



Assessing change in Opioid Overdose Knowledge Scale (OOKS), Opioid Overdose Attitudes Scale (OOAS) and Drugs and Drug Problems Perceptions Questionnaire (DDPPQ) scores amongst multidisciplinary healthcare students at two academic institutions



Morgan L. Karrels, PharmD Candidate 2020¹; Amanda L. Colistro, PharmD Candidate 2020¹; Alyssa M. Peckham, PharmD, BCPP¹
¹College of Pharmacy-Glendale, Midwestern University, Glendale, AZ

Background

- In 2017, the opioid epidemic was declared a "public health emergency" prompting the release of a 5-point strategy to combat the opioid crisis
- This strategy identified healthcare providers as key players to prevent, detect, and mitigate future opioid abuse and misuse
- Formal opioid epidemic didactic education is absent at both Midwestern University campuses in Glendale, AZ and Downers Grove, IL; though education about opioids and risk of addiction is present throughout
- Education specific to the opioid epidemic is essential for healthcare students to learn prior to entering the workplace

Objective

- To assess the change in multidisciplinary healthcare student knowledge, attitude, and perceptions related to the opioid epidemic at two academic institutions via OOKS, OOAS, and DDPPQ.

Opioid Overdose Knowledge Scale (OOKS)

Opioid Overdose Attitude Scale (OOAS)

Drug and Drug Problems Perceptions Questionnaire (DDPPQ)

Methods

- Two campus-wide mandatory courses were used to administer the surveys to all first-year students enrolled in the Interprofessional One Health courses
- Survey responses were anonymous, responses were not matched

Week 1

- Students were electronically administered the demographic questionnaire, OOKS, OOAS, and DDPPQ

Week 2

- Students viewed a 60-minute educational webinar about the opioid epidemic, opioid overdose, naloxone use, and mitigation strategies for healthcare professionals

Week 6

- Students were electronically re-administered the demographic questionnaire, OOKS, OOAS, and DDPPQ

- Dichotomous variables analyzed using Pearson's chi-square or Fisher's exact test
- Continuous variables analyzed using Mann Whitney U
- Logistic regression analysis was performed for select DDPPQ questions.
- p-value < 0.05 determined statistical significance. SPSS Version 25 (IBM SPSS Statistics, Armonk, NY) was used for all statistical analysis.

Award Finalist	Grant Funding	Other Financial Support
CPNP Foundation Strategic Goals Award Morgan L. Karrels	CPNP Foundation Defining the Future Research Grant Awarded to Amanda L. Colistro	Midwestern University Office of Research & Sponsored Programs Student Travel Grant Awarded to Morgan L. Karrels

