RESEARCH

Determining the Sufficiency of Cultural Competence Instruction in Pharmacy School Curriculum

Olihe Okoro, PhD,^a Folakemi Odedina, PhD,^b W. Thomas Smith, PharmD, JD^b

^a University of Minnesota, Duluth, Minnesota

^b University of Florida, Gainesville, Florida

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Objective. To assess the change in the level of cultural competency and knowledge of health disparities among students in the third year of the doctor of pharmacy (PharmD) program at the University of Florida and to explore the demographic correlates.

Methods. A cross-sectional survey was conducted in 3 consecutive academic years. Chi-square tests, analysis of variance (ANOVA), and multivariate regression were used for data analysis.

Results. Following the inclusion of relevant instruction, there was some increase in knowledge of health disparities and self-awareness, but no significant increase in cultural competency skills. More students reported receiving relevant instruction within the pharmacy school curriculum than outside the curriculum.

Conclusion. Current effort to incorporate cultural competence and health disparities instruction into the pharmacy curriculum has met with some success. However, there is a need to establish standards on how much relevant training is required and further explore ways to effectively incorporate it into pharmacy education.

Keywords: cultural competency, health disparities, pharmacy students, curriculum

INTRODUCTION

One of the core components of quality health care is patient centeredness.¹ The Institute of Medicine (IOM) describes the patient-centered approach to health care as encompassing “qualities of compassion, empathy, and responsiveness to the needs, values, and expressed preferences of the individual patient.”² This requires a shift from focusing on the medical condition to regarding each patient uniquely and delivering of health care accordingly. With the patient-centered approach, the health care process becomes a partnership that takes into account both provider and patient perspectives and encourages patients to participate in their own care. Patient-centered care is driven by effective provider-patient communication.³⁻⁵ Good communication facilitates patient understanding and ensures that patient needs and desires are well understood and adequately addressed. This approach to care improves health outcomes and quality of health care.⁶⁻⁹

In the United States, disparities in health care are associated with the increasing racial and ethnic diversity

of the population.¹⁰ The United States is currently one of the most culturally diverse societies, with minority populations constituting 34% of the total population.¹¹ Projections by the US Census Bureau place the minority population at approximately half of the US population by the year 2050.¹¹ Compared to non-Hispanic whites, minority populations are disproportionately affected by many disease conditions and generally tend to have poorer health outcomes. To eliminate health disparities, health care providers, including pharmacists, need to be aware of such disparities in health care and recognize cultural diversity as a key factor.¹² Meeting the health care needs of different patient populations requires that providers take into consideration the influence of culture on patient perceptions, attitudes, and health-related behavior. They also need to work with cultural differences between different populations and integrate this knowledge into their delivery of patient care.¹³⁻¹⁶ Essentially, health care providers need culturally competency training.

In 2006, the Accreditation Council for Pharmacy Education (ACPE) responded to this need by including a cultural competency component in its accreditation standards and guidelines.¹⁷ Moreover, cultural competency levels improve among pharmacy students following relevant educational training.¹⁸⁻²³ However, until recently, there was no consensus on how this training could be effectively

Corresponding Author: Olihe Okoro, PhD, Department of Pharmacy Practice and Pharmaceutical Sciences University of Minnesota, College of Pharmacy, 235 Life Science, 1110 Kirby Drive, Duluth MN 55812-3003. Tel: 218-726-6036. Fax: 218-726-6500. E-mail: ookoro@d.umn.edu

incorporated into the curriculum, which specific knowledge and skills should be taught, and the relevant competencies students should have acquired by program completion. To address some of these gaps, the approved ACPE standards and guidance document have included more directives.^{24,25} Key elements of educational outcomes now include cultural sensitivity (Standard 3.5) and self-awareness (Standard 4.1). The new guidelines call for the incorporation of and exposure to cultural factors in didactic and experiential curricula. The guidelines acknowledge the difficulty in defining and evaluating these outcomes and encourage the culture of sharing best practices for assessment.²⁵

