

# Prevalence of Depressive and Anxiety Symptoms Among Pharmacy Students: Evidence to Support the Need for Optimizing Delivery of Mental Health Resources at a Pharmacy School

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## Background

### What is the problem?

- In the U.S., depression is one of the most common mental health disorders and is often associated with anxiety<sup>1,2</sup>
- The highest rates of depression and anxiety occur during the ages of 18 to 25 and the ages of 18 to 29, respectively<sup>1,2</sup>
  - The average age of students entering the University of Arizona College of Pharmacy (UA CoP) is 25
- While mental health resources are available, barriers to using these resources may exist preventing student utilization

### Why is it important?

- Assessing the prevalence of anxiety and depressive symptoms will allow us to determine the extent of this problem at the UA CoP
- Assessing pharmacy students' barriers to using mental health resources will help the college optimize the delivery of these resources

### What does the literature say about pharmacy students and mental health?

- To our knowledge, few studies have researched the mental well-being of pharmacy students in the United States
- One study found that first-year health professional graduate students had elevated depressive symptoms (41%) and anxiety symptoms (28%)<sup>3</sup>
- Another study found that about 1 in 3 pharmacy residents had PHQ-9 scores which indicated moderate to severe depression ( $p < 0.05$ )<sup>4</sup>

## Objectives

- To assess the prevalence of clinically significant anxiety and depressive symptoms among the first-, second-, and third-year pharmacy students (e.g., Class of 2022, Class of 2021, and Class of 2020, respectively)
- To compare the number of students with clinically significant anxiety and depressive symptoms as the semester progressed per class year
- To describe the barriers to using mental health resources offered by the University of Arizona and the College of Pharmacy

## Methods

### Surveys:

- First-, second-, and third-year pharmacy students were included (IRB approved)
- The survey contained the 9-item Patient Health Questionnaire (PHQ-9), the 7-item Generalized Anxiety Disorder (GAD-7), and demographic/lifestyle questions
- Surveys were distributed in-person during a mandatory class in February and in April
- Data Analysis:
  - GAD-7 and PHQ-9 scores of 10 or more were classified as clinically significant anxiety and depressive symptoms
  - A chi-square test, with a Bonferroni adjusted alpha of 0.0167, compared the number of students with anxiety and depressive symptoms across time

### Focus Groups:

- One male and one female student per class year per campus were accepted as participants (IRB approved)
- Eight probing questions were asked during each focus group
- Focus groups were hosted in-person on each campus in Phoenix and Tucson
- Data Analysis:
  - Recorded statements from the focus groups were categorized based on barrier type and campus location before being counted towards a barrier category

## Results

- Overall, about 30% of students self-reported clinically significant anxiety symptoms and about 22% of students self-reported clinically significant depressive symptoms
- The prevalence of anxiety and depressive symptoms stratified by class year and survey administration can be seen in Figures 1 and 2, respectively
  - More second-year pharmacy students experienced clinically significant anxiety symptoms (GAD-7  $\geq 10$ ) in April compared to February ( $p=0.004$ )
  - More second-year pharmacy students experienced clinically significant depressive symptoms (PHQ-9  $\geq 10$ ) in April compared to February ( $p=0.001$ )
  - There was no difference in the proportion of students who experienced clinically significant anxiety and depressive symptoms across time for first-year and third-year pharmacy students ( $p > 0.0167$ )
- Students' self-reported barriers to using mental health resources stratified by campus can be seen in Table 1