Demographic Information

Figure 1. Participants by Campus

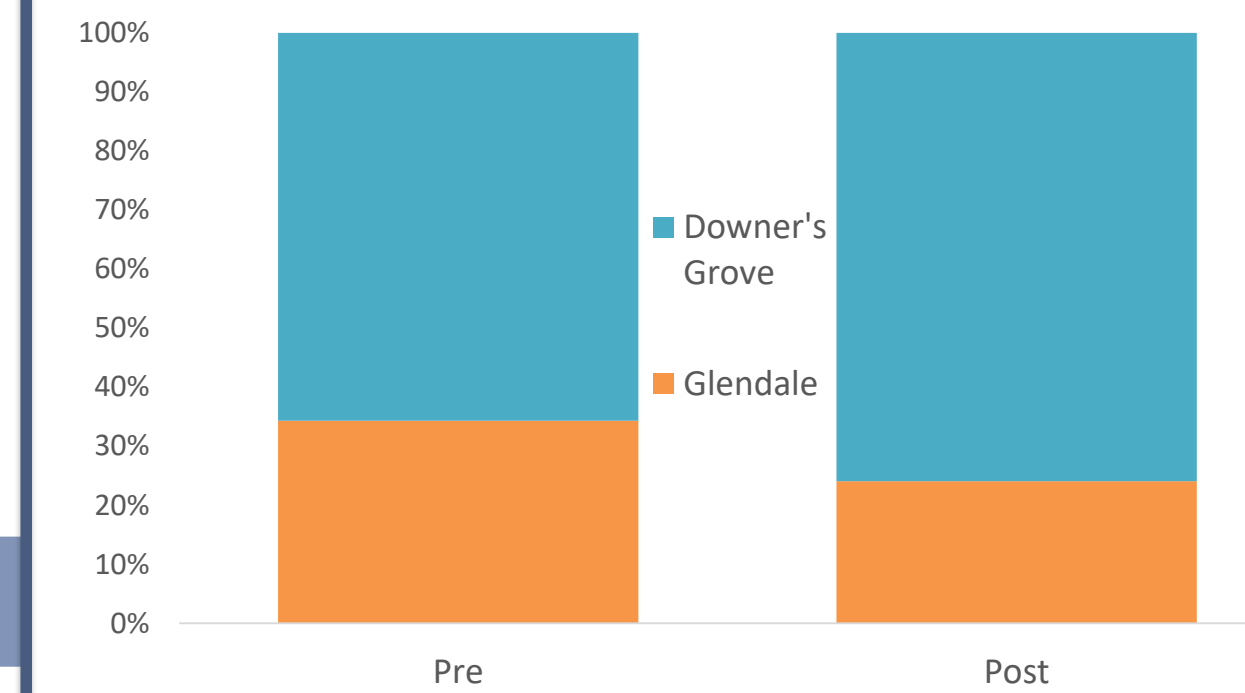
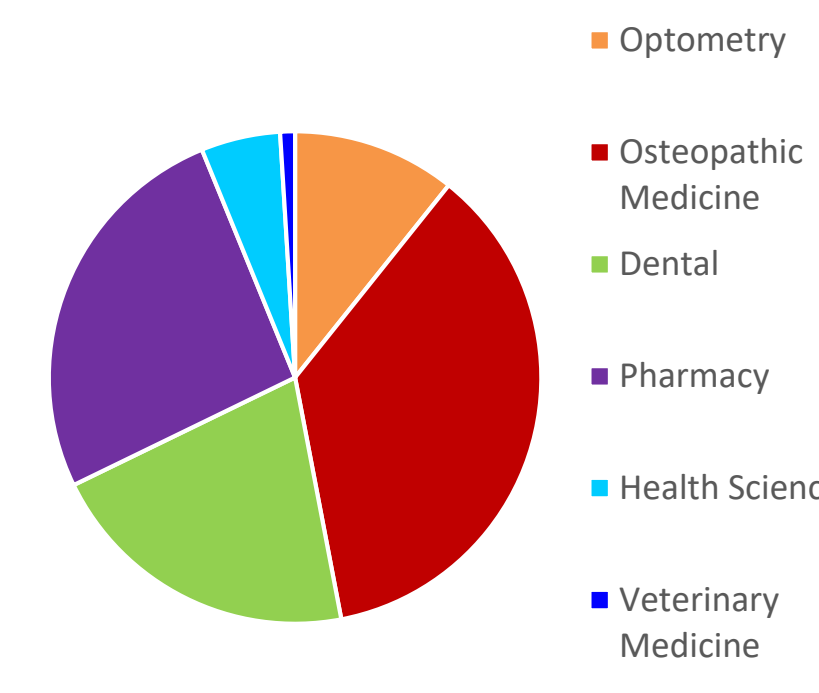


Figure 2. Participants by College



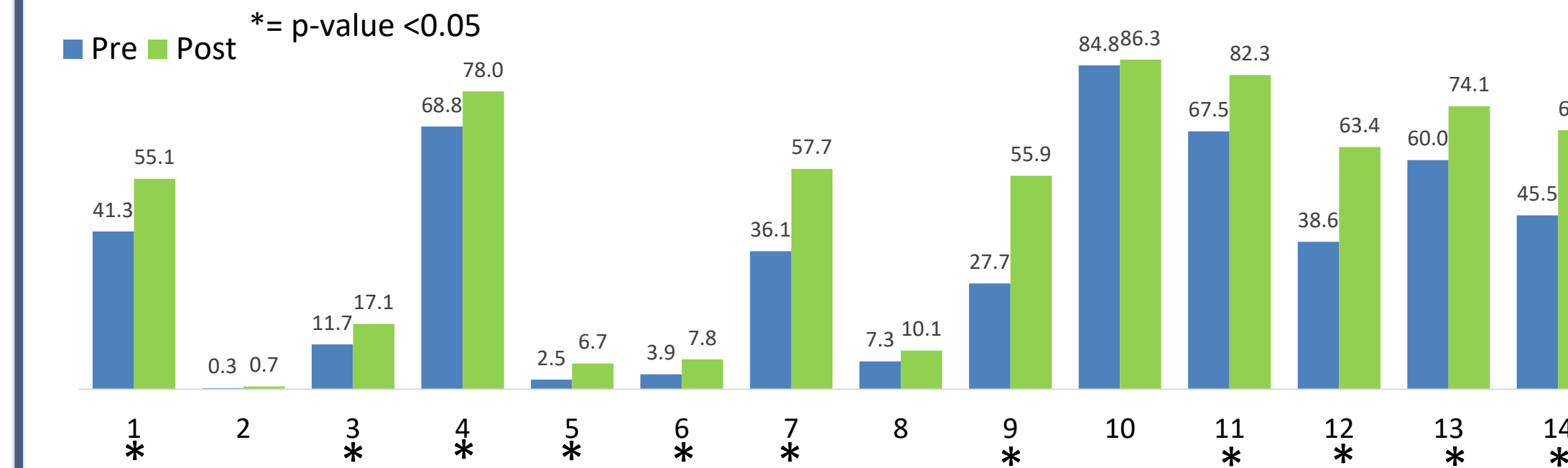
Of an estimated 2,169 students, we received 912 pre-assessment responses. Downer's Grove represented ~66%.

Of the 912 responses, we received 615 post-assessment responses (67% response rate) Downer's Grove represented ~76%.

Both assessments were dominated by Osteopathic, Pharmacy, and Dental students (79% of pre- and 83% of post-assessment)

OOKS

Figure 3. Changes in OOKS for Entire Sample Population (% answered correctly)



Significant Improvement
 • 11 out of 14 questions displayed statistically significant improvement

Significant Improvement, Poor Performance
 • #3: manage an overdose
 • #5: routes of naloxone administration
 • #6: site of non-expert naloxone administration

No Significant Improvement
 • #2: ability to identify symptoms of an overdose
 • #8: naloxone duration of action
 • #10: need to call an ambulance

Results

OOAS

Of the 28 questions asked, 16 displayed significant improvement

- 11 of the remaining 12 showed adequate performance

One question that collectively did not improve

- Ability to perform mouth-to-mouth resuscitation

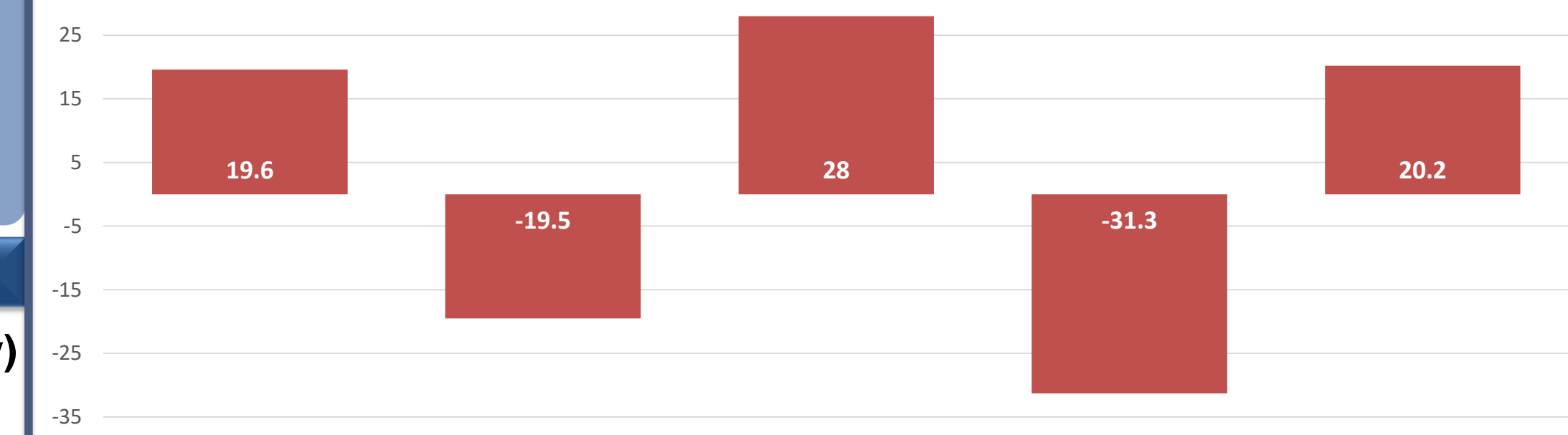
Attitude improvement on positively worded questions:

