

Treatment of OSA Using PAP Therapy and its Effects on Anxiety and Depression for Patients in the Central Valley

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BACKGROUND

- OSA affects 23% of individuals worldwide
- OSA has been associated with mood symptoms, primarily depression
- Effects of treatment of OSA on anxiety have not been well investigated
- Rates of OSA and psychiatric illness in the Central Valley are high

METHODS

- Design: retrospective study at University Sleep and Pulmonary Associates
- Inclusion Criteria: Newly diagnosed with OSA between Feb. 2022 and Oct. 2022 and score ≥5 on PHQ-9 and/or GAD-7
- Exclusion Criteria: <18 years old
- Outcomes: PAP therapy adherence, AHI, ESS, PHQ-9 and GAD-7 scores

RESULTS

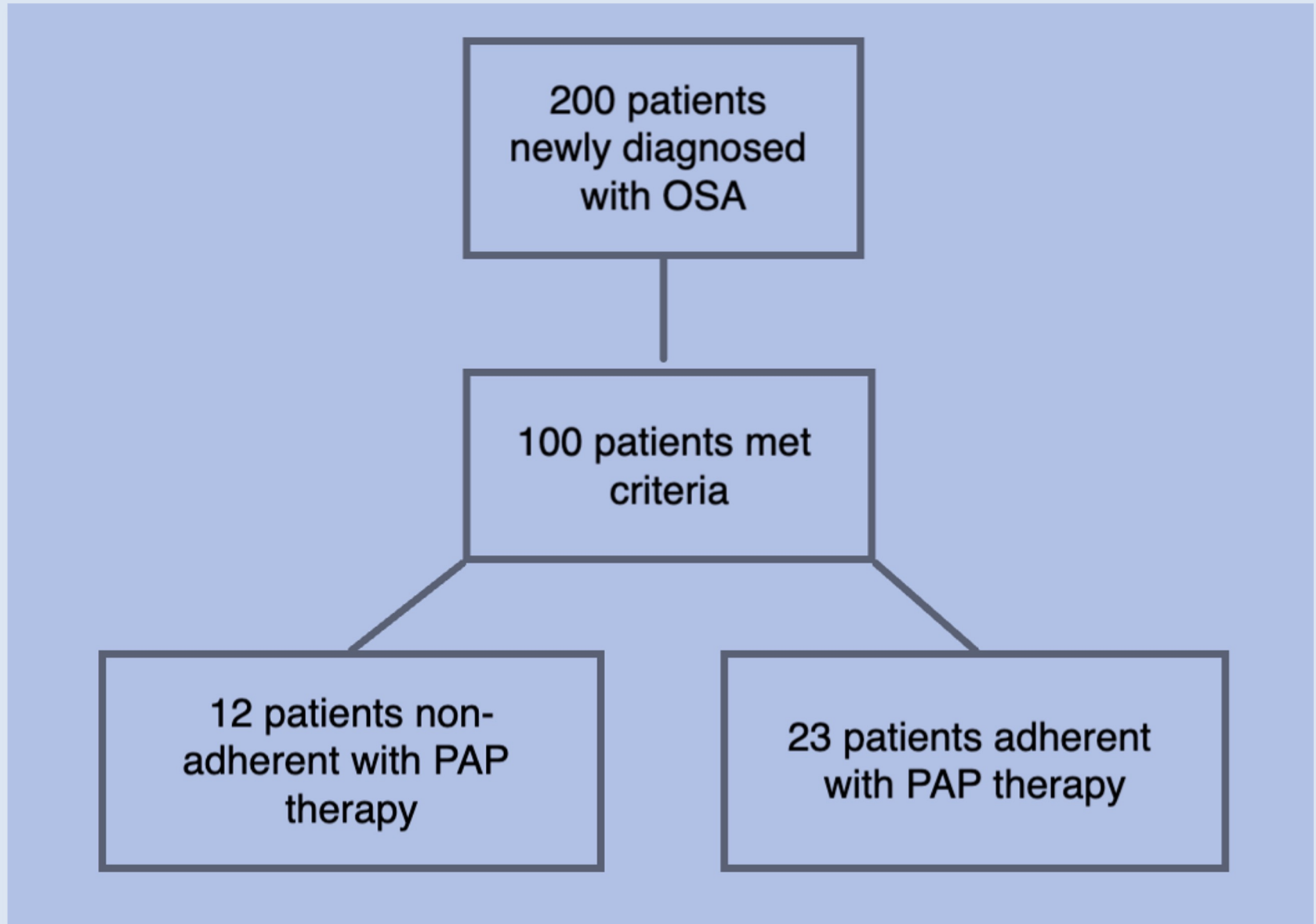


Figure 1: Breakdown of patients in the study. 65 patients who met criteria were lost to follow up.

	Adherent		Non-adherent		
	Mean	SD	Mean	SD	p-value
Compliance	90.48	10.56	23.8	22.42	<0.001
Hours/day	6.51	1.17	3.42	0.97	0.001

Table 1: Percent compliance and hours/day of PAP therapy use for adherent vs. non-adherent patients with adherence defined as wearing the device 21/30 days for at least 4 hours/day

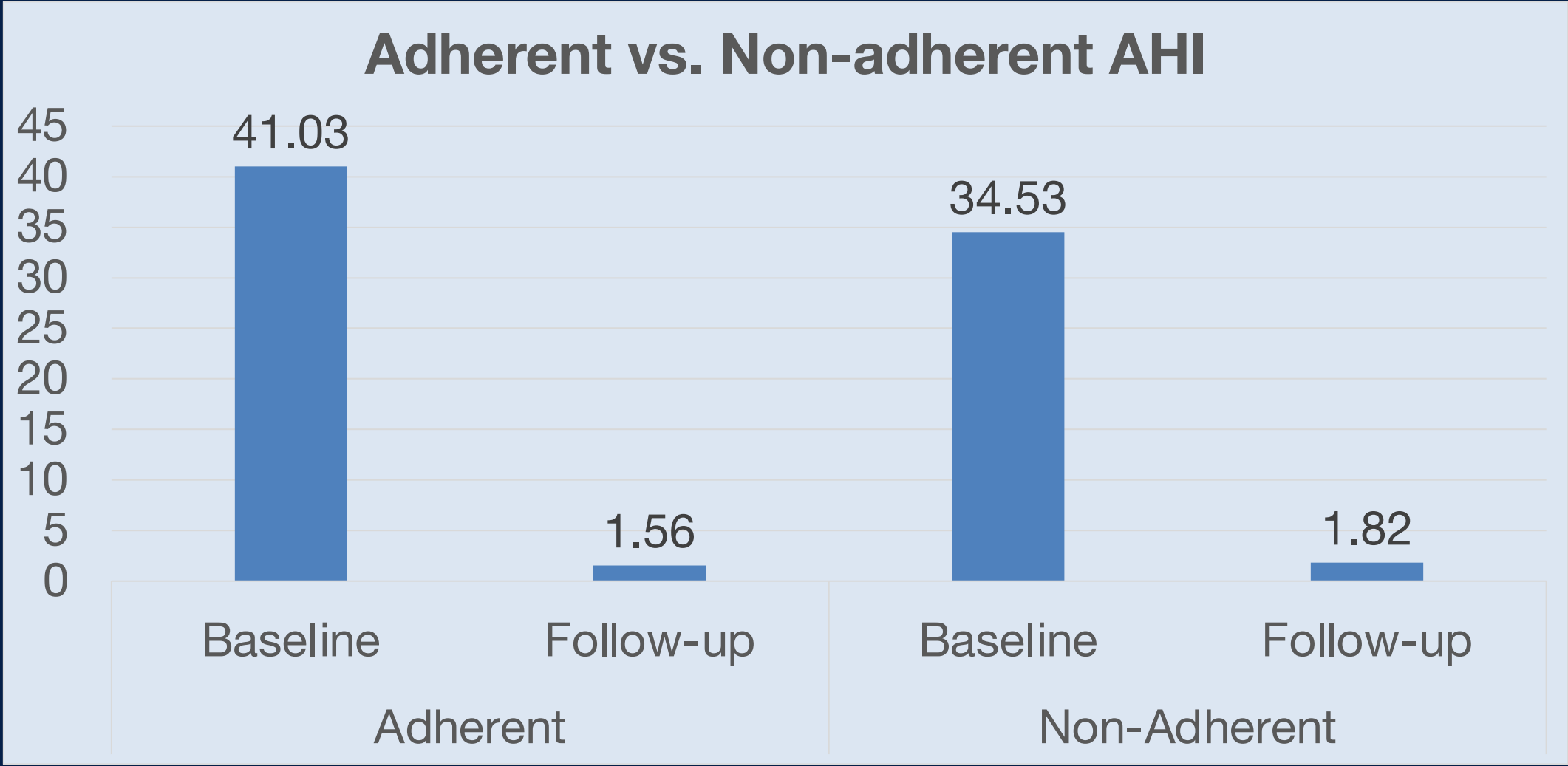


Figure 2: Apnea/Hypopnea Index (AHI) for adherent vs. non-adherent patients at baseline and follow up. The mean AHI in the adherent group prior to treatment was 41.03 ± 36.79 compared to 1.56 ± 1.31 after (p < 0.001). The mean AHI in the non-adherent group at baseline was 34.53 ± 24.28 compared to 1.82 ± 1.32 after (p = 0.001).

