
2021
NCSCG
18TH ANNUAL HYBRID
GI SYMPOSIUM
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Highlights of DDW

FUNCTIONAL AND MOTILITY DISEASES

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Disclosures

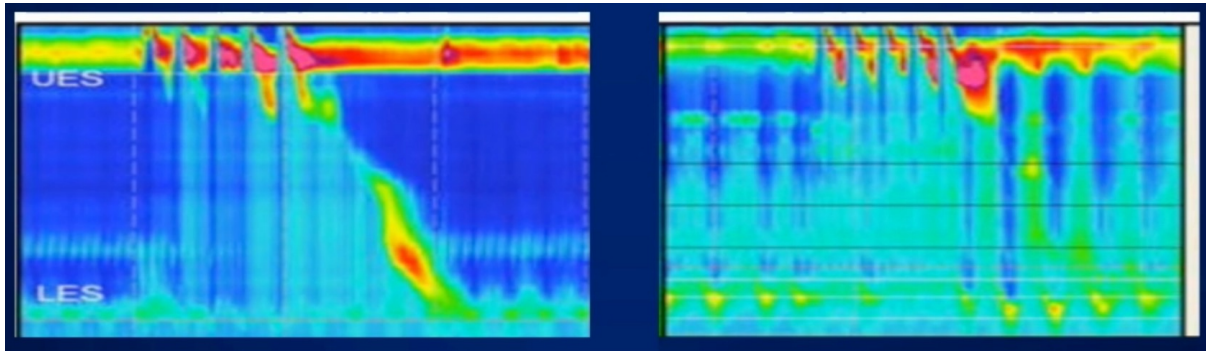
- I have no financial disclosures

Esophageal Disorders

Absent Esophageal Contractile Reserve is an Independent Predictor of Reflux Burden in Patients with Ineffective Esophageal Motility Characterized by High Proportion of Failed Swallows (#790)

E. Cricco-Lizza, J. X. Cai, et. al

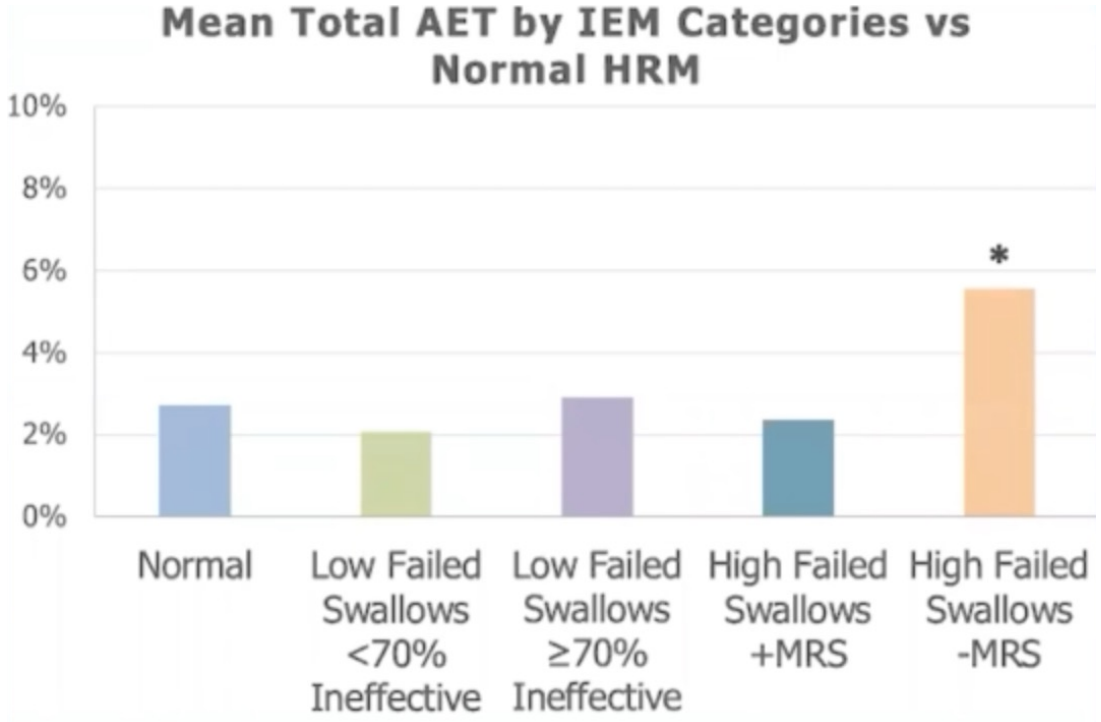
- 413 patients of which 161 (39%) had ≥ 50% ineffective swallows
  - 84 (20.3%) with low (< 50%) failed swallows
    - 54 (13.1%) with < 70% ineffective swallows
    - 30 (7.3%) ≥ 70% ineffective swallows (new CC 4.0v)
  - 77 (18.6%) with high (≥ 50%) failed swallows
    - 36 (8.7%) with contractile reserve
    - 41 (9.9%) with no contractile reserve