Along similar lines, the Center for the Advancement of Pharmacy Education (CAPE) 2013 Educational Outcomes recognize and emphasize the importance of developing professional skills and cultivating attributes that enhance the delivery of pharmaceutical care.²⁶ This version of the CAPE outcomes was expanded to include the affective domain, the purpose of which is to ensure the integration of basic scientific knowledge with relevant skills, attitudes, and approaches to facilitate effective practice and patient-centered care. One outcome expectation outlined by the 2013 CAPE Outcomes is cultural sensitivity, in recognition of the role that social determinants play in health disparities and their contribution to inequities in access to quality care.²⁶ Learning objectives to achieve this outcome include the recognition of cultural differences, demonstration of a respectful attitude to different cultures, assessment of health literacy and tailoring communication to the patient's specific needs, and appropriate incorporation of cultural beliefs and practices into the patient's care plan without compromising safety. This study observes efforts made to meet these standards and outcomes and assesses the changes in students' knowledge of health disparities and cultural competency over a 3-year period as a result of incorporating such efforts.

The long-term goal of this research is to foster a curriculum that adequately equips pharmacists with skills to effectively deliver care to diverse patient populations. In a previous study, we evaluated the level of clinical cultural competency and health disparities knowledge among third-year PharmD students in two public schools in the state of Florida.²⁷ We also explored the demographic correlates (age, gender, race/ethnicity, institution, and country of birth) of cultural competency level and health disparities knowledge. For this study, our objectives were: (1) to assess the change in the level of cultural competency and knowledge of health disparities among students in the third year of the PharmD program over time following the inclusion of relevant instruction in the curriculum; (2) to assess the level of awareness among students in the third year of the PharmD program

of cultural competence instruction in the pharmacy school curriculum; and (3) to explore the demographic correlates (age, gender, race/ethnicity, country of birth, multiple-language proficiency) of cultural competency and of health disparity knowledge levels.

METHODS

We conducted a cross-sectional survey among students in the third year of the PharmD program in the University of Florida. The survey was administered during the fall semesters of 2010, 2011, and 2012 respectively. The pretraining version of the Clinical Cultural Competency Questionnaire was modified and used as the survey instrument.²⁸ This self-administered assessment tool measures knowledge of health disparities and various aspects of cultural competence (Table 1). It was originally developed to assess the impact of training on levels of cultural competency and health disparities knowledge among practicing physicians. With permission from the author, we modified and adapted the questionnaire to our target population. A detailed description of the instrument modification process and the modified instrument can be found in our previous study.²⁷

Approval for this study was obtained from the University of Florida Institutional Review Board. The study participants were students in the third year of the PharmD program during the 2010-2011, 2011-2012 and 2012-2013 academic years. Participants were recruited during the fall semester of each academic year. The survey was self-administered with the consent and collaboration of faculty members at each of the 4 campuses. It took about 10-15 minutes to complete the survey.

The investigators observed that following the first year of the survey (2010), some instructional material on cultural competence and health disparities was added to the curriculum. This included 2 lectures introduced in a 2-credit course taught in the second year of the PharmD program, Professional Communications in Pharmacy Practice. The purpose of the course was to teach students how to effectively communicate with patients and caregivers, as well as physicians, pharmacy technicians, and other professionals involved in the health care process.

One of the eight key subject areas of the course was "special communication situations." Learning outcomes in this subject area included being aware of issues relevant to multicultural communication and challenges of cross-cultural and bilingual communication, being aware of issues relevant to health disparities, and being aware of issues relevant to cultural and disability competency. To address these outcome objectives, two lectures were added to the course curriculum titled "Disparities in Health in the United States" and "Cultural Competency: Taking

Table 1. Summary of the Modified Clinical Cultural Competency Questionnaire

	Area of Focus	Items
Subscale A	Knowledge of health disparities	8
Subscale B	Skills in dealing with socio-cultural issues	12
Subscale C	Comfort level in dealing with cross-cultural encounters/situations	12
Subscales D		
I.	Attitudes towards factors contributing to health disparities	12
II.	Self-awareness of racial, ethnic or cultural identity/stereotypes/biases and prejudices	3
III.	Attitude to cultural competency training in curriculum	2
Subscale E	Previous training in cultural diversity	3
Section F	Demographic information	

the right steps". These lectures lasted approximately 1 hour and 35 minutes, respectively (Table 2).