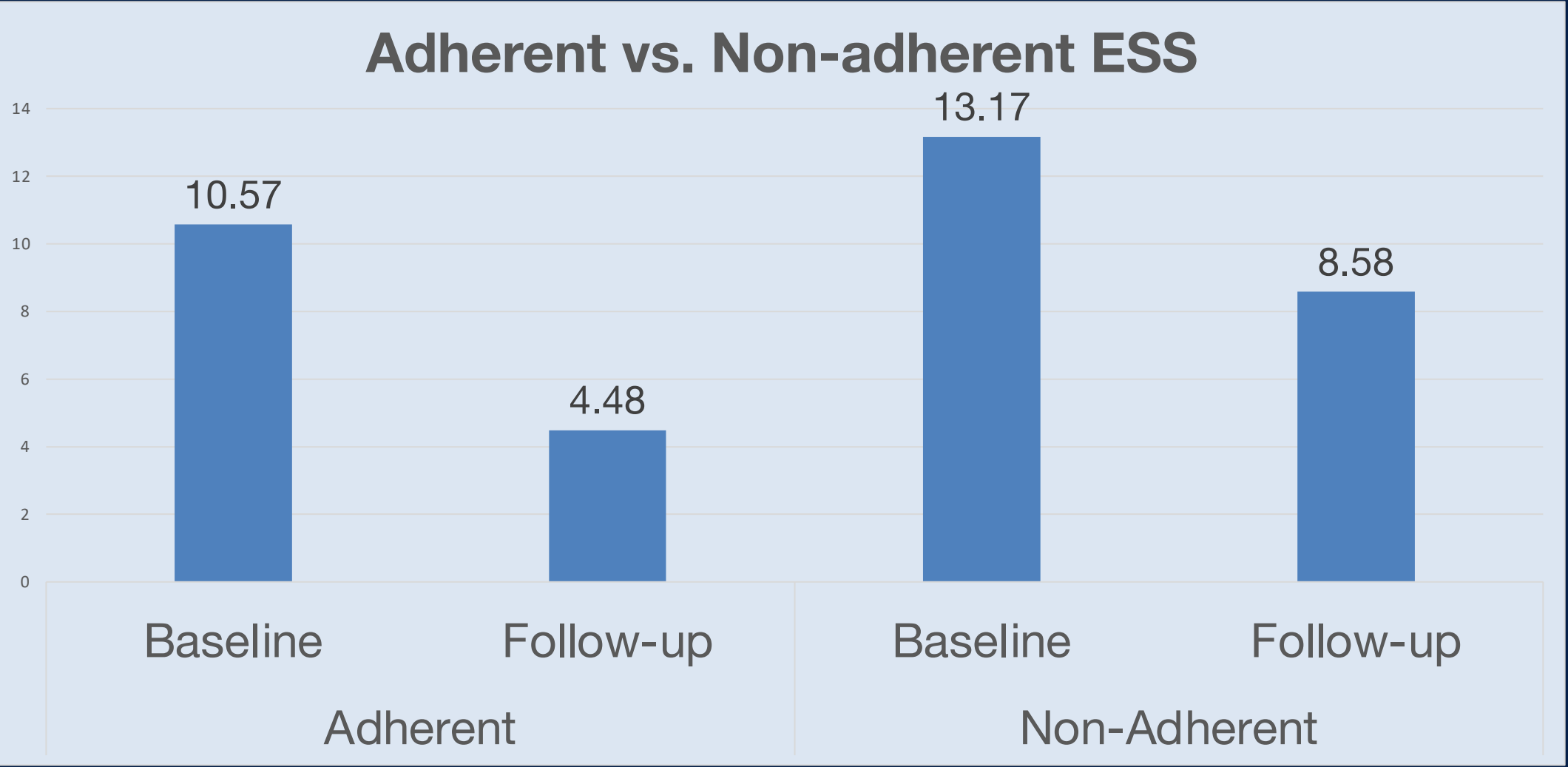


Figure 3: Epworth Sleepiness Scale (ESS) for adherent vs. non-adherent patients at baseline and follow-up. The mean ESS in the adherent group prior to treatment was 10.57 ± 5.03 compared to 4.48 ± 3.70 after (p < 0.001). The mean ESS in the non-adherent group at baseline was 13.17 ± 5.95 compared to 8.58 ± 4.36 after (p = 0.004).

