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# QUALITY OF LIFE DOMAINS AND CLINICAL PREDICTORS OF MEDICATION ADHERENCE IN PATIENTS WITH INFLAMMATORY BOWEL DISEASE

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## Abstract

**Background**: Quality of Life Domains and Clinical Predictors of Medication Adherence in Patients with Inflammatory Bowel Disease. Medication non-adherence in inflammatory bowel disease (IBD) increases relapse risk, emergency healthcare utilization, and costs. While quality of life (QoL) is known to influence adherence broadly, the independent contributions of specific QoL domains and clinical disease markers remain poorly characterized, particularly in the Middle East

**Objectives:** This multicenter study aimed to determine whether specific health-related QoL domains, including bowel, systemic, emotional, and social, measured by the Short Inflammatory Bowel Disease Questionnaire (SIBDQ), and objective clinical and inflammatory markers independently predict medication adherence in adults with IBD during short-term follow-up.

**Methods**: A multicenter cross-sectional study was conducted from December 2024 to June 2025 across ten major hospitals serving the Palestinian population in the West Bank. A total of 298 adults (18–65 years)


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diagnosed with Crohn's disease or ulcerative colitis were enrolled. Medication adherence was measured using a purpose-built, team-developed 14-item Arabic-language questionnaire (Cronbach's α = 0.70), yielding three ordinal categories: Low (0–15), Medium (16–25), and High (26–32). Health-related QoL was assessed using the validated SIBDQ (total and four-domain scores: Bowel, Systemic, Emotional, Social). Clinical predictors included comb sign, intestinal stenosis, fecal calprotectin at 3 months (FC-3), serum albumin, ESR, platelet-to-lymphocyte ratio (PLR), and comorbidities. The primary analysis used generalized ordered logistic regression (partial proportional-odds models; gologit2) with high adherence as the reference, applying LASSO-guided covariate selection and robust standard errors.

**Results**: Among 298 patients, disease burden was substantial: 54.0% had severe disease. Adherence distribution: High 19.1%, Medium 60.1%, Low 20.8%. Across all domain models, three clinical markers consistently predicted poorer adherence (Low vs. High): presence of comb sign (OR 2.35–2.77; $p \leq 0.007$), intestinal stenosis (OR 1.82–2.09; $p \leq 0.040$), and higher FC-3 levels (OR 1.34–1.42; $p \leq 0.001$). Higher serum albumin paradoxically predicted lower adherence (OR 1.28–1.32; $p \leq 0.045$). Mesalazine use was consistently associated with reduced odds of medium adherence (OR 0.26–0.35; $p \leq 0.018$), while type 1 diabetes mellitus (T1DM) strongly predicted medium vs. high non-adherence (OR ≈0; $p < 0.001$ across all models).

Regarding QoL domain effects: worse Bowel SIBDQ scores predicted lower adherence (OR 0.89; 95% CI 0.81–0.99; p=0.028), whereas better Social functioning paradoxically increased odds of medium vs. high adherence (OR 1.14; 95% CI 1.03–1.26; p=0.014). Emotional domain scores showed a non-significant positive trend with adherence. Systemic domain scores were not independently associated. The Emotional domain model yielded the highest explanatory power.

**Conclusion:** Medication adherence in IBD is driven primarily by objective disease activity markers rather than self-reported QoL alone. Comb sign, intestinal stenosis, and elevated fecal calprotectin consistently signal adherence risk across all QoL domain models. Worse bowel-specific QoL independently predicts poorer adherence, while better social functioning paradoxically correlates with reduced probability of achieving the highest adherence, potentially reflecting disease-associated behavioral adaptation. T1DM comorbidity and mesalazine use are important adherence effect modifiers. These findings underscore the value of integrating routine QoL screening with objective disease monitoring to identify non-adherence risk and guide targeted, multidisciplinary interventions in IBD care.

**Key words:** Inflammatory bowel disease; medication adherence; quality of life; SIBDQ; patient-centered care.


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