- I am already able to inject naloxone to someone who has overdosed
- During overdose, I know what to do
- I would be able to deal effectively with an overdose

Attitude improvement on negative worded questions:

- I am going to need more training before I would feel confident helping someone who had overdosed
- I know very little about how to help someone who has overdosed

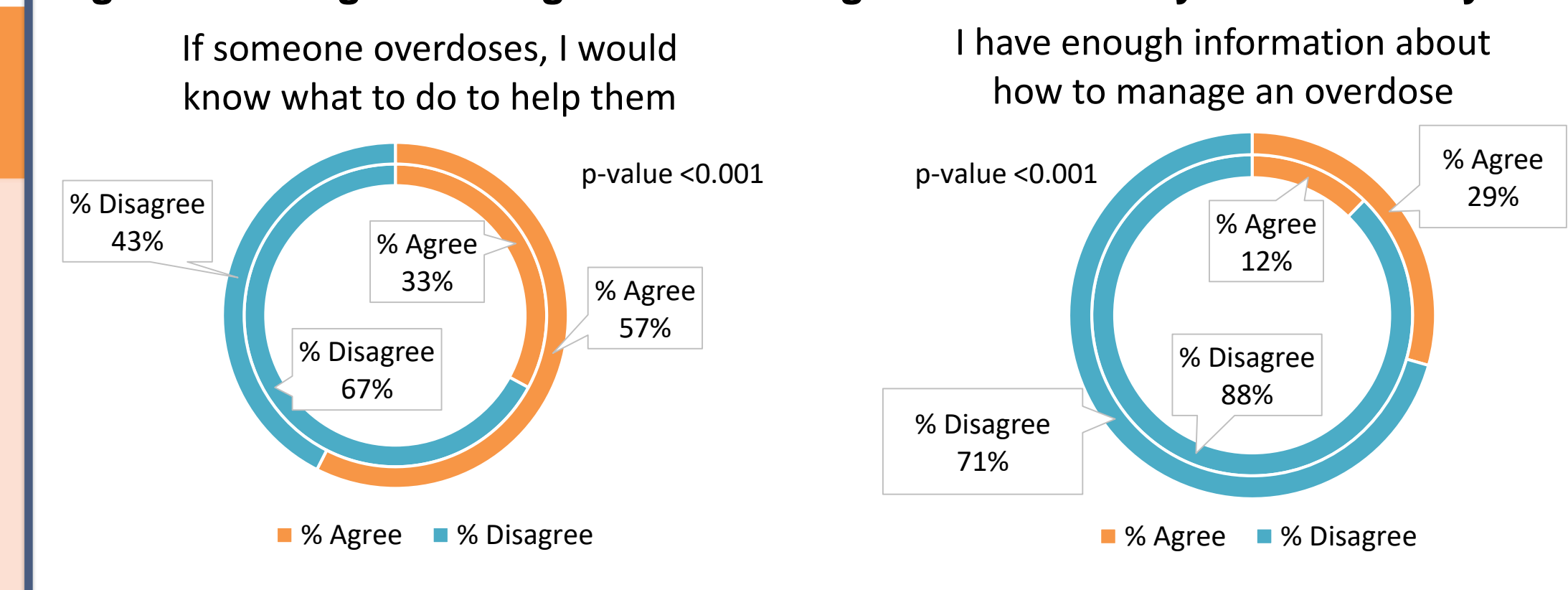
Figure 4. Questions with Most Significant Improvement (Change in % Agree)



Overall, students felt more prepared to handle an overdose situation, and became more in favor of "Good Samaritan" naloxone use

When separated by college, pharmacy students showed the most improvement in attitudes

Figure 5. Changes in % Agree vs. % Disagree for Pharmacy Students Only



Conclusion

- In the absence of targeted education, multidisciplinary healthcare students have less knowledge, poorer attitudes, and negative perceptions about opioids, opioid use disorder, naloxone use, and mitigation strategies
- Incorporating opioid epidemic/overdose & naloxone use education into the curriculum of all healthcare professionals enhanced knowledge and shifted attitudes/perceptions to be more positive for some students only
- It is anticipated that improvement in knowledge, attitudes, and perceptions will lead to better outcomes in our ongoing battle to combat the opioid epidemic; though tailored education is required for some disciplines

