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The Association between Inflammatory Bowel Disease and Exposure to Tobacco Smoking

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Background: There is still some uncertainty about the association between tobacco smoking exposure and the risk of inflammatory bowel disease (IBD) and this association is under-researched in the Middle East and North Africa region.

Objectives: This research investigated the association between childhood and adulthood exposure to tobacco smoking with ulcerative colitis (UC) and Crohn's disease (CD) in Qatar.

Methods: In this case-control study, CD and UC cases were matched to controls of the same age and sex. The associations between UC and CD and childhood passive smoking and adulthood active smoking were assessed using conditional multivariable logistic regression.

Results: A total of 89 CD cases, median age of 37 years (IQR 29–47), and 362 UC cases, median age of 35 years (IQR 28–44), and equal numbers of controls were included. After multivariable logistic regression, CD was associated with higher odds of being a current smoker (OR 2.51, 95% CI 0.85–7.37, $p=0.095$), with weak evidence against the null hypothesis. This association was more pronounced in women, where CD was associated with both adulthood current smoking (OR 42.71, 95% CI, 1.17–1559.57, $p=0.041$), and childhood smoking exposure (OR 8.23, 95% CI, 1.36–49.66, $p=0.021$). In males, no associations were observed between CD and the smoking exposures. No associations were observed between UC and both smoking variables.



Conclusion: In Qatar, adulthood tobacco smoking appears to increase the odds of CD. Further, our findings suggest that both childhood and adulthood cigarette smoke exposure may possibly have a detrimental effect on the odds of CD in females but not in males, although further research is needed. These findings, together with the existing literature, suggest the need for smoking cessation initiatives in populations at high risk of CD in the region, where smoking is highly prevalent.

Keywords: Crohn's disease, ulcerative colitis, inflammatory bowel disease, smoking, childhood passive smoking, Middle East and North Africa