To complement these lectures, two laboratories where students demonstrated cultural competency skills were included in the course curriculum. One was a medication history laboratory involving role-playing and cross-cultural encounters, and the other was group work on cases involving patients from diverse cultural backgrounds. How students applied cultural competency skills in the role-play was evaluated by peers and instructors.

Required readings relevant to the subject areas were assigned to students as preparatory materials for the weeks of these lectures and laboratories. Questions that assessed student knowledge, understanding, and application of key concepts were also included in the final examination for the course. The outcome of the laboratory evaluations and course examinations are not reported here as this study was done independent of the course. The purpose of this study was to monitor changes in relevant knowledge and cultural competency over time; the survey did not directly assess how well the learning objectives of the additional lectures and laboratory sessions were met.

Each item in the survey (subscales A-E) was assessed using a 5-point Likert scale: 1=not at all, 2=a little, 3=somewhat, 4=quite a bit, 5=very. The score for each item was calculated using the value of the point checked by the respondent on the Likert scale. For example, the response "a little" for an item was given a score of 2, the response "quite a bit" was given a score of 4 and so on. The total score for each subscale was obtained by summing up the scores for each item in that subscale. Each item was weighted equally, and the total score for each subscale was obtained for each respondent.

Participants' scores for each subscale (A, B, C, D-I, D-II, D-III and E) were summarized using standard descriptive statistics. Scores were also summarized for each third-year class per academic year: 2010, 2011, and 2012. To compare mean scores of each subscale for the 3 years on the level of cultural competency and health disparities knowledge, we conducted an ANOVA. Multiple regression analyses were performed for each of the subscales.

Table 2. Content and Outcome Objectives for Additional Instructional Material on Cultural Competency and Health Disparities

Lectures	Outcome Objectives
Lecture 1. Disparities in Health in the United States	Understand the concepts of race, ethnicity, and culture
Definition of key terms	
Evidence of racial/ethnic disparities in different disease conditions	Demonstrate awareness of factors that currently contribute to wide disparities in health among certain populations
Etiologies of health disparities	
Factors contributing to health disparities (nonclinical, patient, provider/care process, health system)	
National response to these disparities	Conceptualize services to reduce and eliminate these disparities
Elements required in the health care process to eliminate racial/ethnic disparities	Define the concepts of diversity and culture and how they apply to individuals and institutions
Lecture 2. Cultural Competency: Taking the Right Steps	Use the elements of cultural competency in their individual workplace situations to gain a better understanding of the dynamics of difference
The meaning and elements of cultural competency	
The need for cultural competency in the health care process	
The impact of personal culture on communication	
Challenges of and skills needed in cross-cultural communication	
The application of cultural competency to conflict resolution	Apply the 5 steps to cultural competency to function effectively in the context of cultural differences.

With the exception of section D-II (for which each item was analyzed separately), the total score for each subscale was modeled as the dependent variable. Modeled predictor variables included class (per academic year), age, sex, race, country of birth, language(s) other than English spoken, exposure to cultural competence instruction in school curriculum, and formal training on cultural competence outside school curriculum. Mean scores for each subscale were obtained by calculating the average score of the respondents in each class.

RESULTS

The majority of respondents from each class surveyed were female, but the proportion in the different years was significantly different (70.1% in 2010, 57.8% in 2011 and 59.5% in 2012; $p < 0.05$). There were also significant differences in the age distribution between the 3 classes (Table 3). The number of students who acknowledged receiving relevant training in the school curriculum was significantly higher in 2011 and 2012 (62.8% and 56.8%, respectively) compared to the 2010 (26.6%; $p < 0.0001$).

In all 3 years of the survey, the majority of the respondents were Caucasian, born in the United States, did not speak languages other than English, and had no formal training on cultural competence outside the pharmacy school curriculum (Table 3).

The first subscale assessed respondents' knowledge of relevant subject areas in health disparities. The 8 items included sources of information on health disparities and programs and policies addressing these disparities. The potential maximum score for this subscale (indicating a consistent response of "5" for all items) was 40. The mean score was highest in 2012 (22.1) and significantly different from the 2011 class (20.7). The mean score for each year was below the mid-score of 24 (the expected score if respondents were moderately knowledgeable about all 8 areas and therefore consistently indicated "3" on the scale), which suggested that the students were not very knowledgeable about health disparities.