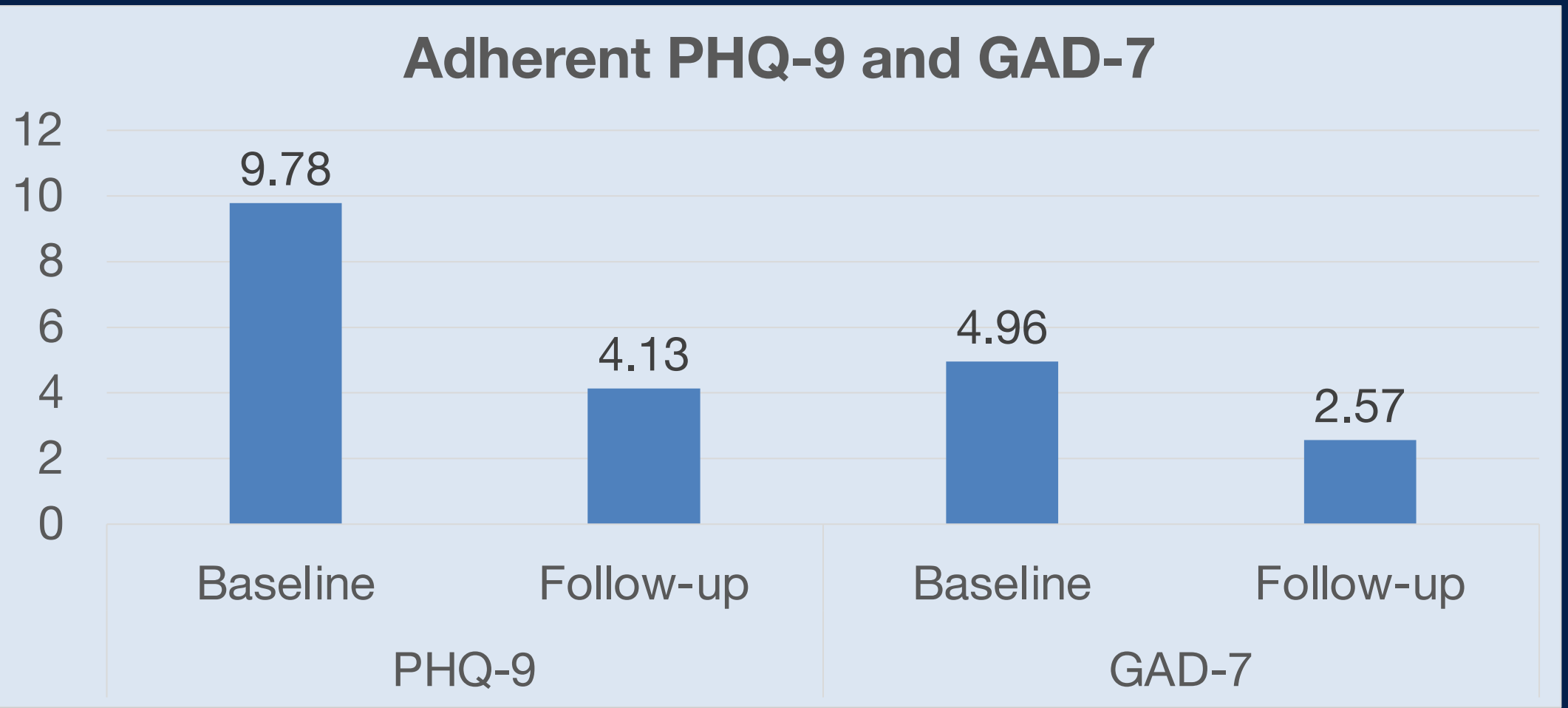


Figure 4: PHQ-9 and GAD-7 scores for adherent patients at baseline and follow up. The mean PHQ-9 score in the adherent group prior to treatment was 9.78 ± 5.61 compared to 4.13 ± 4.09 after (p < 0.001). The mean GAD-7 score in the adherent group prior to treatment was 4.96 ± 5.26 compared to 2.57 ± 2.97 after (p = 0.004).