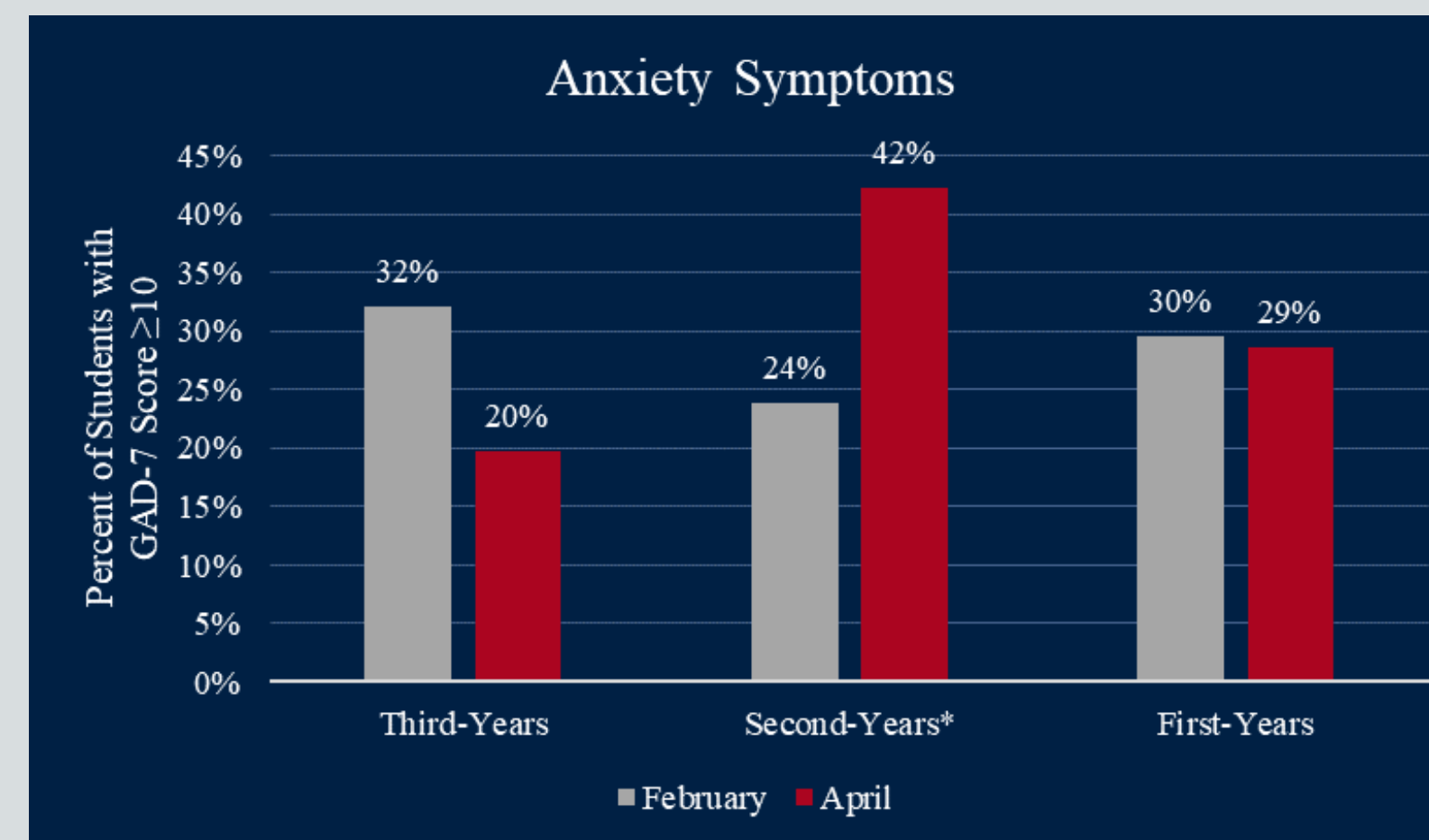


Figure 1: Percent of Students with Self-Reported Clinically Significant Anxiety Symptoms

