

Background

Invasive medical procedures such as endoscopy are a significant source of anxiety for patients.¹ Published data show that higher levels of pre-endoscopy anxiety are associated with worse clinical outcomes such as reduced compliance, longer endoscopy times, increased need for sedation, more difficult procedures, incomplete endoscopy, and lower patient satisfaction.² Studies in adults have shown that pre-endoscopy interventions such as educational videos or brochures are associated with decreased pre-endoscopy anxiety; similar literature in pediatrics is limited.³⁻⁵

Objectives

- 1) Evaluate whether an educational video effectively reduces self-reported pre-endoscopy anxiety in a pediatric cohort of patients.
- 2) Identify the most common and significant concerns surrounding endoscopy for patients and their parents.

Methods

This is a prospective randomized controlled trial of patients ages 8-21 years requiring gastrointestinal endoscopy with their parents participating when appropriate.

Exclusion criteria:

- endoscopy within 1 week prior
- need for emergent endoscopy
- cognitive impairment inhibiting patients from completing study measures

Eligible patients were stratified by age and then randomized to either control or intervention group:

- Children (8-12 years old)
- Adolescents (13-17 years old)
- Young adults (18-21 years old)



The intervention group was shown an educational video created by the study investigators. The video gives details of what a patient should expect during the days leading up to and on the day of endoscopy. The video follows a child actor as they check in for their procedure, enter the endoscopy suite, recover after their procedure and are discharged.

Participants were asked to report anxiety using a Numerical Rating Scale (NRS) and to complete the State-Trait Anxiety Inventory (STAI/STAI-C), a validated measure of anxiety state and trait. Patients recruited prior to the day of endoscopy reported pre-procedural anxiety both the day of recruitment and the day of endoscopy (NRS 1, 2). Adolescent and adult patients and parents also reported their anxiety levels surrounding specific components of the procedure using a Likert scale.

Results

Table 1: Participant characteristics

Variable	Intervention N=82	Control N=78	p value
Age (mean in yrs ±SD)	15±3.4	15±3.2	0.49
Sex			
Male	34	35	0.66
Female	48	43	
Ethnicity			
Hispanic/Latino(a)	22	20	0.34
Black/African American	15	9	
White	8	3	
Asian	2	3	
Other	10	12	
Patient ever scoped			
Yes	27	29	0.48
No	55	48	
Anxiety Trait			
STAI-C Trait mean score	38.4 (± 8.2)	37.4 (± 8.8)	0.55
STAI Trait mean score	40.8 (± 11.9)	43.2 (± 11.8)	0.52

Figure 1: Participant concerns

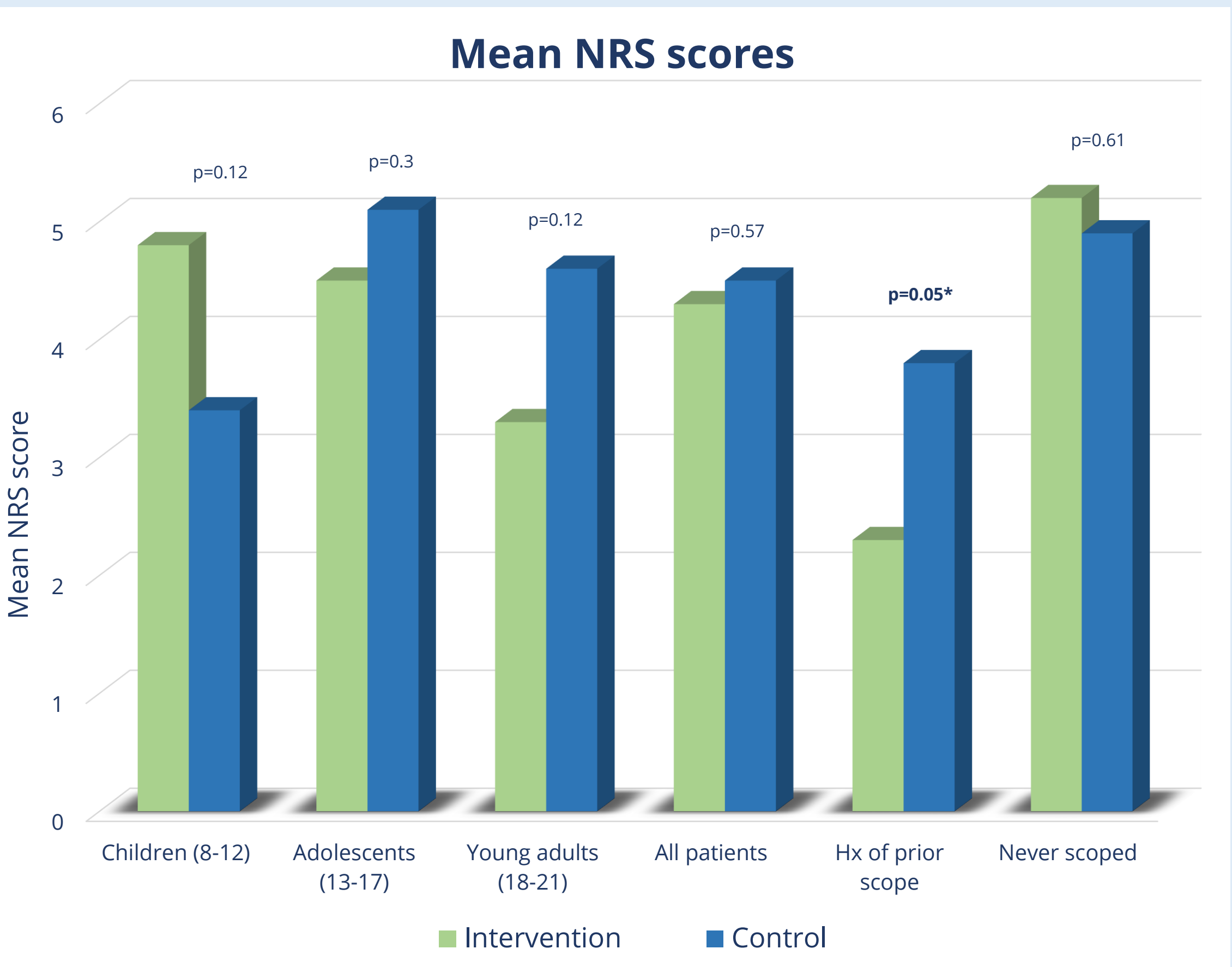
