

## INTRODUCTION

- The Centers for Disease Control (CDC) estimates there are 3.1 million American adults with inflammatory bowel disease (IBD), 1.7 million of which are women.
- A higher prevalence of IBD was seen in adults with less than a high school level of education compared to those with a bachelor's degree or higher (1.7% vs 1.1%,  $p < 0.05$ ).
- Many of these women with IBD are of childbearing age and discussions about contraceptive options are an important aspect of their healthcare.
- For many reasons (accessibility to healthcare, cost of services, social stigma) these patients often turn to online resources for answers to questions they may have about their contraceptive options.
- There is currently a paucity of information on the quality of the information online related to contraception use in IBD.

## STUDY AIM

- This study sought to evaluate the quality and readability of online information related to contraceptive use in patients with IBD.

## METHODS

- Google search engine was used to query “inflammatory bowel disease and contraception” to access the first 100 websites.
- Websites that were non-accessible, duplicates, or videos without transcripts were excluded.
- Websites were categorized as academic/professional, informational, personal/blog, or commercial.
- Quality of information was determined using the DISCERN instrument, a validated scoring system that evaluates consumer health resources based on specific quality measure criteria.
- Scores were totaled and websites were categorized as “Excellent” (56-75), “Good” (36-55), or “Poor” (15-35).
- Readability was determined using the validated Flesch-Kincaid Grade Level (FKGL) score.
- Statistical analysis was performed using ANOVA and two-tailed Fisher-Freeman-Halton exact testing with significance set at  $p < 0.05$ .

## RESULTS

Figure 1: Total DISCERN Score by Website Category

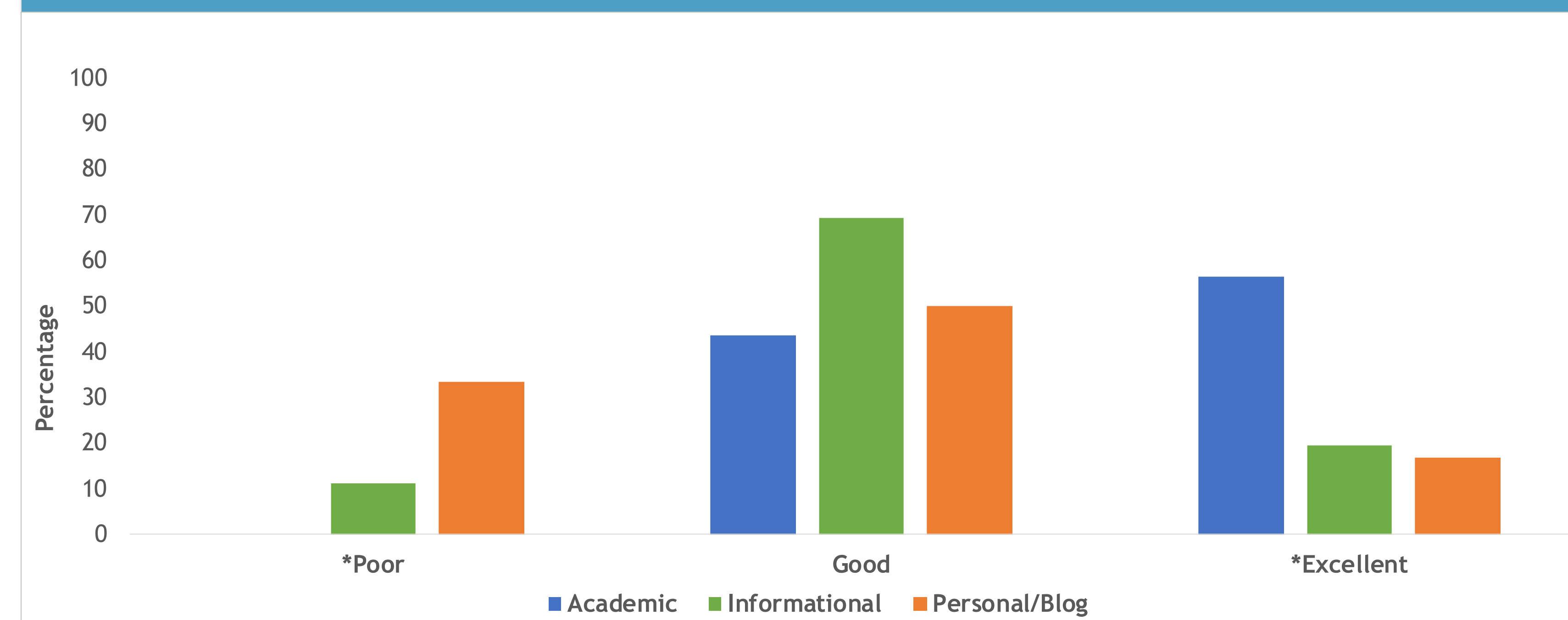


Figure 1: Bar graph representing total DISCERN score by website category. There were significantly more “Excellent” scores among academic articles and significantly more “Poor” scores among personal articles (\* denotes a statistically significant difference in total DISCERN score).