Subscale D-I was made up of 12 factors contributing to health disparities. Respondents were asked to indicate the level of importance of each factor in contributing to

Table 3. Demographic Information of Respondents from Each Year Surveyed

	2010 (n=294)	2011 (n=279)	2012 (n=287)
Actual Class Size	Frequency (%)		
Response rate	184 (62.6)	199 (71.3)	190 (66.2)
Gender***			
Male	55 (29.9)	84 (42.2)	70 (36.8)
Female	129 (70.1)	115 (57.8)	113 (59.5)
No response	-	-	7 (3.7)
Age Distribution			
20-24yrs	108 (58.7)	106 (53.3)	84 (44.2)
25-29yrs	59 (32.1)	70 (35.2)	67 (35.3)
30-34yrs	8 (4.3)	13 (6.5)	21 (11.1)
35-39yrs	6 (3.3)	6 (3.0)	12 (6.3)
≥40yrs	3 (1.6)	4 (2.0)	6 (3.2)
Race/Ethnicity			
Caucasian	124 (69.4)	122 (61.3)	108 (56.8)
African American/Black	8 (4.3)	11 (5.5)	12 (6.3)
American Indian/Alaska Native	0 (0)	0 (0)	1 (0.5)
Asian American	29 (15.8)	32 (16.1)	41 (21.6)
Latino/Hispanic	15 (8.2)	17 (8.5)	11 (5.8)
Native Hawaiian/ Other Pacific Islander	0 (0)	3 (1.5)	0 (0)
Other Indicated >1	8 (4.3)	6 (3.0)	5 (2.6)
race/ethnicity	0 (0)	8 (4.0)	12 (6.3)
Country of Birth (US)	155 (84.2)	155 (77.9)	151 (79.5)
Visited/Lived in other country outside US	121 (65.8)	145 (72.9)	128 (67.4)
Speaks language(s) other than English	70 (38)	83 (41.7)	73 (38.4)
Exposure to cultural competency instruction			
(i) In school's curriculum***	49 (26.6)	125 (62.8)	108 (56.8)
(ii) Outside school curriculum	24 (13.0)	24 (12.1)	19 (10.0)

***Significantly different between the 3 years ($p < 0.0001$)

these disparities. For this subscale, a sixth option of “don’t know” was included on the scale and assigned a value of zero. Including this option enabled participants provide an appropriate response to factors about which they had no knowledge. While there was no significant difference between the 3 classes, mean scores were higher than the mid-score of 36 used as the reference (the expected score if respondents indicated “3” for all factors).

To assess cultural competence, 12 common socio-cultural issues and 12 cross-cultural scenarios that pharmacists as health care providers may encounter in practice were listed in subscales B and C, respectively. Respondents were asked to rate how skilled they considered themselves in dealing with the issues and how comfortable they presently felt in handling each of the scenarios. With a potential maximum score of 60 for each subscale (ie, a response of “5” for all 12 items listed), the difference in mean scores between the 3 classes was not significant for either subscale (Table 4).

Scores for the 3 items assessing self-awareness were summed up, and mean scores were significantly higher for 2012 (12.4) compared to 2010 and 2011 (11.8 for each year respectively, $p=0.017$; Table 4). Two items (subscale D-III) assessed respondents’ attitude to health care professionals receiving relevant training in cultural competency. The mean scores for 2011 and 2012 (8.0 for each year respectively) though slightly higher than 2010’s (7.8) was not significant ($p=0.30$).

Subscale E (3 items) assessed how much training participants had in cultural diversity prior to pharmacy school, within pharmacy school curriculum, and outside pharmacy school curriculum. The mean score was the same

for 2011 and 2012 (8.3) and significantly higher than 2010’s (5.6; $p<0.05$). Few respondents (similar proportions in all 3 years) reported that they had been exposed to cultural competency instruction outside the school curriculum (Table 3). Most students who indicated they had external exposure described it as training received while working at a retail pharmacy as interns. Other forms of exposure outside the school curriculum included orientation for medical outreach to developing countries, training in the military, other work-related trainings, and health fairs.