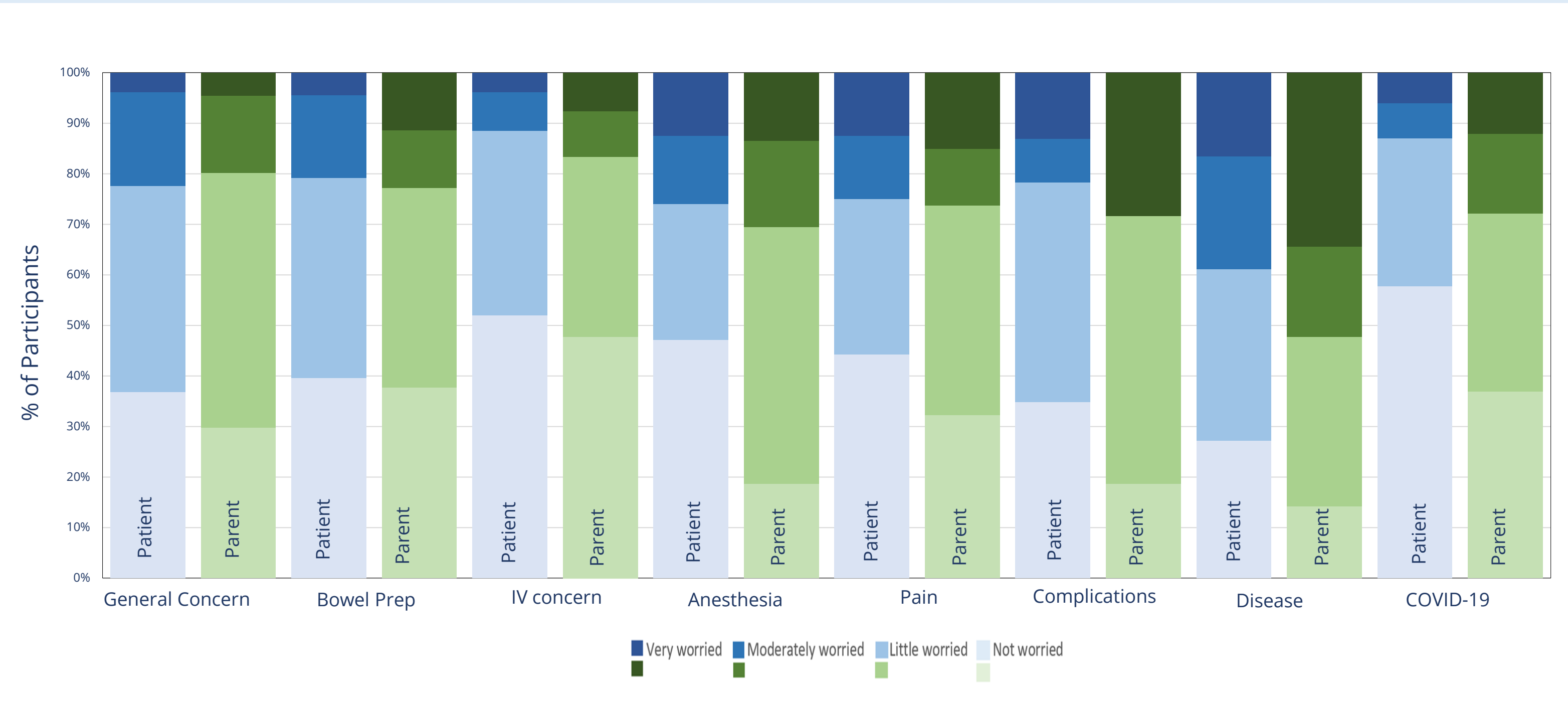


