

Assessment of Chronic Obstructive Lung Disease Management in a Student-Run Free Clinic



Priyasha Bijlani, Eshwar Kishore, Shruti Kumar

Sojourner Health Clinic, Kansas City, Missouri
University of Missouri-Kansas City School of Medicine



Introduction

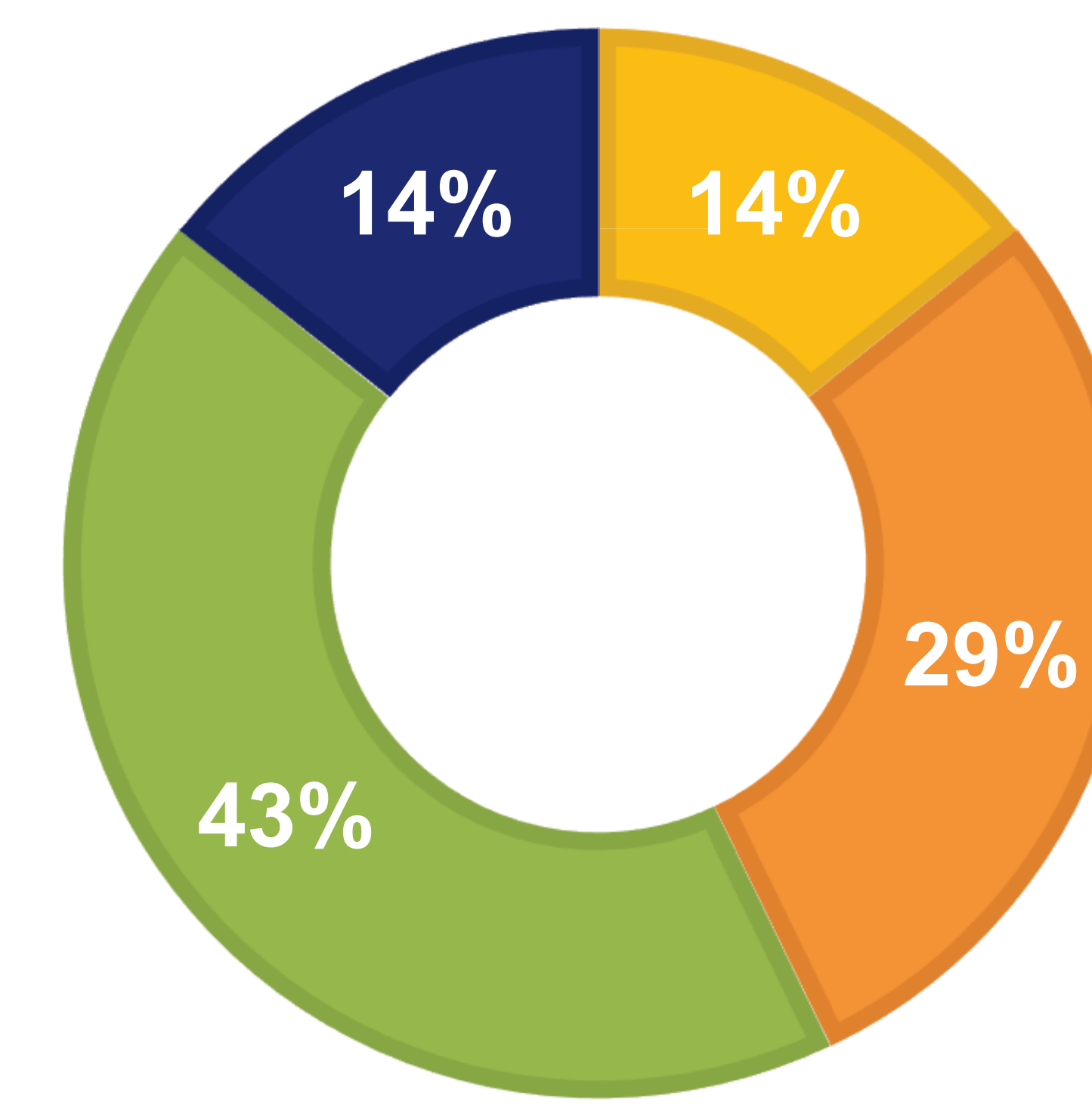
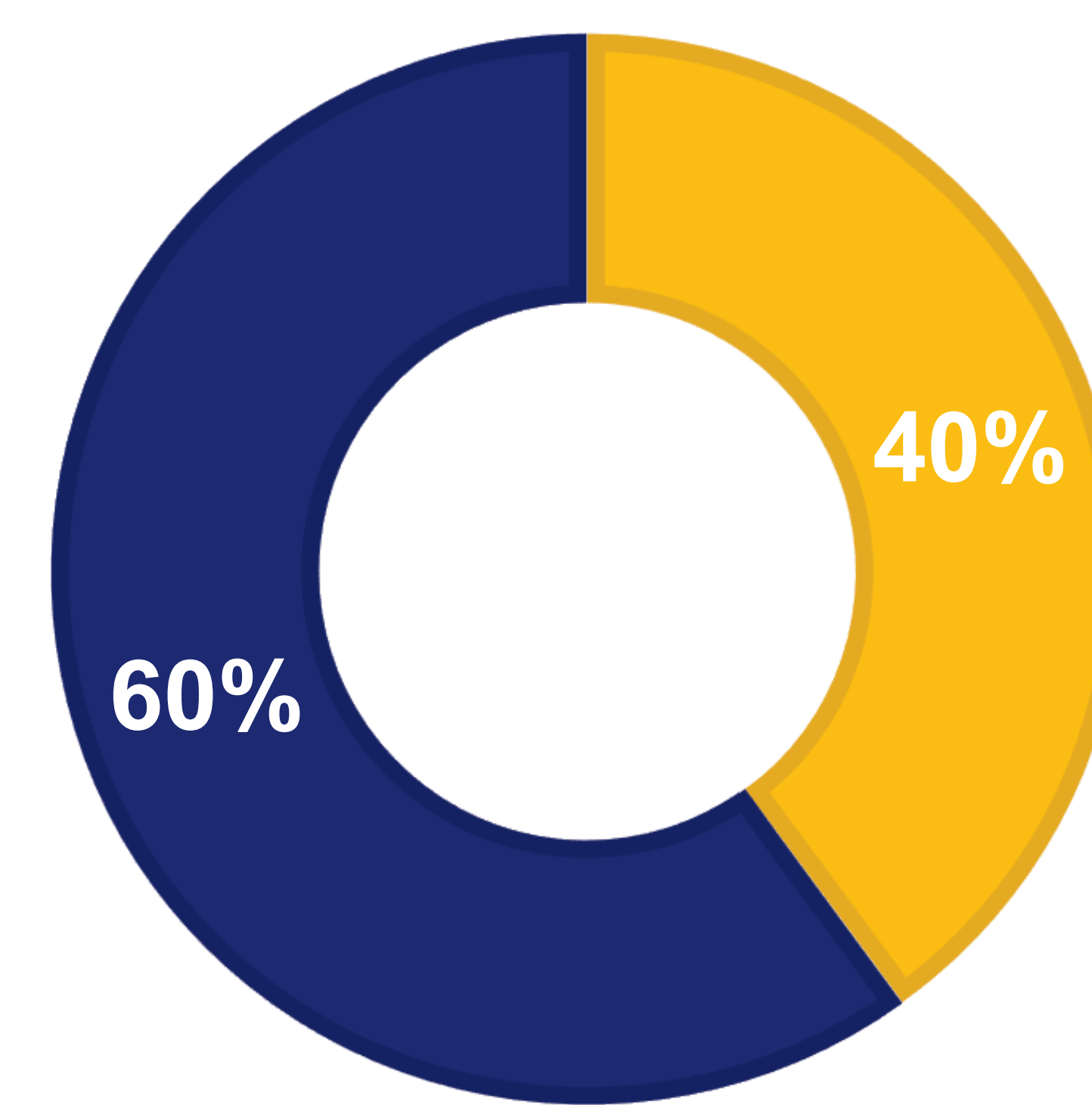
- Sojourner Health Clinic (SHC) serves the underserved patients of downtown Kansas City. Through the Patient Assistance Program (PAP), SHC is able to provide free inhalers from Merck Pharmaceuticals to patients with chronic respiratory conditions.
- Due to the lack of access to quality healthcare, homeless and underserved patients are most in need for medications to treat their chronic conditions.¹
- Respiratory conditions cause a heavy burden on the healthcare system as the prevalence of asthma and chronic obstructive pulmonary disease (COPD) continues to rise but management has not significantly improved.^{2,3}
- The Asthma Control Test (ACT) and COPD Assessment Test (CAT) serve as a simplified tool for monitoring the control of asthma and COPD respectively in patients with a diagnosis of obstructive lung disease.^{2,3}
- The purpose of the study was to identify the impact of asthma and COPD on the quality of life of SHC patients enrolled in PAP, with the use of the questionnaires.