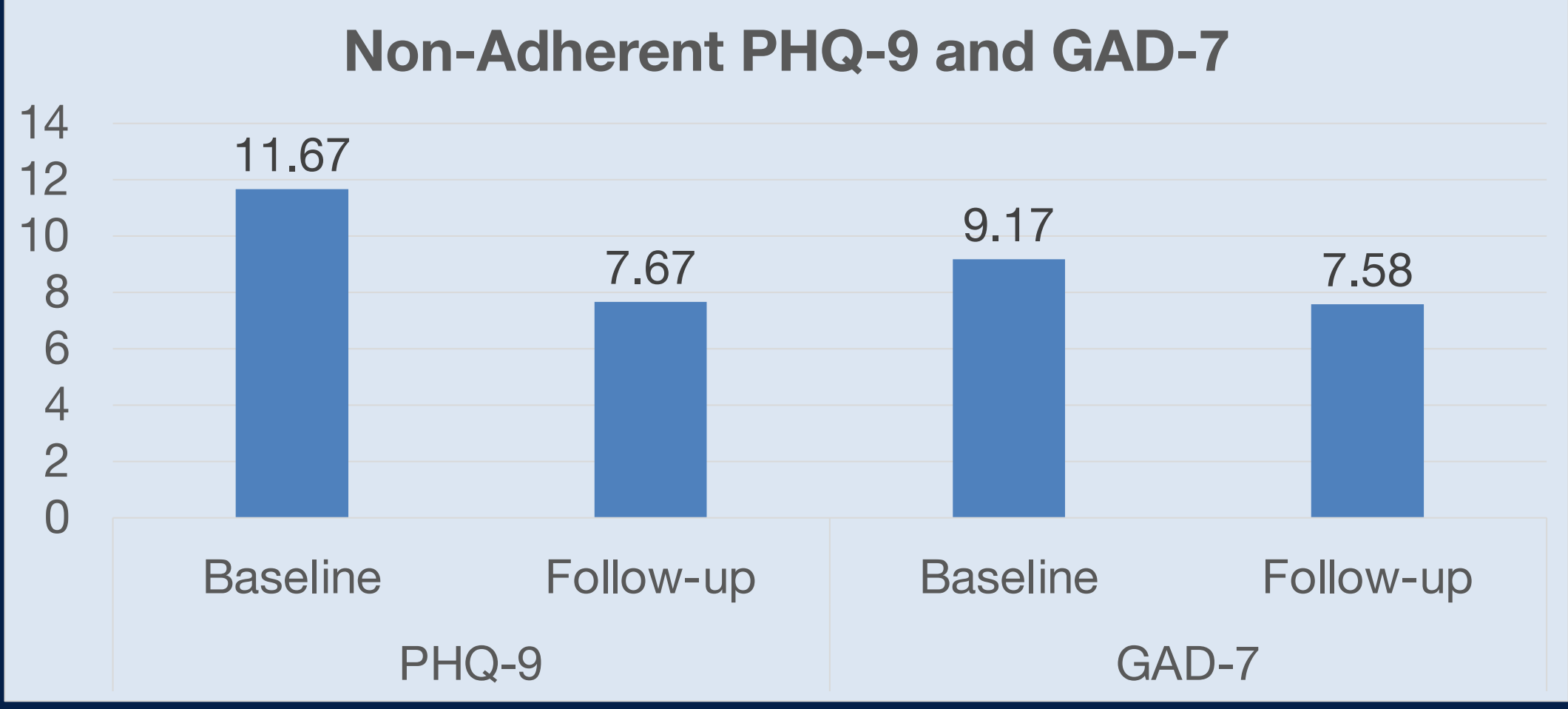


Figure 5: PHQ-9 and GAD-7 scores for non-adherent patients at baseline and follow-up. The mean PHQ-9 score in the non-adherent group at baseline was 11.67 ± 5.60 compared to 7.67 ± 6.72 after (p = 0.02). The mean GAD-7 score in the non-adherent group at baseline was 9.17 ± 7.03 compared to 7.58 ± 6.02 after (p = 0.14).