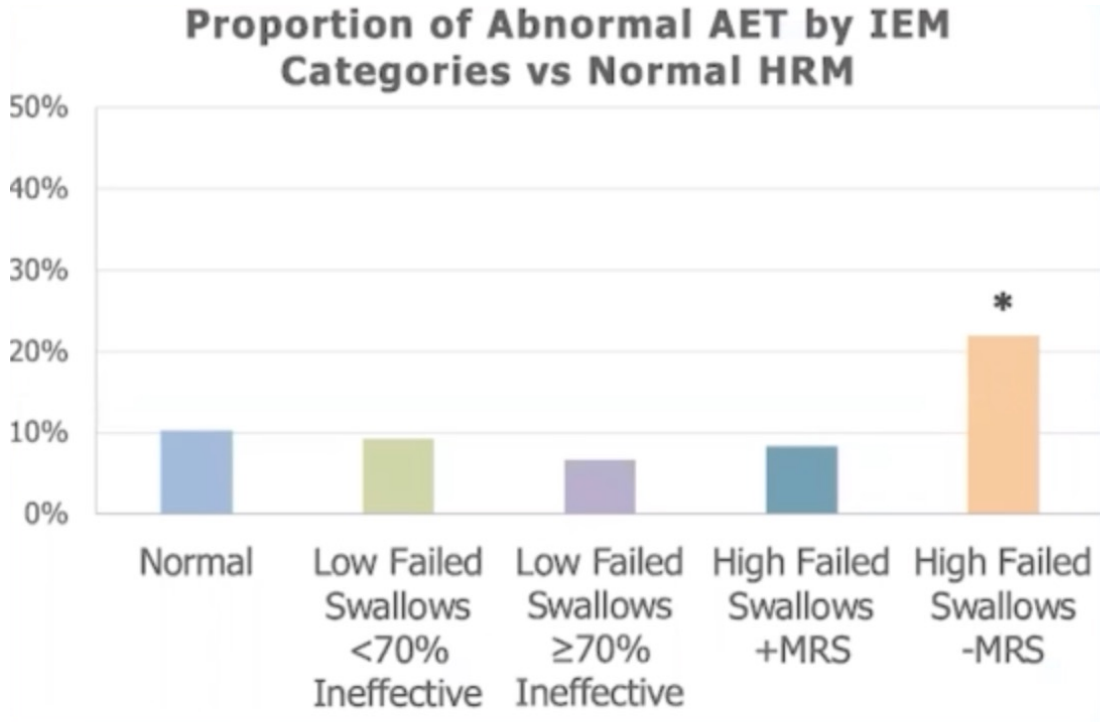


MRS response:

$$\text{Intact response} = \frac{\text{Mean MRS distal contractile integral (DCI)}}{\text{Mean single swallow DCI}} > 1$$