The proportion of respondents from 2011 and 2012 (62.8% and 56.8%, respectively) who reported having some exposure to cultural competence instruction in the school curriculum was significantly higher than that of respondents in 2010 (26.6%). The course most frequently reported in 2010 as a source of relevant exposure was Global Health, an elective course. In the following 2 years, it was Professional Communications in Pharmacy Practice, the course with the additional content described earlier (Table 5).

Demographic variables associated with cultural competency skills and knowledge of health disparities were identified using multivariate regression analyses (Table 6). Students who indicated they had some formal training in cultural competency outside the school curriculum were significantly more knowledgeable than those who didn’t about the relevant subject areas addressing health disparities and the contributory factors. Formal training in cultural competency outside the school curriculum was also associated with being more skilled in dealing with socio-cultural issues and being more comfortable in handling cross-cultural situations (Table 6). Respondents from minority groups had significantly higher scores for skills

Table 4. Comparing Means of Scores by Year of Survey

Subscales	2010	2011	2012
	Mean (SD)		
Knowledge of health disparities ¹ (max=40; $p=0.030^b$)	21.4 (4.5)	20.8 (5.1)	22.1 (4.6)
Skills in dealing with socio-cultural issues ² (max=60; $p=0.177$)	36.9 (9.0)	35.8 (7.9)	37.4 (8.6)
Comfort level in dealing with cross-cultural counters/situations ² (max=60; $p=0.259$)	35.4 (8.4)	34.7 (7.7)	36.1 (8.7)
Factors contributing to health disparities ¹ (max=60; $p=0.503$)	44.0 (7.3)	43.2 (8.5)	43.0 (9.4)
Self-awareness of racial/ethnic identity, stereotypes, biases, and prejudices ² (max=15; $p=0.017^{b,c}$)	11.8 (2.5)	11.8 (2.7)	12.4 (2.5)
Attitude to cultural competency training in curriculum ² (max=10; $p=0.300$)	7.8 (2.0)	8.0 (1.8)	8.0 (1.8)
Previous training in cultural diversity ² (max=15; $p=0.021^{a,c}$)	7.6 (2.6)	8.3 (2.7)	8.3 (2.6)

¹ Subscale associated with Knowledge of Health Disparities

² Subscale associated with Cultural Competency Skills

^a 2011 vs 2010; ^b 2012 vs 2011; ^c 2012 vs 2010

Table 5. Exposure to Cultural Competency Instruction in the School Curriculum

	2010 (n=184)	2011 (n=199)	2012 (n=190)
Number of Respondents	Frequency (%)		
<i>Question:</i> Have you been exposed to cultural competence and health disparities instructions in your school’s curriculum? Response=Yes			
Number of courses specified	49 (26.6)	125 (62.8)	108 (56.8)
1 course	29 (15.8)	83 (41.7)	55 (28.9)
2 courses	4 (2.2)	10 (5.0)	20 (10.5)
3 courses	1 (0.5)	-	2 (1.1)
Not stated	15 (8.2)	29 (14.6)	30 (15.8)
“Can’t remember”	-	3 (1.5)	1 (0.5)
Courses specified			
Global Health Elective ^b	18	35	16
Professional Communications in Pharmacy Practice ^a	4	42	48
Pharmacotherapy ^a	7	6	1
Introduction to Pharmaceutical Care ^a	2	11	17
Introductory Pharmacy Practice Experience ^a	-	3	6
Travel medicine ^b	-	-	6
Law & Ethics ^a	-	-	3
Others ^c	6	2	-

^a core course; ^b elective; ^c not offered in the college of pharmacy

in dealing with socio-cultural issues ($p<0.05$) and self-assessed comfort levels in dealing with cross-cultural encounters compared to Caucasian respondents ($p<0.05$). The former were also more aware than Caucasians of their own cultural identity, their own cultural stereotypes, and their biases and prejudices. Their scores also indicated a higher appreciation of the need for health professionals to receive training in cultural competence, as did scores of female respondents compared to male respondent scores. Respondents more than 24 years old reported higher levels of comfort in dealing with cross-cultural encounters (Table 6).

