



# Pharmacy Students' Perception and Attitudes Towards Opioid Overdose and Naloxone Rescue Therapy

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## BACKGROUND AND OBJECTIVE

**Background:**

- In 2015, accidental death due to drug overdose was the leading cause of death in the United States (n=52,404) <sup>1</sup>
- Of the lethal dose cases, prescription pain reliever (opioids) overdose cases were the most prevalent with 20,101 reported cases <sup>2</sup>
- Naloxone is a competitive  $\mu$ -receptor antagonist and reverses respiratory depression caused by opioid overdose. Due to this property, it is the primary opioid reversal agent used in overdose cases, whether intentional or accidental <sup>3</sup>
- On December 7, 2015, the New York City Department of Health and Mental Hygiene approved licensed pharmacists to dispense naloxone without a prescription ("standing order") <sup>4</sup>
- With the new regulation, it is essential that pharmacists are able to identify high risk patients, recommend naloxone to these patients, and educate and counsel patients, caregivers, and other healthcare professionals regarding opioid overdose and naloxone therapy
- Touro College of Pharmacy New York mandated Doctor of Pharmacy Students, professional years 2,3, and 4 (P2,3,4) to complete online training on naloxone therapy and opioid overdose in response to the new regulation

**Objective:**

- To investigate pharmacy students' perception and attitudes towards opioid overdose and dispensing naloxone rescue therapy without a prescription

## STUDY DESIGN

**Study Design and Statistics:**

- Pre- and post survey study
- Paired t-test was used to compare pre and post survey data and chi-squared tests were used to compare subgroups

**Inclusion criteria:**

- Students at Touro College of Pharmacy (TCOP) currently enrolled in P2,P3, or P4 years, who were required to complete mandatory online training provided by the Pharmacist's Letter<sup>®</sup> ("Naloxone Rescue Therapy for Opioid Overdose")
- Professional year 1 (P1) students were excluded because they were not required to complete the mandatory online training

**Procedure:**

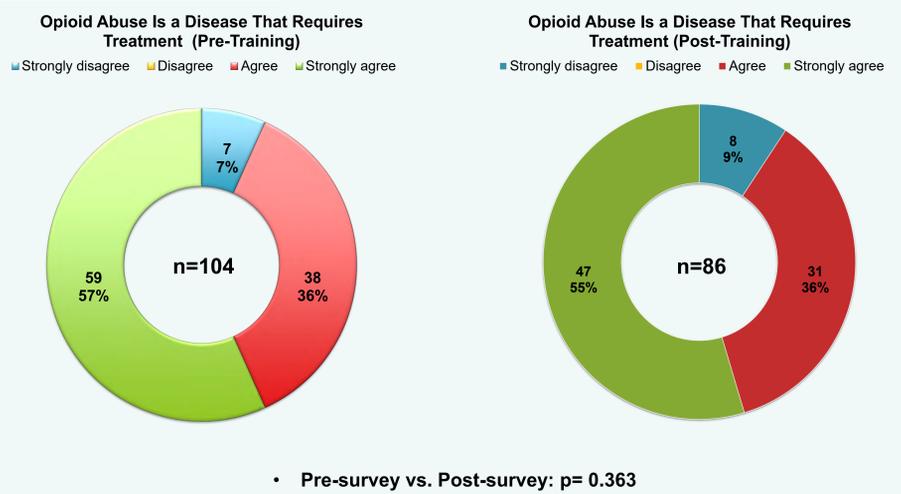


## STUDY RESULTS

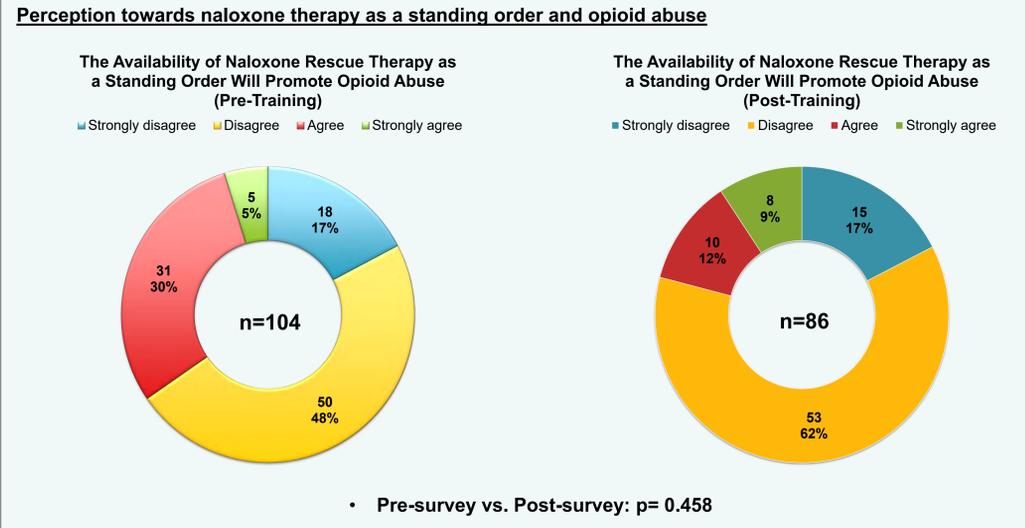
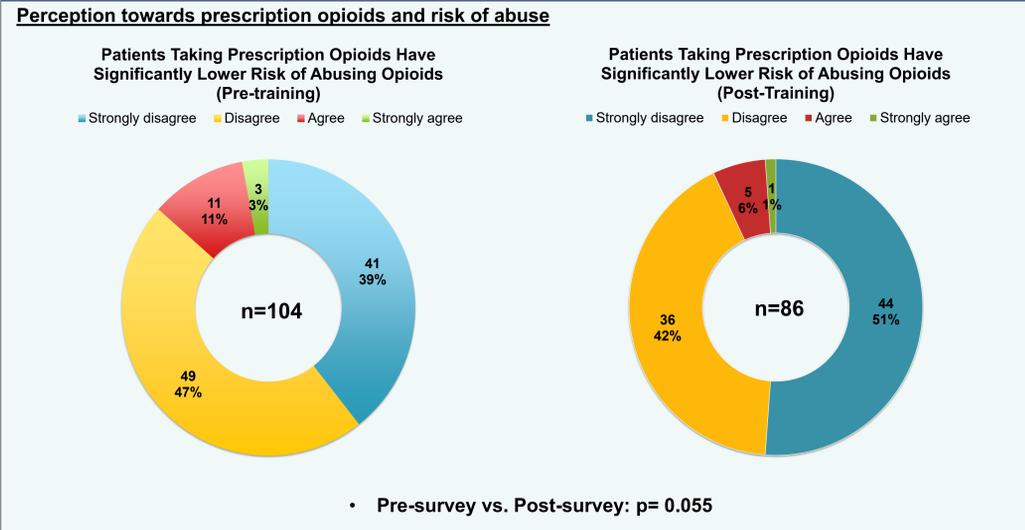
**Demographics**