Figure 2: Mean control vs. intervention NRS scores in various subgroups

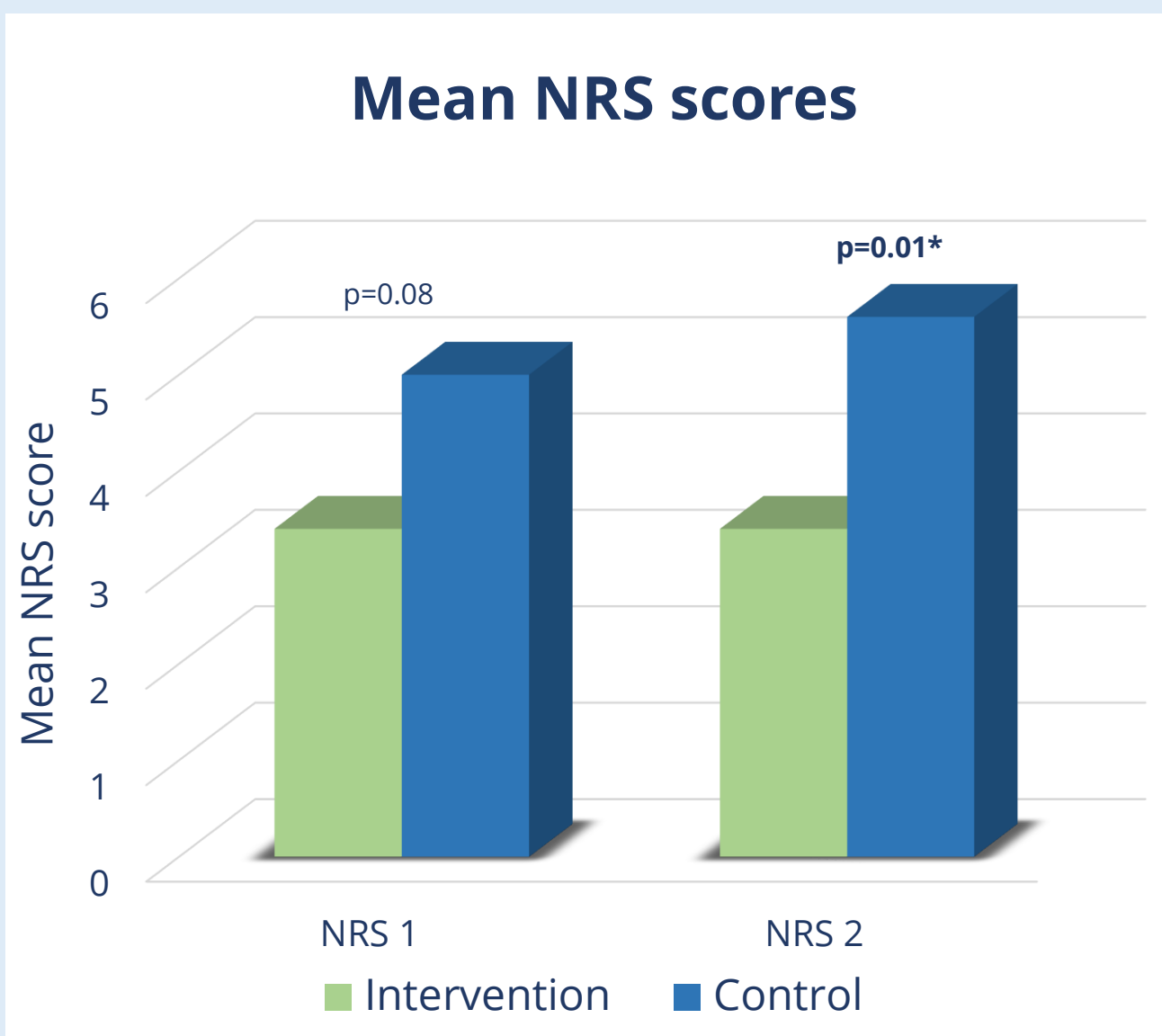


Figure 3: Mean control vs. intervention NRS scores of patients recruited prior to day of endoscopy