Figure 2: Distribution of DISCERN Scores by Website Category

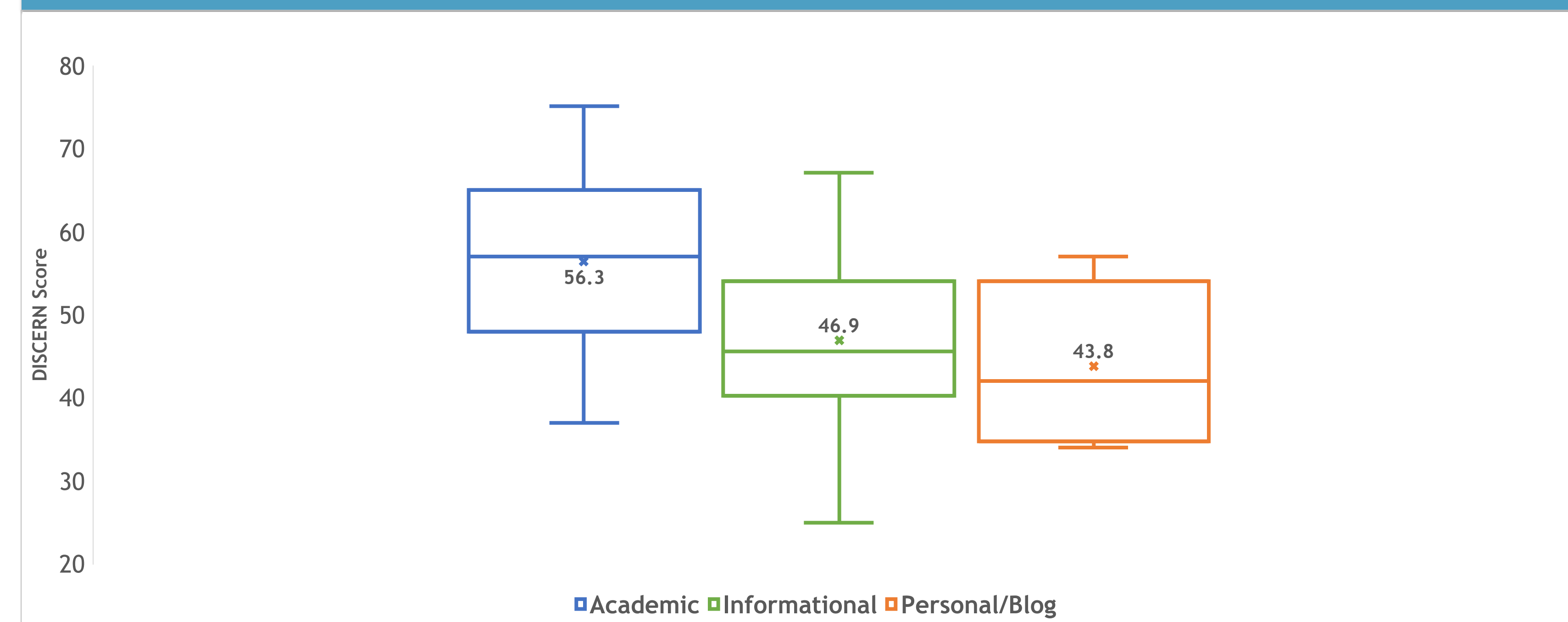


Figure 2: Box-and-whisker plot demonstrating the distribution of DISCERN scores between academic, informational, and personal websites with ranges and median lines noted. Academic articles had a significantly higher average DISCERN score compared to the other website categories.

Table 1: Flesch-Kincaid Grade Level and DISCERN Score Data

Website Category	Academic	Informational	Personal	All
Number (%)	39 (47.0%)	36 (43.4%)	6 (7.2%)	83
Average FKGL	13.4	10.4	8.9	11.7
Average DISCERN	56.3	46.9	43.8	49.0
“Excellent” DISCERN (%)	22 (56.4%)	7 (19.4%)	1 (16.7%)	30 (36.1%)
“Good” DISCERN (%)	17 (43.6%)	25 (69.4%)	3 (50.0%)	47 (56.6%)
“Poor” DISCERN (%)	0	4 (11.1%)	2 (33.3%)	6 (7.2%)

Table 1: Of 83 websites that met inclusion criteria, the average FKGL was near a 12<sup>th</sup> grade reading level, with a significantly higher reading level for academic vs informational or personal websites. The average DISCERN was 49.0, considered a “Good” score. Academic websites had a significantly higher average DISCERN score and significantly more “Excellent” scores.

## RESULTS

- 83 of 100 websites met the inclusion criteria.
- 39(47.0%) websites were categorized as academic, 36 (43.4%) informational, 6 (7.2%) personal and 2 (2.4%) commercial.
- The average FKGL was 11.7 with a significantly higher grade for academic websites compared to informational or personal (13.4 vs 10.4 and 8.9;  $p=0.00001$ ).
- The average DISCERN for all websites was “Good” with a score of 49.0
- Academic websites had a significantly higher average DISCERN than informational or personal (56.3 vs 46.9 and 43.8;  $p=0.0002$ ).
- Academic websites had significantly more “Excellent” DISCERN scores than informational or personal (56.4% vs 19.4% and 16.7%;  $p=0.002$ )
- Personal websites had significantly more “Poor” DISCERN scores than academic or informational (33.3% vs 0% and 11.1%;  $p=0.007$ ).
- Areas of uncertainty (82.1% vs 55.6% and 16.7%;  $p=0.002$ ) and cited references (100% vs 44.4% and 66.7%;  $p=0.00001$ ) were addressed more so in academic websites.

## DISCUSSION

- This study supports that academic resources on IBD and contraception are of higher quality than informational or personal/blog websites.
- Academic resources present more comprehensive and unbiased information on the topic of IBD and contraception compared to other website categories.
- A limitation of academic resources is the reading level required, which exceeds the average education level of patients with IBD and the NIH-recommended 6<sup>th</sup> grade level.
- As the use of online resources on contraception in IBD continues to increase, further efforts should focus on developing information that is both more accessible to the average patient and of higher quality.

## REFERENCES

Dahlhamer JM, Zammitti EP, Ward BW, Wheaton AG, Croft JB. Prevalence of Inflammatory Bowel Disease Among Adults Aged  $\geq 18$  Years — United States, 2015. MMWR Morb Mortal Wkly Rep 2016;65:1166–1169. DOI: <http://dx.doi.org/10.15585/mmwr.mm6542a3>