DISCUSSION

The demographic characteristics in all 3 years were similar except for gender and the age distribution (Table 3). In terms of gender, female students were consistently in the majority but varied in proportion. This was consistent with the actual class demographics (Table 7). The majority of the respondents in 2012 were more than 24 years old (55.8%), in contrast to 2010 and 2011 (41.3% and 46.7%, respectively). NonCaucasian students were in the minority in all 3 years of the survey, which is also consistent with the actual distribution in each class (Table 7). About 4% of respondents in 2011 (n=8) and 6.3% (n=12) in 2012 indicated more than one racial/ethnic group. This suggests that the current race/ethnicity categories may be inadequate in differentiating subgroups within the US population.

For most of the subscales addressing knowledge of health disparities and cultural competency skills, higher

scores were consistently associated with having some training outside the pharmacy school curriculum. Most of the respondents who reported they had some cultural competency training outside the school curriculum specified it as work-related training (usually internship in a retail pharmacy setting). These findings demonstrate that relevant training increases knowledge and improves skills in dealing with cross-cultural encounters. Exposure to cultural competency instruction within the school curriculum was not associated with knowledge of health disparities or skills in cultural competency. This suggests that the measure of these components

Table 6. Demographic Correlates of Subscales for all Respondents

Subscales	Demographic Correlates ($p<0.05$)
Knowledge of health disparities	Exposure outside school curriculum
Skills in dealing with socio-cultural issues	Race/ethnicity (minority) Exposure outside school curriculum
Comfort level in dealing with cross-cultural encounters	Race/ethnicity (minority) Exposure outside school curriculum Age (>24 years old)
Self-awareness	Race/ethnicity (minority)
Importance of cultural competency training	Sex (Female) Race/ethnicity (minority)

Table 7. Demographic Characteristics of Third-year Classes Surveyed at Year of Enrollment

	3PD 2010 (n= 302)	3PD 2011 (n= 302)	3PD 2012 (n= 292)
	Frequency (%)		
Race/ethnicity			
African American/Black	14 (4.6)	17 (5.6)	18 (6.2)
Asian American	42 (13.9)	56 (18.5)	70 (24.0)
Hispanic	26 (8.6)	44 (14.6)	29 (9.9)
Caucasian/White	169 (56.0)	168 (55.6)	165 (56.5)
Other	51 (16.9)	17 (5.6)	10 (3.4)
Gender			
Male	109 (36.1)	129 (42.7)	120 (41.1)
Female	193 (63.9)	173 (57.3)	172 (58.9)
Residential Status			
Residents	298 (98.7)	296 (98.0)	289 (99.0)
Nonresidents	4 (1.3)	6 (2.0)	3 (1.0)
Having a BS/BA	131 (43.4)	147 (48.7)	140 (47.9)
School admitted from University of Florida	133 (44.0)	151 (50.0)	116 (39.7)

currently incorporated in the school curriculum may not be sufficient.

Respondents from racial/ethnic minority groups had higher scores for cultural competency skills but not for knowledge of health disparities. Their self-perceived ability to effectively deliver care in a culturally responsive manner and self-reported cultural awareness were associated with speaking a language other than English and having lived in or visited countries outside the United States. These students were likely to have had more exposure to other cultures and more extensive interaction with people from diverse cultural backgrounds. Respondents from minority groups were also more inclined to rate training in cultural competence for health care providers as “very important.” This endorsement may be a result of their personal experiences operating in a health care system the workforce of which is mostly from the majority (ie, white non-Hispanic).

The mean scores for knowledge of relevant subject areas in health disparities (subscale A) were significantly higher in 2012. However, the mean scores in all 3 years fell below the mid-point of 24, indicating that students were on the average only minimally knowledgeable about health disparities (Table 4). Mean scores for subscales B and C were not significantly different. These scores were approximately at the mid-score of 36, meaning students generally assessed themselves to be moderately skilled in dealing with socio-cultural issues and to be moderately comfortable dealing with cross-cultural encounters (Table 4). This suggests that there is room for students to improve in these skills with the potential to deliver more competent care to culturally diverse patient populations.

