

Non-Adherence to Self-Injectable Biologic Therapy in IBD increases ED Visits and Hospitalizations

Causey E BS¹, Shah NB PharmD², Slaughter J PhD³, Jerabek J BS⁴, Zuckerman AD PharmD², Chhen S PharmD⁵, Scoville E MD³, Dalal R MD³, Beaulieu DB MD³, Pabla B MD³, Schwartz DA MD³, Cross RK MD¹, Vaughn BP MD⁴, George LA MD¹, Horst S MD MPH

¹Division of Gastroenterology & Hepatology, University of Maryland School of Medicine, ²Vanderbilt Specialty Pharmacy,

³Division of Gastroenterology, Hepatology & Nutrition, Vanderbilt University, Nashville, TN,

⁴Division of Gastroenterology, Hepatology, & Nutrition, University of Minnesota, ⁵Fairview Specialty Pharmacy



BACKGROUND

- Non-adherence to self-injectable biologic therapy in patients (pts) with inflammatory bowel disease (IBD) is common (one national study reported 56% adherence) and negatively impacts clinical outcomes.¹
- This analysis evaluated adherence rates and health outcomes across three academic centers with integrated specialty pharmacies.

¹ Govani S, Noureldin M, Higgins P, et al. Am J Gastroenterol. 2018;113:276

METHODS

- **Design:** Retrospective cohort analysis of adult pts with IBD receiving care at three tertiary care outpatient clinics (Vanderbilt University Medical Center, University of Maryland, University of Minnesota).
- **Study Population:** Pts prescribed a self-injectable anti-TNF (adalimumab, certolizumab, golimumab) or anti-IL 12/23 therapy (ustekinumab) and received medication (≥ 3 pharmacy fills) through the center's integrated specialty pharmacy were included.
- **Outcomes:** Medication adherence was calculated using medication possession ratio (MPR), with non-adherence defined as an MPR < 0.86. Health outcomes included IBD-related emergency department (ED) visits and/or hospitalizations.
- **Statistical Analysis:** Statistical analysis was performed using Wilcoxon rank sum test, Pearson's Chi-squared test, and logistic regression models.

RESULTS

Table. Demographics and Clinical Characteristics of Pts

	Center 1 n=460	Center 2 n=81	Center 3 n=67
Median f/u, median (range)	921 (232, 1414)	1524 (114, 3900)	730 (159, 3430)
Age, median	37 (30, 48)	35 (27, 44)	33 (22, 43)
UC	15% (67)	14% (11)	25% (17)
Female	62% (283)	56% (45)	52% (35)
Caucasian	92% (423)	84% (68)	69% (46)
Smoker	17% (76)	10% (8)	9% (6)
Insurance			
Commercial	74% (340)	74% (60)	69% (46)
Medicare	21% (97)	5% (4)	28% (19)
Medicaid	4% (20)	21% (17)	28% (19)
None	1% (3)	0	0
Psychiatric hx	38% (150)	41% (29)	26% (13)
Biologic hx	59% (271)	63% (51)	42% (28)
Crohn's disease			
Perianal disease	38% (150)	41% (29)	26% (13)
Fistulizing disease	54% (212)	63% (51)	42% (28)

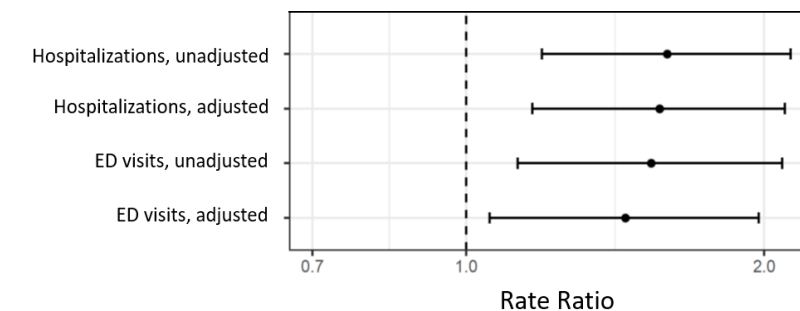
Table. Medication Possession Ratio and Adherence Rates

	Center 1 n=460	Center 2 n=81	Center 3 n=67	p value
MPR, mean (+/- SD)	0.89 +/- 0.13	0.88 +/- 0.16	0.90 +/- 0.10	NS
Adherence (MPR > 0.86)	70% (323)	68% (55)	69% (46)	NS

RESULTS

- 22% (133/608) of patients had 1+ IBD-related ED visit.
- 23% (141/608) of patients had 1+ IBD-related hospitalizations.
- In unadjusted and adjusted analysis, non-adherence increased the likelihood of ED visits and hospitalizations (Figure).

Figure. Non-adherence (MPR < 0.86) to self-injectable biologic therapy increased the likelihood of ED visits and hospitalizations. Adjusted analysis accounted for age, sex, race, disease type.



CONCLUSIONS

- This multicenter analysis found that centers with specialty pharmacies had high MPR and high medication adherence rates.
- Self-injectable biologic therapy non-adherence was associated with higher likelihood of ED visits and hospitalizations.