DDPPQ

- 75% improvement observed in students' perception of working with/treating patients with opioid use disorder, specifically a better understanding of their role and ability to counsel
- Again, pharmacy students showed the most significant change from baseline

Figure 6. DDPPQ Questions with Most Significant Improvement, Pharmacy

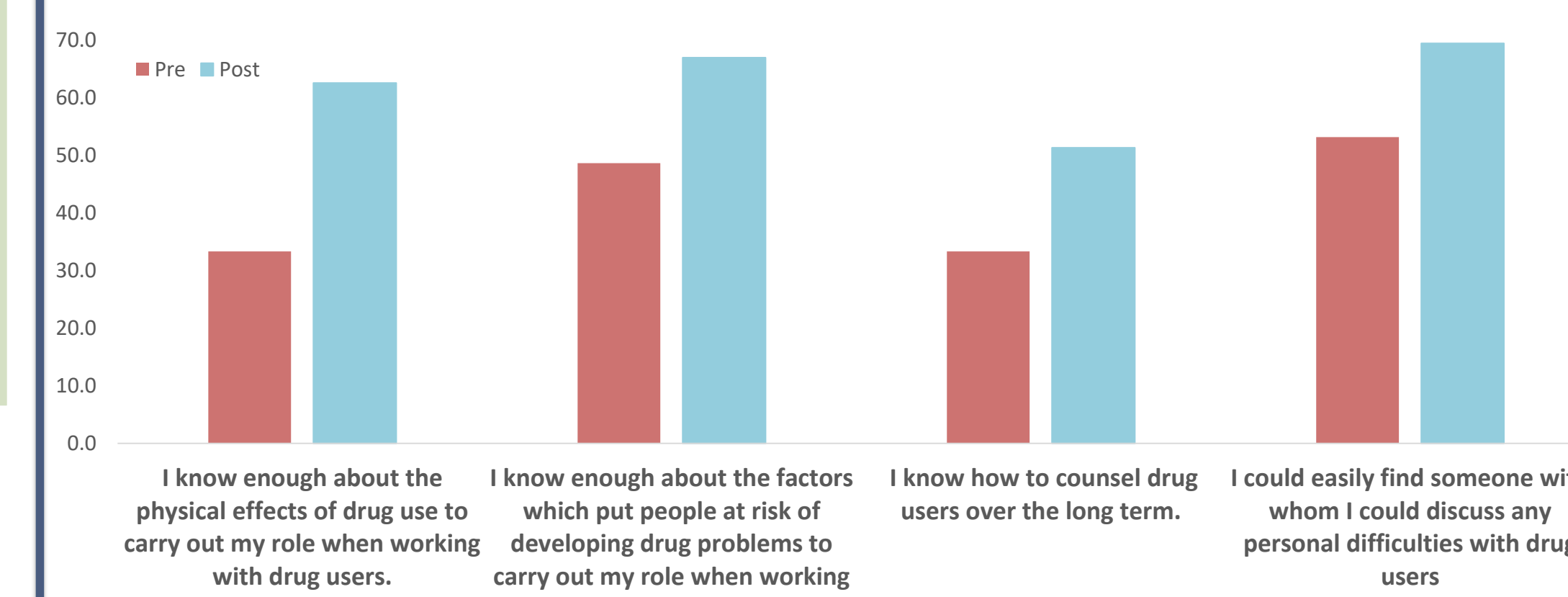


Table 1. Logistic Regression Analyses of Pharmacy Students on select DDPPQ

	OR	95% CI		OR	95% CI
I feel I can appropriately advise patients about opioids and their effects	2.19	1.71 – 2.80	I feel I have the right of ask patients about their opioid use when necessary	0.65	0.50 – 0.84
Pharmacy students vs. other students			Pharmacy students vs. other students		

Pharmacy students were 2 times more likely to feel they can appropriately counsel their patients; however, other students were 1.5 times more likely to initiate the conversation

Summative Interpretation

Table 2. Summary of Each Assessment by Overall Sample, Campus, & College

	OOKS	OOAS	DDPPQ
Sample	Overall improvement	Overall improvement	Overall improvement
Campus	Similar overall improvement	Glendale > Downers Grove	Glendale > Downers Grove
College	Osteopathic, Pharmacy, and Dental significantly improved	Osteopathic Medicine and Pharmacy significantly improved	Osteopathic Medicine, Optometry, and Pharmacy significantly improved