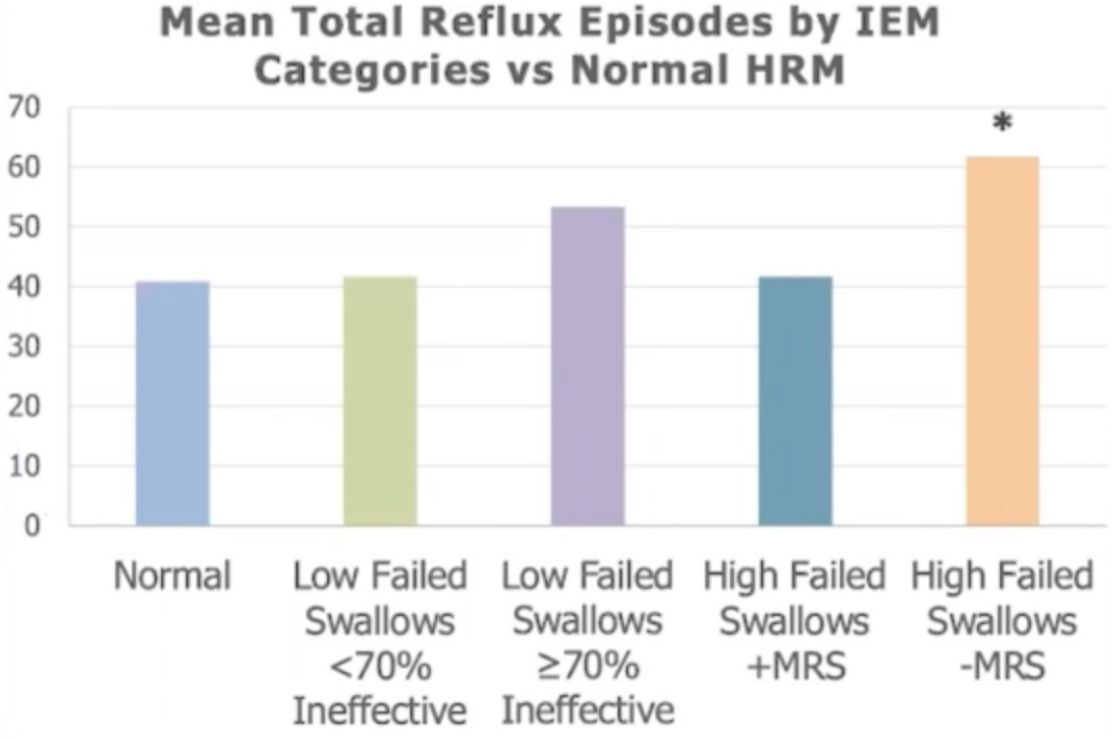
Esophageal Disorders

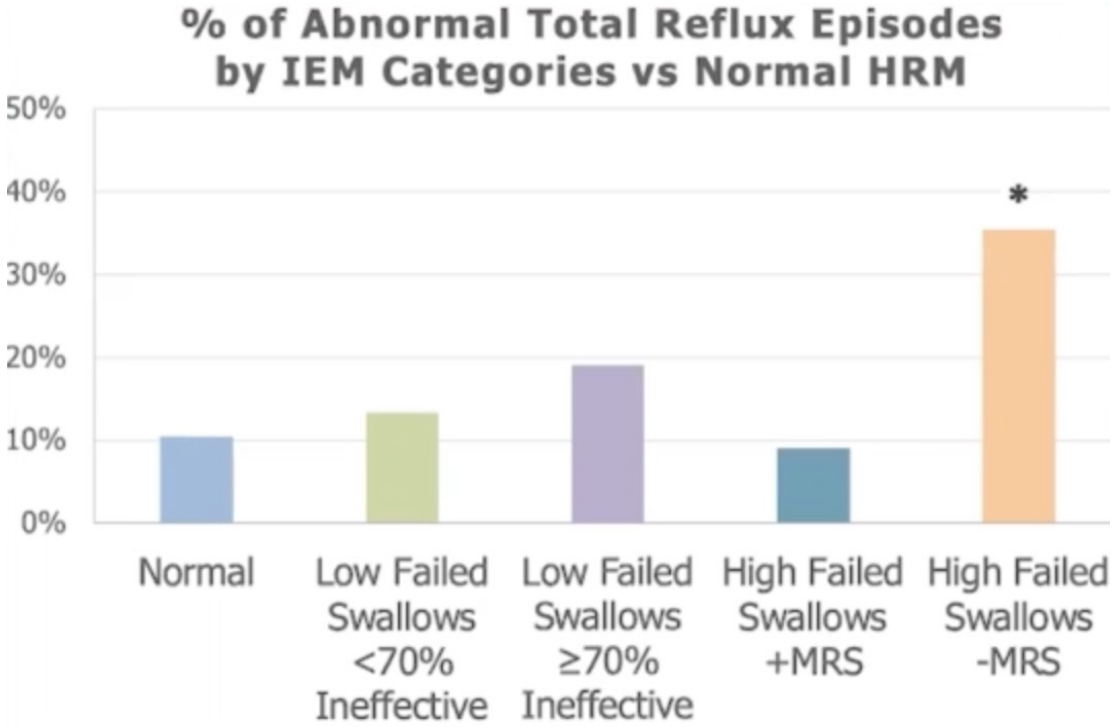




- Reflux burden measured by performing 24-hour Impedence pH testing
- Significantly higher mean and % abnormal acid exposure time (AET) in patients with high failed swallows and absent MRS
- Also significantly higher mean proximal AET in these patients

Esophageal Disorders





- Significantly higher mean and % abnormal total reflux episodes in patients with high failed swallows and absent MRS
- Also increased mean proximal total reflux episodes in these patients

Esophageal Disorders

Multivariate analysis adjusting for age, sex, BMI, smoking history, and alcohol use

	Abnormal AET		Abnormal total reflux	
	OR (95% CI)	*p*-value	OR (95% CI)	*p*-value
High failed swallow -MRS	2.56 (1.06-6.13)	0.02	4.83 (1.89-12.4)	0.009
High failed swallow +MRS	0.93 (0.26-3.35)	0.92	1.17 (0.23-5.77)	0.55
Low failed swallow ≥70% Ineffective	0.32 (0.04-2.48)	0.18	1.57 (0.40-6.23)	0.87
Low failed swallow <70% Ineffective	1.22 (0.43-3.47)	0.64	1.73 (0.56-5.37)	0.98