- The majority of the participated students were female, between the age of 26-30, and worked in community pharmacy settings.

### Perception towards opioid abuse



## STUDY RESULTS



**Attitudes towards naloxone rescue therapy kit (Post-Training)**

Questions Asked: Compared to Pre-training,	Graduation Year		
	2017 (P4)	2018 (P3)	2019 (P2)
<b>How confidently can you identify patients who are at risk of opioid overdose? **</b>			
Very not confident	3	0	0
Not confident	6	1	8
Confident	26	15	18
Very confident	2	4	1
<b>How confident are you with educating patients and their caregivers about opioid overdose and naloxone rescue therapy? †</b>			
Very not confident	2	0	0
Not confident	7	3	5
Confident	27	12	18
Very confident	1	5	4
<b>How confident are you with educating other healthcare professionals about the risk of opioid overdose and naloxone rescue therapy? †</b>			
Very not confident	2	0	0
Not confident	9	1	6
Confident	26	15	18
Very confident	0	4	3
<b>How comfortable do you feel recommending and dispensing naloxone rescue therapy to the patient or to his/her caregiver, if you encountered a patient with an opioid prescription? †</b>			
Very uncomfortable	3	0	0
Uncomfortable	6	3	5
Comfortable	25	13	18
Very comfortable	3	4	4

## STUDY RESULTS

**Attitudes towards naloxone rescue therapy kit (Post-Training) – Cont'd**

Questions Asked: Compared to Pre-training,	Graduation Year		
	2017 (P4)	2018 (P3)	2019 (P2)
<b>How confident do you feel that you can provide adequate counseling to patients and their caregivers about naloxone rescue therapy? †</b>			
Very not confident	3	0	0
Not confident	6	4	7
Confident	28	10	16
Very confident	0	6	4
<b>How comfortable do you feel about dispensing naloxone rescue therapy without prescription?</b>			
Very uncomfortable	5	0	4
Uncomfortable	7	3	11
Comfortable	23	14	9
Very comfortable	2	3	3
<b>How familiar are you with different naloxone formulations that are available in community pharmacy setting?</b>			
Very unfamiliar	3	0	2
Unfamiliar	7	4	11
Familiar	26	13	13
Very familiar	1	3	1
<b>After completing the training, thinking back to your pharmacy education, do you feel that you had adequate education on opioid overdose, assessing the risk, and the treatment of overdose throughout the curriculum?</b>			
Yes	15	20	21
No	22	0	6

\*p < 0.05 compared pre-survey vs. post-survey.  
 †p < 0.05 (one sided chi-squared test) comparing P4 vs. P3 vs. P2.  
 • Students who worked in community pharmacy settings were significantly more confident with dispensing naloxone rescue therapy without prescription post-training (p= 0.017; 2-sided chi-squared test)  
 • Significantly more male students answered that they feel they've received adequate education on opioid overdose, assessing the risk, and treatment of overdose in the curriculum (p= 0.005; 2-sided chi-squared test)

## DISCUSSION AND CONCLUSION

**Discussion**

- In general, more P4 students felt "confident" in several areas compared to P3 and P2 students.
- Additional training improved students' confidence in identifying high risk patients, and current work experiences may impact students' confidence in dispensing naloxone rescue therapy kit.
- Most students demonstrated appropriate attitude and perception towards opioid overdose and naloxone use pre-training, which may explain why there were no significance changes in their attitudes towards naloxone rescue therapy kit post-training compared to pre-training.
- No additional trainings on this topic was provided in the curriculum at the time of project besides the lectures they had received in the therapeutic courses. It is unclear if students' confidence correlate with their practical skills. Assessment of practical skills during simulation labs or Objective Structured Clinical Examinations (OSCEs) may be helpful in assessing students' confidence and ability to apply the skills in real-life settings.
- About 20% of students believed ready access to naloxone therapy would promote overdose post-training. Whether such perception would affect students' clinical judgement should be explored.
- Study limitations include: different number of response rates between pre and post training surveys, partial completion of surveys, and not assessing the impact of post-test score on the study outcomes.

**Conclusion:**  
 The training via Pharmacists' Letter<sup>®</sup> did not have a significant impact on students' attitudes and perception toward opioid overdose and naloxone rescue kit. However, it improved their confidence in identifying high risk patients, which is an important initial step in clinical assessment. Therefore, given the current opioid epidemic, discussion on whether naloxone training should be included as part of core curriculum in pharmacy education is warranted.

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## DISCLOSURE

Authors of this presentation have nothing to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation.