

WORK PRODUCTIVITY AND ACTIVITY LIMITATION IN PATIENTS WITH ULCERATIVE COLITIS: THE IMPACT OF TREATMENT WITH MMX[®] MESALAMINE

Sunanda Kane¹, Linnette Yen², Aaron Yaras³, Robyn Karlstadt², Dory Solomon², Brihad Abhyankar⁴, Paul Hodgkins²

¹Department of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN, USA; ²Shire Pharmaceuticals Inc., Wayne, PA, USA; ³QualityMetric, Lincoln, RI, USA; ⁴Shire Pharmaceuticals Ltd., Basingstoke, Hampshire, UK

Background

- Ulcerative colitis (UC) is a chronic incurable disease characterized by inflammation of the large intestine and the rectum.
- 5-aminosalicylic acid (5-ASA), which includes mesalamine, is the recommended first-line therapy for mild-to-moderate UC, due to demonstrated efficacy and a good safety profile [1,2].
- The recently developed multi-matrix (MMX) formulation of mesalamine, which provides a higher concentration of mesalamine per pill (1.2g) than any previous formulation, is associated with increased patient treatment adherence [3].
- Patients with UC experience a number of symptoms, including abdominal pain, rectal bleeding, diarrhea, and fatigue, that can potentially impact their work productivity.
- However, a literature search identified no clinical trials examining the impact of treatment on the work productivity of patients with UC
- Thus, within this patient population, the extent to which the disease impacts work productivity, and the efficacy of treatment in reducing this impact, is unknown.

Objectives

- To measure the impact on work productivity of 8 weeks of daily treatment with 2.4-4.8 g/day of MMX[®] mesalamine in patients with mild-to-moderate active UC.
- To examine the correspondence between changes in work productivity and changes in disease activity following treatment.

Methodology

Study Population and Design

- Data were collected from the Strategies in Maintenance for Patients Receiving Long-term Therapy (SIMPLE) trial, a phase IV, multi-center, single-arm, open-label trial that consisted of an 8 week acute phase and a 12 month maintenance phase.
- The data presented here are from the acute phase, during which adult patients diagnosed with active mild-to-moderate UC at baseline received MMX mesalamine 2.4-4.8g/day treatment for 8 weeks (dose titrated based on physician decision).
- Study outcome measures were assessed at baseline and 8-week endpoint.

Outcomes Measures

Work Productivity: WPAI:SHP (Work Productivity and Activity Impairment Questionnaire: Specific Health Problem)

- 6 item self-report work related outcomes survey (using a one-week recall period).
- Affords calculation of 4 scales to measure the impact of IBD on different domains of impairment in work or other activities:

- Absenteeism
- Presenteeism (impairment at work)
- Productivity loss (overall work impairment)
- Activity Impairment

WPAI scale scores are impairment percentages, with higher numbers indicating greater impairment (less productivity).

Disease Activity: Stool Frequency and Rectal Bleeding Severity

- Both were single item patient-reported measures (using a daily recall period).

–Stool Frequency:

- score of 0: ≤1 more stools than usual
- score of 1: 2-3 more stools than usual
- score of 2: ≥4 more stools than usual

–Rectal Bleeding Severity:

- score of 0: no blood
- score of 1: streaks of blood
- score of 2: obvious blood
- Score of 3: mostly blood

- Each was recorded daily via phone-based interactive voice response system.
- The mean of responses from the three days prior to assessment point was used.
- Higher scores indicate more active disease.

Analysis

- Paired-samples t-tests assessed differences between baseline and 8-week endpoint WPAI scale scores.
- For each of the 4 scales, the percentage of patients whose item scores improved was calculated.
- Pearson correlation coefficients were computed to assess the strength and direction of associations between baseline-endpoint change in WPAI scores with Stool frequency and Rectal bleeding severity change scores.