- Conclusion: IEM with ≥ 50% failed swallows and absent contractile reserve is associated with higher reflux burden as compared to normal motilty, IEM with <50% failed swallows and IEM with ≥ 50% failed swallows but intact contractile reserve

Functional Disorders

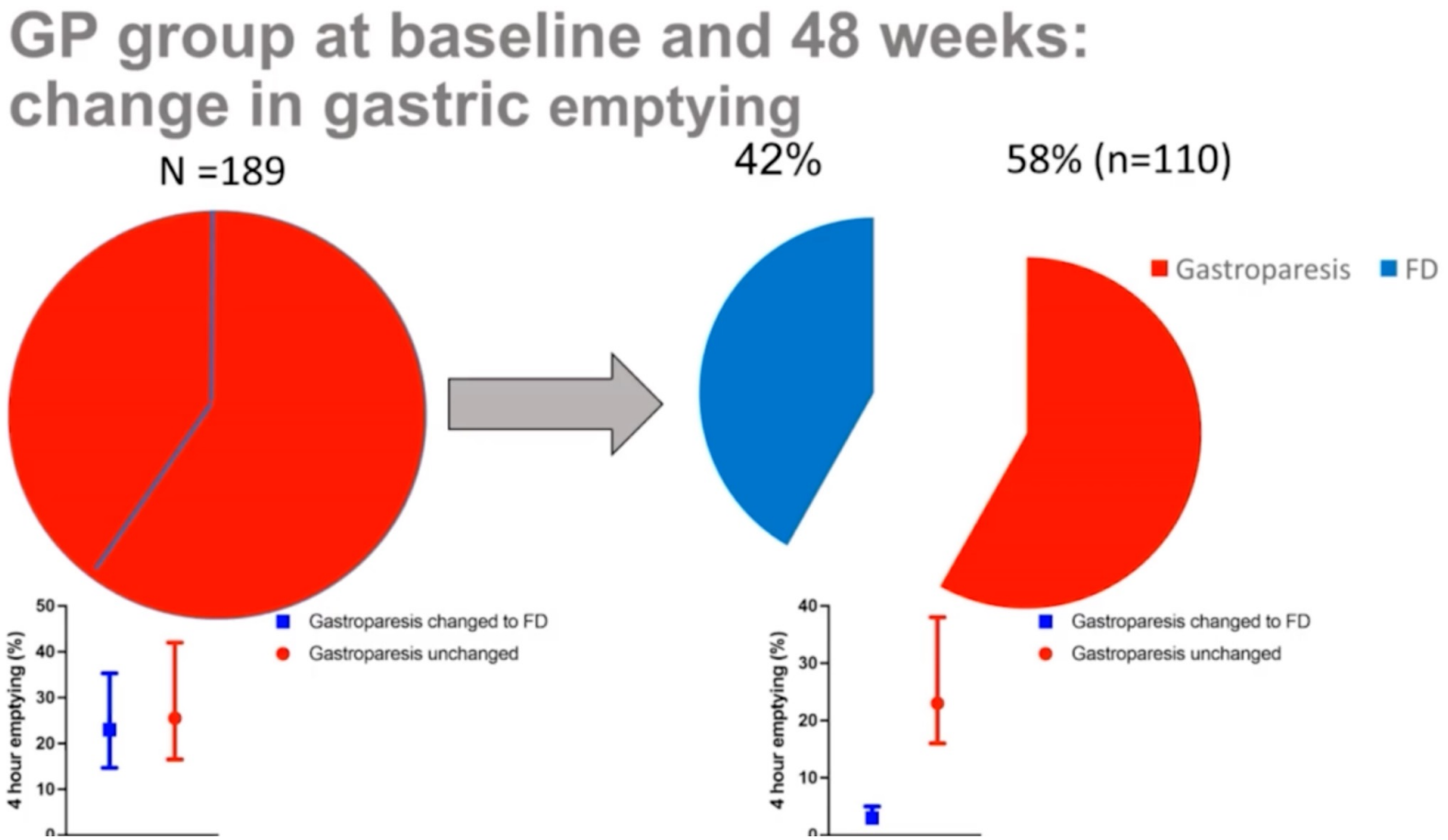
Functional Dyspepsia and Gastroparesis are Interchangeable Syndromes with Common Clinical and Pathological Features (#462)

P. J. Pasricha, M. Grover, K.P. Yates, et. al

- 944 patients in GpCRC gastroparesis registry followed prospectively for 48 weeks
  - 224 normal emptying at baseline and met Rome III for FD
    - 95% post-prandial distress syndrome
    - 68% epigastric pain syndrome
  - 720 with gastroparesis at baseline by standard 4-hour scintigraphy
  - Similar demographics between the two groups except for slightly higher prevalence of diabetes in the gastroparesis group
  - No significant difference in terms of baseline symptom severity or predominant symptom (nausea, vomiting, abdominal pain, etc.)

