. Students were measured at two different times: at baseline and after APPE rotations. The JSE-HPSE was divided into three factors: 1) perspective taking, 2) compassionate care and 3) walking in patient's shoes. Initial scores were compared to final scores for both the student and SPs.

Discussion

There was no significant change in total student self-assessment of empathy, however, factor one showed a slight increase in final score. SP ratings of student empathy were significantly higher post intervention. This difference may be due to students' ability to demonstrate empathetic behaviors without feeling higher levels of empathy or a decline in empathy due to burnout. A lack of increase in self-rated empathy is in line with current research on empathy development.

Future Research

Future directions include expanding the scope of this research to include health professional students from other disciplines into the curriculum. Study investigators also hope to integrate this project into clinical practice settings using actual patients instead of SPs to determine if provider empathy affects clinical outcomes.

Limitations

The COVID-19 pandemic required that the study design include a virtual component, which may have affected our study outcomes. Additionally, it is difficult to measure the impact of confounding variables that may have affected students' empathy levels such as other curricular elements and students' life experiences which were not part of the educational intervention.

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