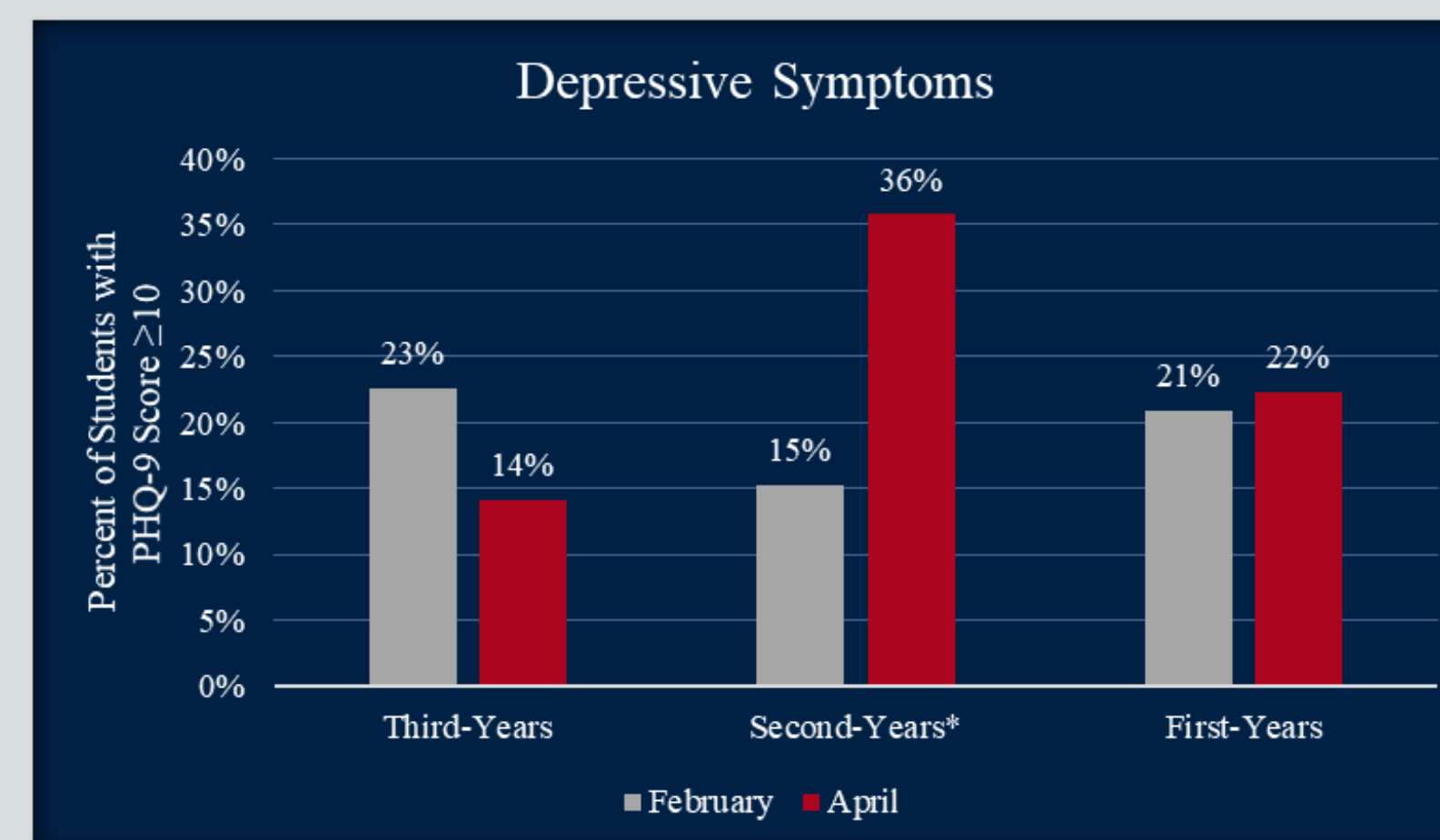


Figure 2: Percent of Students with Self-Reported Clinically Significant Depressive Symptoms

## Results

Table 1. Self-Reported Barriers to Using Mental Health Resources

Barriers to Using Mental Health Resources	Campus	
	Main N=5	Satellite N=2
Limited Time	14	4
Accessibility	10	0
Insufficient Resources	8	5
Stigma Associated with Use	6	3
Unaware of Available Resources	6	7
Cost	3	1

Above shows the number of statements made for each category during the focus groups

## Discussion & Conclusion

- The data revealed that a significant proportion of UA CoP students experience symptoms of anxiety and depression
  - About 1 in 4 pharmacy students have symptoms that are considered moderate to severe in severity for anxiety and depression
- Barriers to using mental health resource were campus specific; therefore, strategies for optimizing delivery of mental health resources will differ based on campus
- Future studies should investigate:
  - Fourth-year pharmacy students
  - The effect of anxiety and depressive symptoms on academic and work performance

## Limitations

- Not generalizable – results are specific to the UA CoP
- Data were only collected for a single semester – unable to capture anxiety and depressive symptoms as students progress through the didactic program
- Curriculum was changed recently – different courses for first years compared to second and third years
- Descriptive study – did not assess what is linked with the anxiety and depressive symptoms or determine causation

## References

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