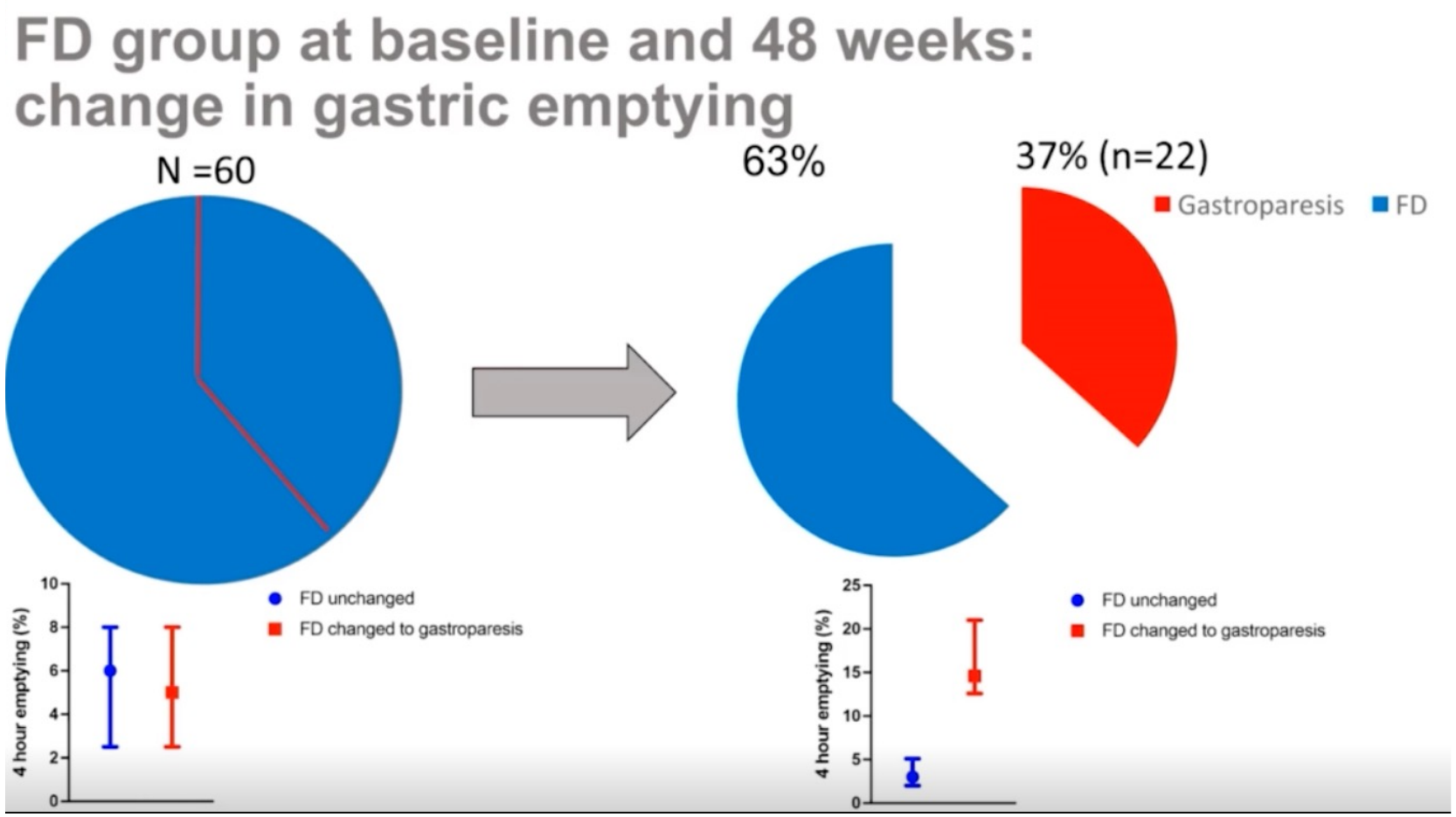
Functional Disorders

- In 189 patients with delayed gastric emptying at baseline, when re-tested, 42% now had normal gastric emptying.



Functional Disorders

- In 60 patients with normal gastric emptying at baseline, when re-tested, 37% now had delayed gastric emptying.