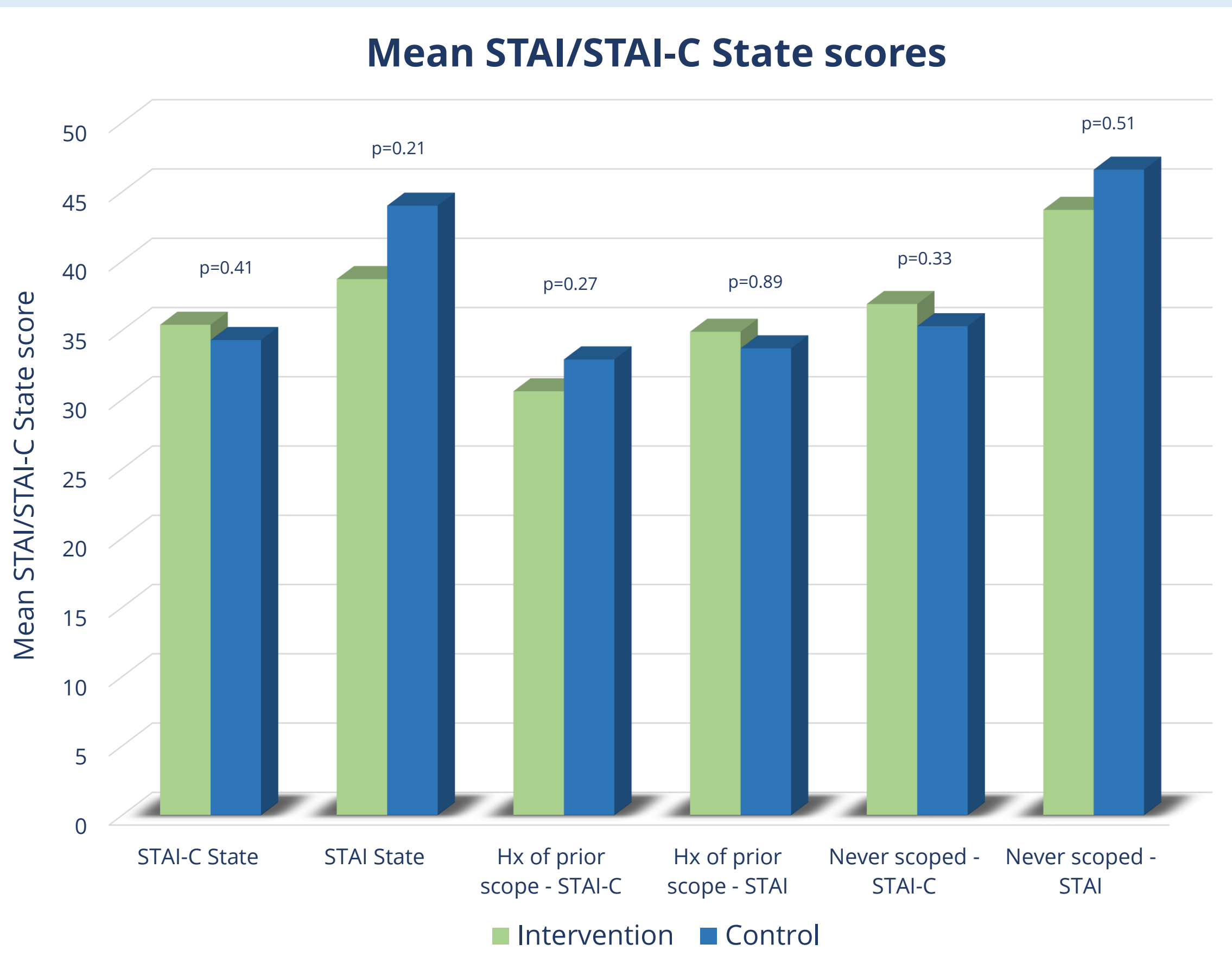


Figure 4: Mean control vs. intervention STAI/STAI-C State scores in various subgroups

