

Glycemic Control Impacts the Quality of Bowel Preparation in Patients Undergoing Elective Colonoscopy: A Multicenter Retrospective Cohort Study

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Introduction: Diabetes Mellitus has been linked to poor quality of bowel preparation (BP) but the impact of various glycemic control levels remains unclear. The primary objective of this study was to investigate the relationship between the quality of BP and the glycemic control in patients with diabetes.

Methods: Data was collected retrospectively to identify adults who underwent elective colonoscopy from March 2020-December 2022. The patient population was subdivided into two groups based on the quality of BP. Univariate and multivariate analyses were used to assess associations between glycemic control, medications, sociodemographic factors, and BP quality.

Results: A total of 1458 patients who met the inclusion criteria were included in the final analysis. Of these, 6.3% of patients had suboptimal BP. Non-diabetics, prediabetics, and well-controlled diabetics had lower odds (0.28, 0.20, and 0.32; $p < 0.001$) of having suboptimal BP as compared to poorly controlled diabetics. Insulin users had higher odds (5.39; $p < 0.01$), non-smokers and former smokers had lower odds (0.54, 0.40; $p < 0.04$), and medicare and commercial insurance holders had lower odds (0.49, 0.28; $p < 0.001$) of suboptimal BP. Gender, body mass index, and the use of glucagon-like peptide-1 (GLP-1) agonists were not shown to impact the quality of BP.

Conclusions: This study shows that poorly controlled and insulin-dependent diabetics have higher rates of suboptimal QBP, leading to missed lesions and increased colon cancer risk. Limited access to healthcare due to low socioeconomic status indirectly contributes to poorly controlled DM and higher rates of suboptimal QBP. Identifying poor preparation risks allows targeted interventions to enhance QBP in high-risk patients. By prioritizing bowel preparation optimization, we can enhance the overall quality of colonoscopy screening, leading to earlier detection of colorectal malignancies, improved patient outcomes, and a reduction in the burden of colorectal cancer.