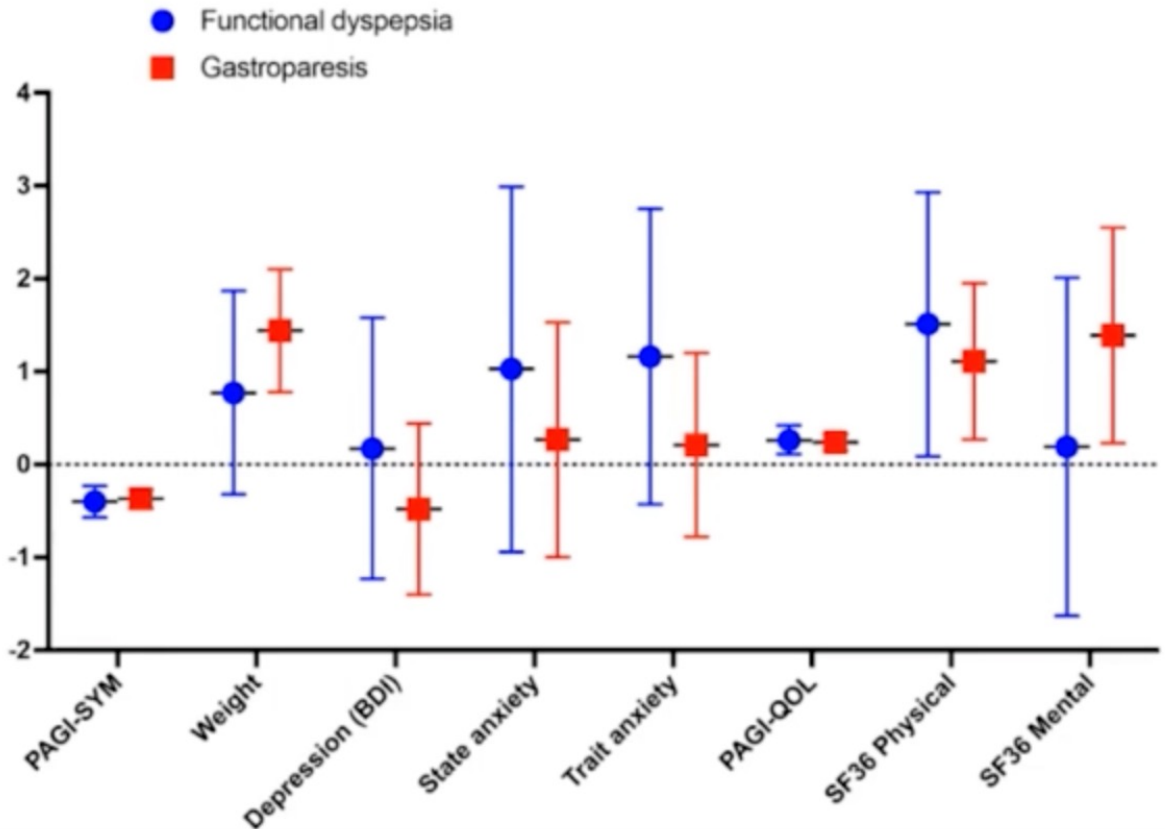
Functional Disorders

- No significant change in medications or hemoglobin A1c for either group that had a change in their gastric emptying status.

Changes in HbA1c and medication use during 48 wk of follow-up	FD at baseline (N = 60)			Gp at baseline (N = 189)		
	FD at 48 wk (N = 38)	Gp at 48 wk (N = 22)	*P*	Gp at 48 wk (N = 110)	FD at 48 wk (N = 79)	*P*
HbA1c (%)[c]	0.12 (0.83)	0.60 (1.55)	.40	0.29 (1.25)	0.18 (1.71)	.77
Medication use during 48 wk (%)						
Narcotics use	13.9% (54.3)	22.7% (42.9)	.80	15.7% (43.6)	11.0% (35.6)	.37
Proton pump inhibitors	-2.8% (50.6)	-9.1% (52.6)	.74	2.8% (48.3)	-8.2% (46.4)	.12
Prokinetics	-2.8% (56.0)	0% (43.6)	.26	6.5% (49.8)	5.5% (0.50)	.43
Antiemetics	2.8% (37.7)	9.1% (29.4)	.62	11.1% (43.9)	5.5% (46.8)	.20
Antidepressants	-22.2% (54.0)	-9.1% (52.6)	.27	-10.2% (51.0)	0% (60.1)	.18
Anxiolytics	11.1% (57.5)	13.6% (35.1)	.95	14.8% (47.0)	15.1% (43.0)	.48
Pain modulators	5.6% (53.2)	9.1% (61.0)	.95	9.3% (39.9)	6.8% (25.4)	.40
Cannabinoids	0% (33.8)	4.5% (21.3)	.46	2.8% (25.4)	9.6% (29.6)	.22
Treatment use during 48 wk (%)						
On TPN	-2.8% (16.7)	-4.5% (21.3)	.33	0.9% (21.6)	-5.5% (28.3)	.54
Gastric electric stimulation device implantation	8.3% (43.9)	4.5% (37.5	.34	13.0% (41.2)	9.6% (37.9)	.72

Functional Disorders

- At 48 weeks, symptom profiles between the two groups were similar with no statistical difference.
- Histopathologic analysis in small subset of patients with full thickness biopsies showed loss of Interstitial cells of Cajal and decreased CD206+ macrophage levels for both FD and GP
- Conclusion: 41% patients had a change in their gastric emptying status after 48 weeks
  - BUT this did not significantly change the symptom profile for patients in either group.



