Pharmacy student actual and perceived knowledge of issues related to underserved populations across the pharmacy curriculum

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INTRODUCTION

Medically underserved populations (MUPs) generally have difficulty accessing health care secondary to a variety of economic, social, cultural, and/or linguistic barriers. MUPs are vulnerable to health disparities, resulting in poor health outcomes. [1] The Institute of Medicine has encouraged health professions curricula to address social, cultural, and other factors that impact patient care as a strategy for elimination of health disparities in the United States. [2] Because pharmacists are in an important position to eliminate health disparities, recent accreditation standards and guidelines for pharmacy education have encouraged longitudinal implementation of this content throughout the curriculum. [3,4] The purpose of this study is to help faculty at the University of Pittsburgh School of Pharmacy identify gaps in student knowledge of MUPs in order to guide future curricular improvements.

METHODS

- All currently enrolled student pharmacists at the University of Pittsburgh School of Pharmacy were eligible to participate
- Students were evaluated using the Underserved Knowledge Assessment, a survey modified from Wieland et al. [5]
- The survey included 10 demographic questions, 13 questions investigating perceived knowledge, and 20 multiple-choice knowledge questions
- Actual knowledge comparisons were analyzed using a 2 sample t-test or 1-way analysis of variance
- Concordance between actual and perceived knowledge was determined using the Pearson correlation test of independence

References
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RESULTS

Demographic Characteristic (N=208)	Number (%) of respondents	Actual knowledge (% correct ± SD)	P value
Sex			**.06**
Male	67 (32)	49.0 ± 20.7	
Female	141 (68)	55.3 ± 17.7	
Age			**.64**
0-25	194 (93)	53.4 ±18.7	
25-30	10 (5)	50.0 ±25.7	
30-40	4 (2)	46.3 ± 11.1	
Year			**.003**
P1	54 (26)	53.2 ± 19.9	
P2	46 (22)	55.3 ± 18.6	
P3	52 (25)	59.2 ± 16.5	
P4	56 (27)	46.1 ± 18.3	
Race			**.81**
White	179 (86)	53.3 ± 19.3	
African American	5 (2)	62.0 ± 10.4	
American Indian	1 (1)	45.0	
Asian	16 (8)	49.4 ± 17.4	
Hispanic or Latino	3 (1)	51.7 ± 25.7	
Other	4 (2)	58.8 ± 14.9	
Parental annual Income			**.32**
>$100,000	55 (26)	52.8 ± 19.4	
$50,000 - $100,000	112 (54)	55.1 ±18.3	
$25,000 - $50,000	34 (16)	49.1 ± 18.4	
<$25,000	7 (4)	47.1 ±24.8	
Parental education level			**.31**
Did not finish high school	1 (1)	65.0	
High school diploma or equivalent (i.e. GED)	18 (9)	52.8 ± 16.9	
Some college but no degree	14 (7)	43.6 ± 24.2	
Two year college degree	21 (10)	49.3 ± 22.5	
Four year college degree	83 (40)	55.1 ± 17.5	
Post college graduate	71 (34)	54.2 ± 18.5	
Geographic area			**.45**
Large city	5 (2)	51.0 ± 14.3	
Small city	18 (9)	46.4 ± 22.7	
Suburb	105 (50)	54.4 ± 18.9	
Small town	48 (23)	51.9 ± 19.4	
Rural area	32 (15)	55.9 ± 16.2	

RESULTS

- Response rate was 48% (208 surveys were completed)
- Students generally felt only somewhat confident in their knowledge of MUPs (69% somewhat and 18% not at all confident)
- Average score overall was 53.3% (10.6/20)
- Actual knowledge scores improved across the first three years (P1 – 53.2%, P2 – 55.3%; P3 – 59.2%) but decreased in the fourth year (46.1%)
- Third professional year students scored significantly higher than fourth professional year students overall (59.2% vs. 46.1%, P=.003)
- Fourth year students showed poorer performance overall (P4 – 44.7%; P1 – 52.1%, P=.17; P2 – 53.6%, P=.09; P3 – 58.9%, P=.001)
- Scores did not differ significantly by any demographic characteristics including sex, age, race, parental income, parental education level, or geographic area
- Those who wanted to be involved in caring for the underserved scored significantly higher (P=.001) than those who did not

CONCLUSIONS

Actual and perceived knowledge were generally low, suggesting that students may lack awareness of some cultural and socioeconomic factors affecting MUPs. These gaps may be addressed through changes in the curriculum. At the University of Pittsburgh School of Pharmacy, students receive lectures related to health disparities and public health during the first two professional years. They are exposed to experiences with MUPs across the curriculum through service learning. However, curricular and practice outcomes do not specifically address MUPs. It may be important to more clearly define skills through outcomes specifically addressing underserved populations in order to further increase awareness and promote commitment to serving those in need.