Results

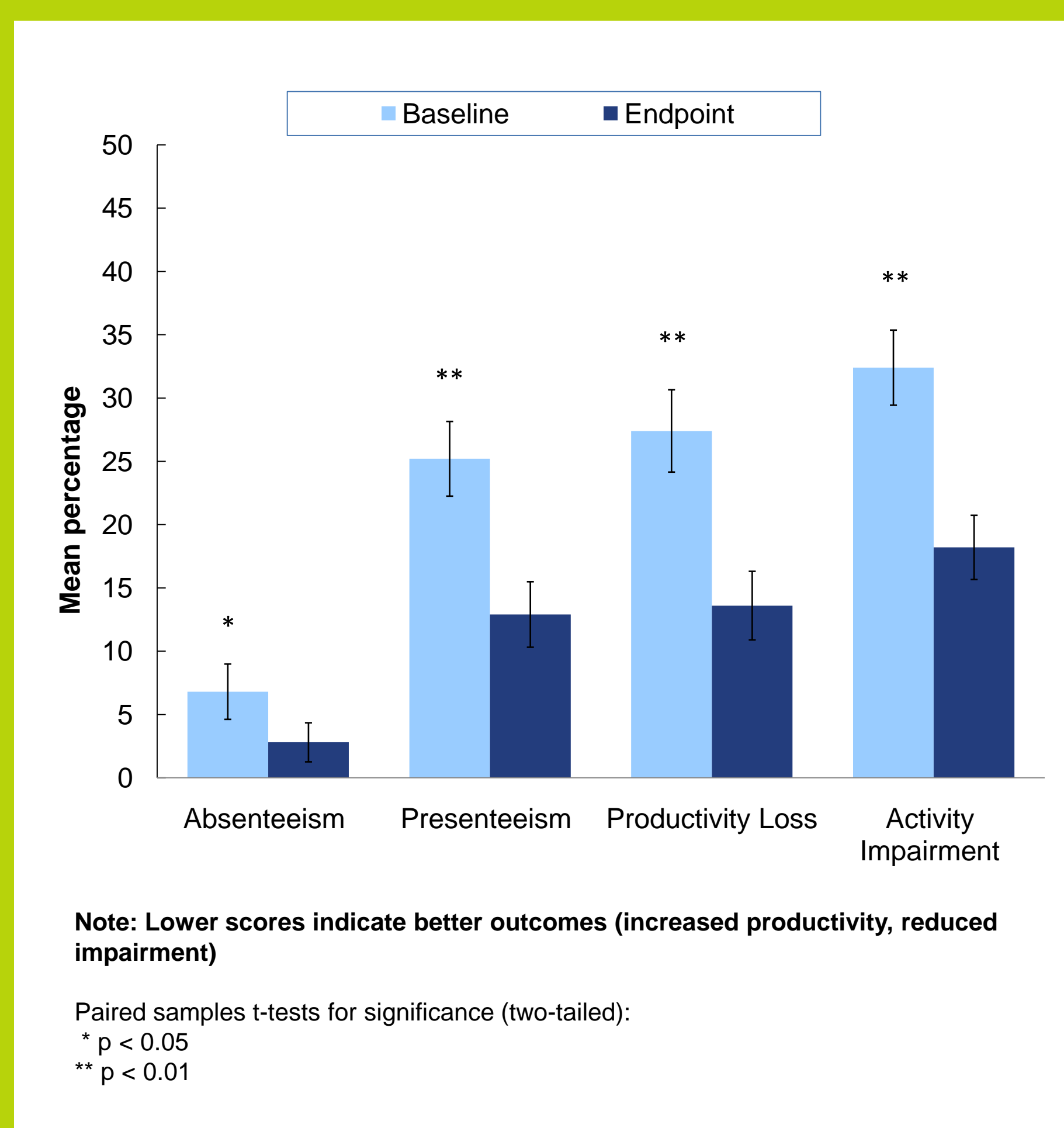
Baseline Statistics

Table 1. Descriptive statistics at Baseline (n=132)

	n	%
Gender		
Male	58	43.9
Female	74	56.1
Mean		
SD		
Age		
	43.4	14.1
WPAI:SHP		
Absenteeism (n=85)	8.7	21.1
Presenteeism (n=84)	27.5	26.2
Productivity Loss (n=84)	30.0	29.2
Activity Impairment (n=123)	35.4	31.2
Disease Activity		
Stool Frequency (n=129)	0.73	0.69
Rectal Bleed Severity (n=129)	0.88	0.77

Impact of MMX Mesalamine on Work Productivity of Active Mild-to-Moderate UC Patients