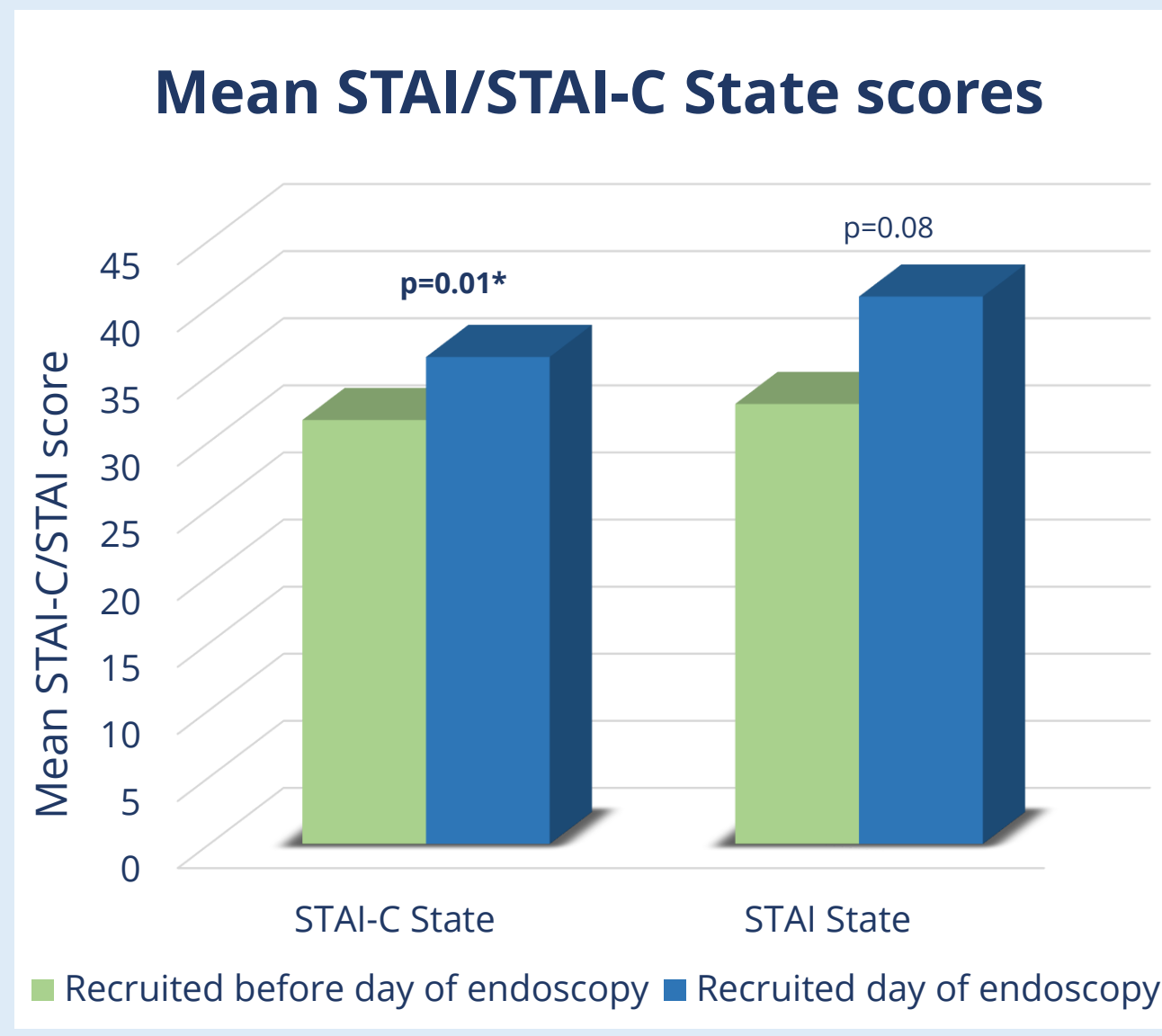


Figure 5: Mean intervention STAI-STAI-C scores of patients recruited prior to vs. day of endoscopy

Discussion

- The study results suggest that timing, specifically earlier delivery, of an educational intervention may be a key factor in dictating the intervention's efficacy in attenuating pre-endoscopy anxiety among children and young adults
- The results also highlight that for both parents and patients, the possibility that some disease might be found and the need for anesthesia, were the two most anxiety-provoking factors surrounding endoscopy
- These findings provide valuable insights into how physician-patient discussions regarding endoscopy and delivery of health-related education may be optimized to reduce anxiety and in turn reduce adverse outcomes
- Future analyses will also consider data regarding history of anxiety, anxiety sensitivity, parental anxiety, and health literacy

References

1. Brandt LJ. Patients' attitudes and apprehensions about endoscopy: how to calm troubled waters. Am J Gastroenterol. 2001;96(2):280-284.
2. Chuah SY, Goh KL, Wong NW. Common anxieties of patients undergoing oesophago-gastro-duodenoscopy, colonoscopy and endoscopic retrograde cholangio-pancreatography. Med J Malaysia. 1999;54(2):216-224.
3. Arabul M, Kandemir A, Çelik M, Alper E, Akpınar Z, Aslan F, et al. Impact of an information video before colonoscopy on patient satisfaction and anxiety. Turk J Gastroenterol. 2012;23(5):523-529.
4. Lanius M, Zimmermann P, Heegewaldt H, Hohn M, Fischer M, Rohde H. Does an information booklet on gastrointestinal endoscopy reduce anxiety for these examinations? Results of a randomized study with 379 patients. Z Gastroenterol. 1990;28(12):651-655
5. Jay SM, Elliott CH, Katz E, Siegel SE. Cognitive-behavioral and pharmacological intervention for children's distress during painful medical procedures. Journal of Consulting and Clinical Psychology. 1987;55(6):860-5.