Respondents rated most factors listed in subscale D-I as being more than moderately important in contributing to health disparities; mean scores for each year were

higher than the mid-point of 36 (Table 4). Factors with the highest frequencies of the option “don’t know” checked were classism (9.1% of all respondents) and ableism (28.8%). Choosing this option likely indicated a lack of knowledge of what those terms mean.

The 3 items assessing self-awareness each had median scores of 4 for each year, meaning students rated themselves as being quite aware of their identity, cultural stereotypes, biases, and prejudices. Higher mean scores in 2012 indicate an increase in awareness. Mean scores for subscale D-III (7.8, 8.0, and 8.0, respective to each year) demonstrate that respondents in all 3 years appreciated the need for health care professionals to have training in cultural diversity and multicultural health care (Table 4).

Only 21.1% (42) and 25.3% (48) of the respondents in 2011 and 2012, respectively, mentioned the communications class as having a component of cultural competency and health disparities instruction. This course was a core requirement for the class and included material that explicitly addressed these subject areas. The additional content, however, was only a small portion of the course, which addressed several other competencies.

The lack of significant improvement by the students surveyed in 2011 and 2012 over the first class surveyed in 2010 in some of the domains measured suggests that the instructional materials, lectures, and laboratories students were exposed to may not have been sufficient to equip them with the competencies. An assessment of similarly limited exposure using a variety of educational strategies at the University of Pittsburgh School of Pharmacy also found that while there were some positive changes in cultural awareness and relevant skills with each strategy, cultural competency was not significantly enhanced.²⁹ An effective strategy incorporates relevant topics and

skill-based activities in a systematic manner across the pharmacy curriculum with content and specific objectives in each year building upon those of the previous year.³⁰ Using this approach at Drake University, the majority of students surveyed at the end of the PharmD program were found to be culturally aware (72%) and 27 % assessed to be culturally competent.

In this study, courses mentioned as sources of exposure to cultural diversity were core requirements like Pharmacotherapy and Introduction to Pharmaceutical Care (Table 5). This suggests that content related to cultural diversity and information on health disparities are being included in various courses. It is important, however, to evaluate how effectively this is being done as most students surveyed did not seem to be cognizant of this relevant content. More importantly, students may not be acquiring the skills intended by including these components in the curriculum.

In addition to integrating relevant topics and skills across the pharmacy curriculum, Poirier et al showed that having a required course entirely focused on enhancing cultural competency improved cultural competency among pharmacy students.¹⁸ They developed a 3-credit course that used a team-based learning approach. The specific objectives of the course included increasing knowledge of cultural differences and health disparities, enhancing self-awareness of biases and cultural sensitivity, and developing skills and strategies to give patient care in a culturally responsive manner. Comparing precourse and postcourse assessments of the students indicated significant progress towards achieving cultural competency.

Findings from this study are not without limitations. The survey was conducted independent of the course curriculum development. Items on the survey were not directly correlated with the learning objectives of the lectures or the course; in other words, this study was not a direct assessment of outcomes of the additions to the curriculum. Therefore, changes in awareness, knowledge, and cultural competency skills may not be exclusively attributed to these additions. Participation in the survey was voluntary, hence the potential for selection bias. Also, the instrument used to conduct this survey assessed students' self-perception of cultural competency on the assumption that this is correlated with actual competency.

CONCLUSION

Our findings suggest that current efforts to incorporate cultural competency and health disparities instruction into the pharmacy curriculum has yielded some positive results, but has not yet achieved the desired objective: to adequately equip pharmacy students with knowledge of health disparities and skills in delivering culturally competent care to diverse patient populations. Findings from

this research raise a question about what level of culturally competency and how much knowledge about health disparities are pharmacy students expected to have on completion of the professional training. The 2016 ACPE Standards and Guidelines and the 2013 CAPE Educational Outcomes provide more clearly defined expectations and outcomes of relevant instruction. While these will help guide efforts in this area, continued monitoring and evaluation is needed. This will ensure that the proposed standards are met and help identify the most effective ways of integrating these elements into pharmacy curricula. Further research in this relatively new area in pharmacy education is needed. The sharing of best practices is encouraged. This study is part of ongoing efforts to foster didactic and experiential curricula that adequately prepare pharmacists to provide culturally responsive care and ultimately help reduce health disparities in the United States.

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