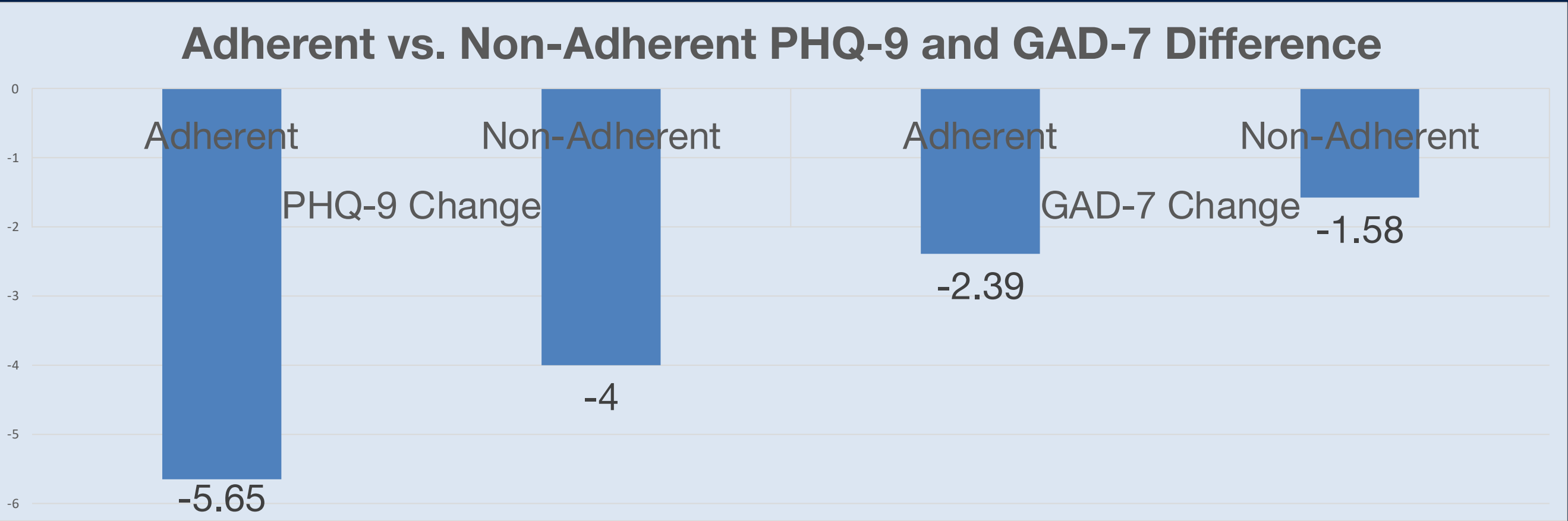


Figure 6: PHQ-9 and GAD-7 difference between baseline and follow-up for adherent vs. non-adherent patients. The mean change in PHQ-9 score for the adherent group was -5.65 ± 4.93. The mean change in PHQ-9 score for the non-adherent group was -4.00 ± 5.12. Comparing the change resulted in a p-value of 0.36. The mean change in GAD-7 score for the adherent group was -2.39 ± 3.58. The mean change in GAD-7 score for the non-adherent group was -1.58 ± 3.48. Comparing the change resulted in a p-value of 0.53.