Methodology

- Participants included SHC patients, enrolled in PAP for a minimum of three months or that received a minimum of three refills of their prescribed inhalers.
- A tentative diagnosis of either asthma or COPD was assigned based on past medical history, duration of symptoms, and tobacco use.
- Composite score was calculated based on the numerical sum and used to classify the disease process based on previously established parameters.²⁻⁴
- Follow-up surveys were completed by patients every 4 weeks (ACT) or every 2-3 months (CAT).^{3,4}

Asthma Control Test Results				
Patient	Score	Date	Repeat Score	Date
1	15	9/9/18	20	2/3/18
2	21	9/9/18		
3	20	9/9/18		
4	16	9/16/18	18	1/27/19
5	15	11/11/18	13	2/3/18

ASTHMA SEVERITY: Well Controlled (Yellow), Poorly Controlled (Dark Blue)
IMPACT OF COPD ON HEALTH: Low (Yellow), Medium (Orange), High (Green), Very High (Dark Blue)



Chronic Obstructive Pulmonary Disease Assessment Test Results				
Patient	Score	Date	Repeat Score	Date
6	16	9/9/18		
7	21	9/9/18		
8	25	9/9/18		
9	22	9/23/18	17	11/11/18
10	6	10/21/18	11	12/16/18
11	18	2/3/19		
12	28	9/23/18		

Results

- Total of 52.2% (12/23) of PAP patients completed the questionnaire.
- In a follow-up of CAT, one patient demonstrated statistically significant decline from 22 to 17, an improvement in health status. One patient demonstrated an increase of score from 6 to 11, a concern for indication of COPD exacerbation.
- In a follow-up of ACT, one patient showed an increase of ACT score from 15 to 20, a statistically significant improvement in quality of life. However, one patient showed minimal improvement, while another had a decrease in score, a concern for worsening asthma symptoms.
- A large number of patients enrolled in PAP demonstrate poor control of respiratory conditions with concerns for lack of consistent and proper use of their inhalers.

Conclusion

- Despite the opportunity for free inhaler therapy, SHC patients demonstrate poor control of asthma and COPD.
- Limitations of this study include lack of consistent follow up and small sample size.
- An explanation for poor control could be due to inaccurate inhaler use. To address this, we will utilize dispensary staff to educate patients on proper inhaler use techniques.
- For the future, we will continue to administer surveys and monitor progress of COPD and asthma in patients of SHC.

References

1. Arao RK, O'Connor MY, Barrett T, et al. Strengthening value-based medication management in a free clinic for the uninsured: Quality interventions aimed at reducing costs and enhancing adherence. *BMJ Open Quality*. 2017;6(2). doi:10.1136/bmjopen-2017-000069
2. Schatz, Michael et al. Asthma Control Test: Reliability, validity, and responsiveness in patients not previously followed by asthma specialists. *Journal of Allergy and Clinical Immunology*, Volume 117, Issue 3, 549 - 556.
3. P.W. Jones, G. Brusselle, R.W. Dal Negro, M. Ferrer, P. Kardos, M.L. Levy, T. Perez, J.J. Soler Cataluña, T. van der Molen, L. Adamek, N. Banik. Properties of the COPD assessment test in a cross-sectional European study. *European Respiratory Journal*. Jul 2011, 38 (1) 29-35; DOI: 10.1183/09031936.00177210
4. Polkey M, Vogelmeier C, Hansel N. CAT Healthcare Professional User Guide. *COPD Assessment Test*. 2016;(3).