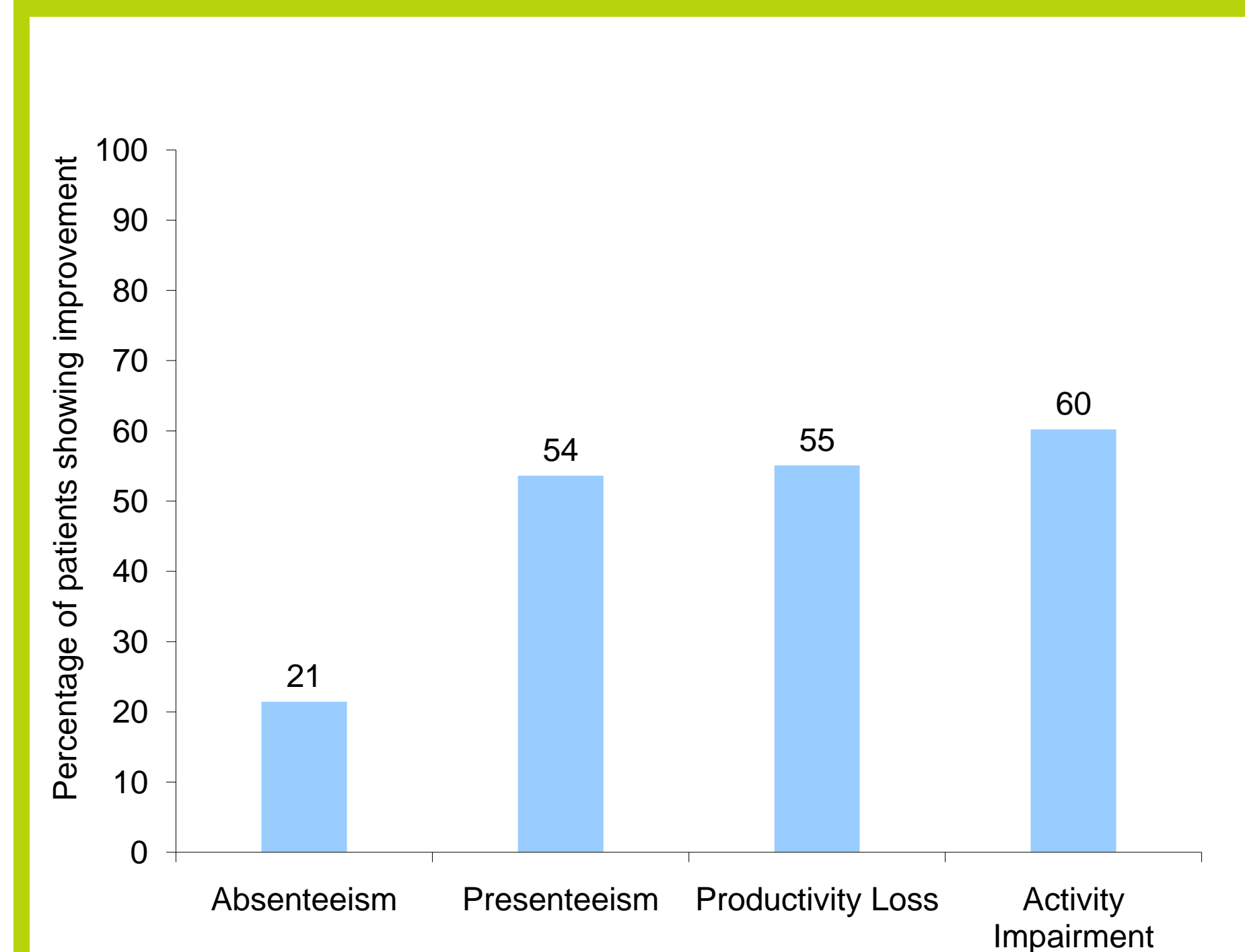
Figure 1. Mean WPAI Scale Scores at Baseline and 8-week Endpoint. Error Bars Indicate Standard Error of Means.



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 For additional information, please contact Linnette Yen, (484) 595-7460 or lyen@shire.com
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Responder Level Analysis: Change in WPAI Scale Scores From Baseline to Endpoint

Figure 2. Percentage of Patients Showing Improvement from Baseline to 8-week Endpoint for each WPAI Scale



Correspondence Between Work Productivity and Disease Activity

Table 2. Pearson Correlations Between Baseline-Endpoint Changes in WPAI Scores and Changes in Disease Activity

	Stool Frequency	Rectal Bleeding Severity
Absenteeism	0.17	0.29*
Presenteeism	0.40**	0.47**
Productivity loss	0.35**	0.47**
Activity Impairment	0.48**	0.54**

* p < 0.05 ** p < 0.01

Main Findings

- Following 8 weeks of daily MMX mesalamine treatment, patients with mild-to-moderate active UC showed statistically significant improvements on all WPAI scales. (Figure 1)
- The majority of patients showed improvement from baseline to 8-week endpoint on presenteeism, overall work productivity loss, and activity impairment scales. (Figure 2)
- Improvements in presenteeism, overall work productivity loss, and activity impairment scores were linked to decreases in both disease activity measures; improvement in absenteeism was linked to decreases in rectal bleeding severity, though not to decreases in stool frequency. (Table 2)

Conclusions

- This study, which is the first to investigate work productivity in patients with active mild-to-moderate UC, found that 8 weeks of daily 2.4-4.8g MMX mesalamine treatment led to significant improvements in work productivity, and these improvements significantly corresponded to changes in disease activity.
- The relatively small amount of improvement in absenteeism, and its relatively weak correspondence with disease activity, is likely due to the fact that absenteeism is fairly low even at baseline, which restricts the potential for change.
- Because this is an open-label study with a relatively small sample size, the findings presented here should be confirmed in a larger, controlled trial.

References

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- [2] Kornbluth A, Sachar DB. Ulcerative colitis practice guidelines in adults (update): American College of Gastroenterology, Practice Parameters Committee. Am J Gastroenterol. 2004 Jul;99(7):1371-85.
- [3] Kane SV, Sumner M, Solomon DM, Jenkins M. Twelve-Month Persistence with 5-Aminosalicylic Acid Therapy: Results from a Large Pharmacy Database. Poster presented at Digestive Disease Week Conference, Chicago, IL, May 30 – June 4 2009. Abstract published in *Gastroenterology* 2009. 136, Suppl1: A-176.