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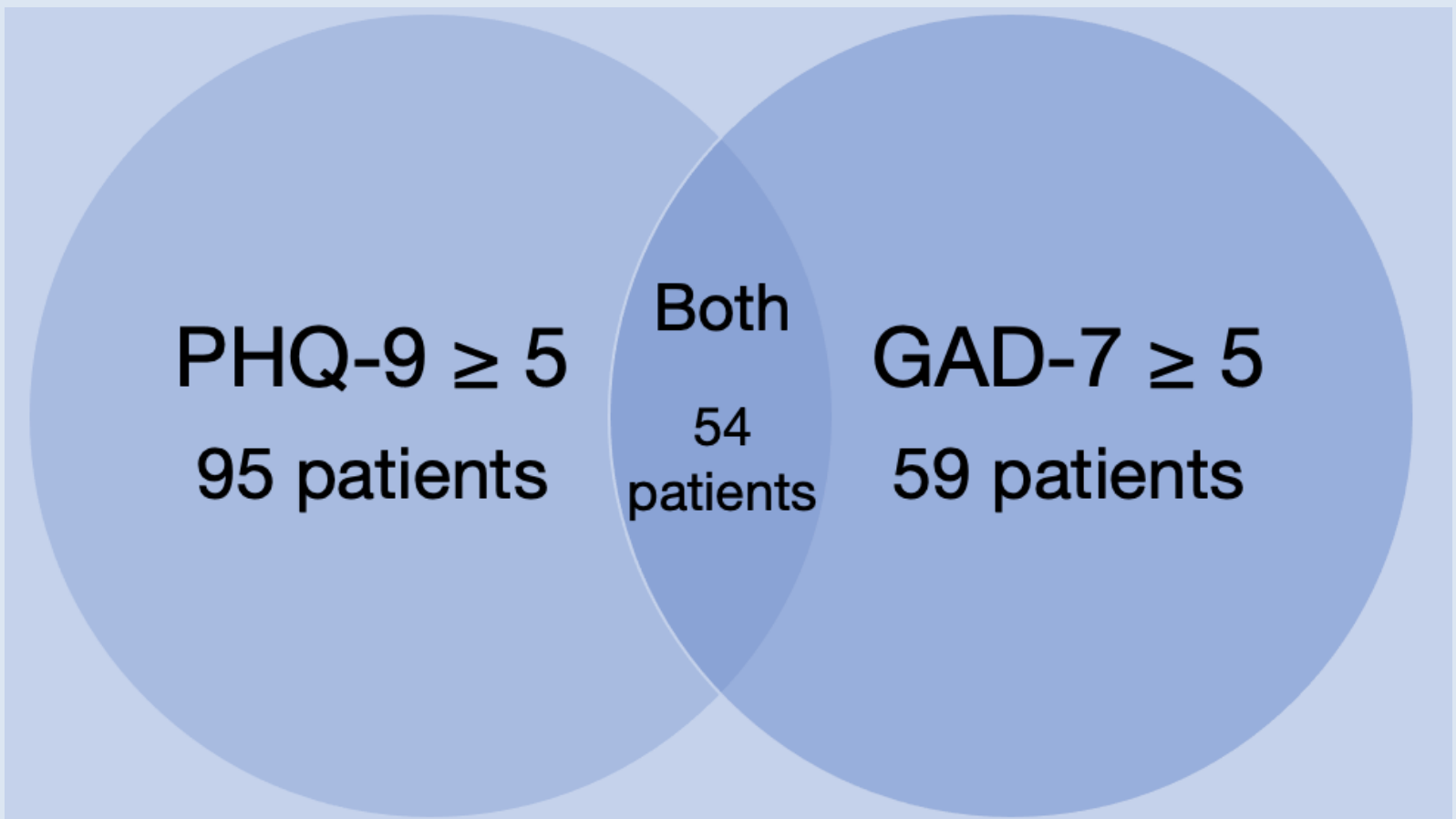


Figure 7: Number of patients in the study with anxiety and/or depression

DISCUSSION

Both groups had a statistically significant reduction in PHQ-9 scores, however, the non-adherent group did not have a statistically significant reduction in GAD-7 scores after treatment, suggesting that lack of PAP therapy did not improve a patient’s anxiety. The adherent group had a larger change in scores for both the PHQ-9 and GAD-7, however, the results were not statistically significant.

Given the strong overlap between OSA and mood found in our study, further investigation should be done to determine whether treatment of OSA can improve a patient’s anxiety or depression.

Limitations of the study:
-Small sample size
-Dependency on accuracy of data previously collected.

ACKNOWLEDGEMENTS

I thank Dr. Lynn Keenan for being an incredible mentor and guiding me throughout the experience. I thank Dr. Rijesh Niraula, Dr. Sanket Meghpara, Dr. Mandip Kang, and Dr. Fan Mo for assisting me with the data collection. I also thank Yueqi Yan for assisting me with the data analysis. Lastly, I thank the UCSF School of Medicine for providing me with this opportunity.

Access references