Functional Disorders

Demographic and Clinical Factors Associated with Severe Abdominal Bloating in FGIDs: Younger age, Constipation, and Dyspepsia, but not Psychological Factors, are Associated with Severe Bloating (#101)

C.P Gardiner, P. Singh, S. Ballou, et al.

- 612 patients with functional gastrointestinal disorder as made by Rome IV criteria were surveyed (78.3% female)
  - 231 minimal bloating, 217 moderate bloating, 164 severe bloating
- Increased bloating severity (based on the Patient Assessment of Gastrointestinal Symptom Severity) was associated with:
  - Younger age
  - Presence of functional dyspepsia
  - Presence of functional constipation
  - Abdominal pain severity
  - Somatization Severity (measured by PHQ-12)
- Not associated with: anxiety, depression, and sleep disturbance

Functional Disorders

Multivariable Analysis

	Odds Ratio 95% CI		P-value
Age	-0.99	[-0.98,-0.99]	**0.041**
Sex	1.22	[0.81,1.84]	0.336
FGID Subtype			
Functional dyspepsia[§]	2.24	[1.58,3.18]	**<0.001**
IBS	0.65	[0.43,0.98]	**0.039**
Functional constipation	1.8	[1.06,3.07]	**0.031**
PHQ-12 score	1.08	[1.02,1.14]	**0.005**

Multivariable Analysis

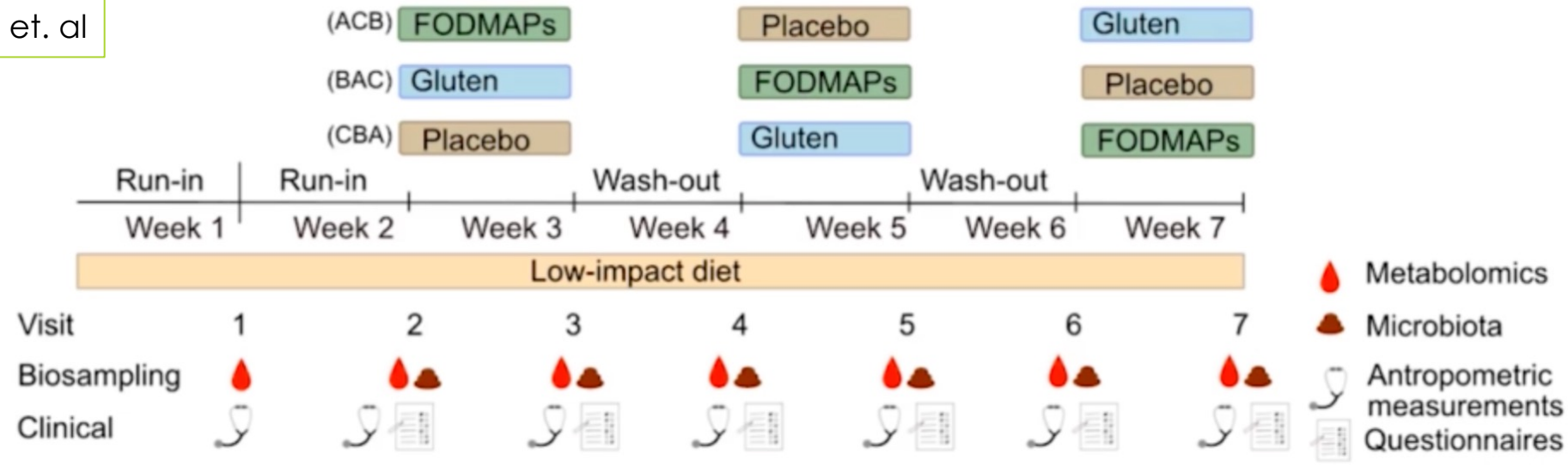
	Odds Ratio 95% CI		P-value
Severity of gastrointestinal symptoms (PROMIS T-score)			
Abdominal pain	1.08	[1.06,1.10]	**<0.001**
Constipation	1.04	[1.02,1.06]	**<0.001**
Diarrhea	0.99	[0.97,1.01]	0.308
Anxiety	1.00	[0.97,1.02]	0.885
Depression	1.00	[0.98,1.03]	0.858
Sleep disturbance	0.99	[0.97,1.01]	0.397

Functional Disorders

FODMAPs, but not Gluten, Elicit Modest Symptoms of IBS: Double-Blind, Placebo-Controlled Randomised 3-way Crossover Trial (#380)

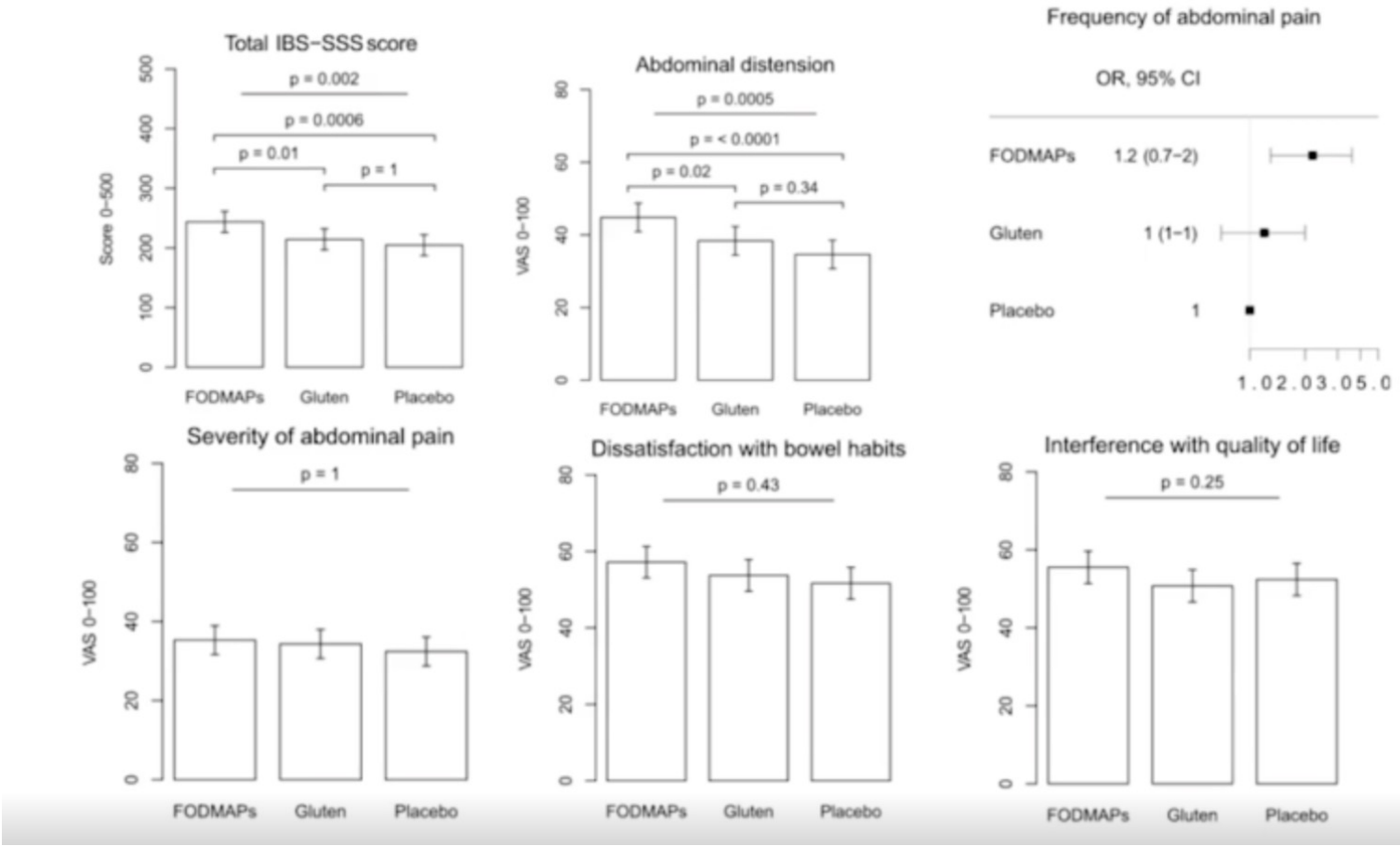
P. Hellström, E. Nordin, C. Brunius, et. al

- 110 patients included, 7 dropout (96 F, 14 M)
- IBS subtype: Constipation 32, Diarrhea 38, Mixed 40
- All patients placed on a low-impact diet with low FODMAPs and low gluten at baseline



Functional Disorders

- Treatment with FODMAPs were statistically different from gluten and placebo in terms of IBS-SSS and abdominal distension
  - Gluten was not different from placebo in either of these
- No difference in frequency/severity of abdominal pain, satisfaction with bowel habits or quality of life
- No difference in the subtypes of IBS

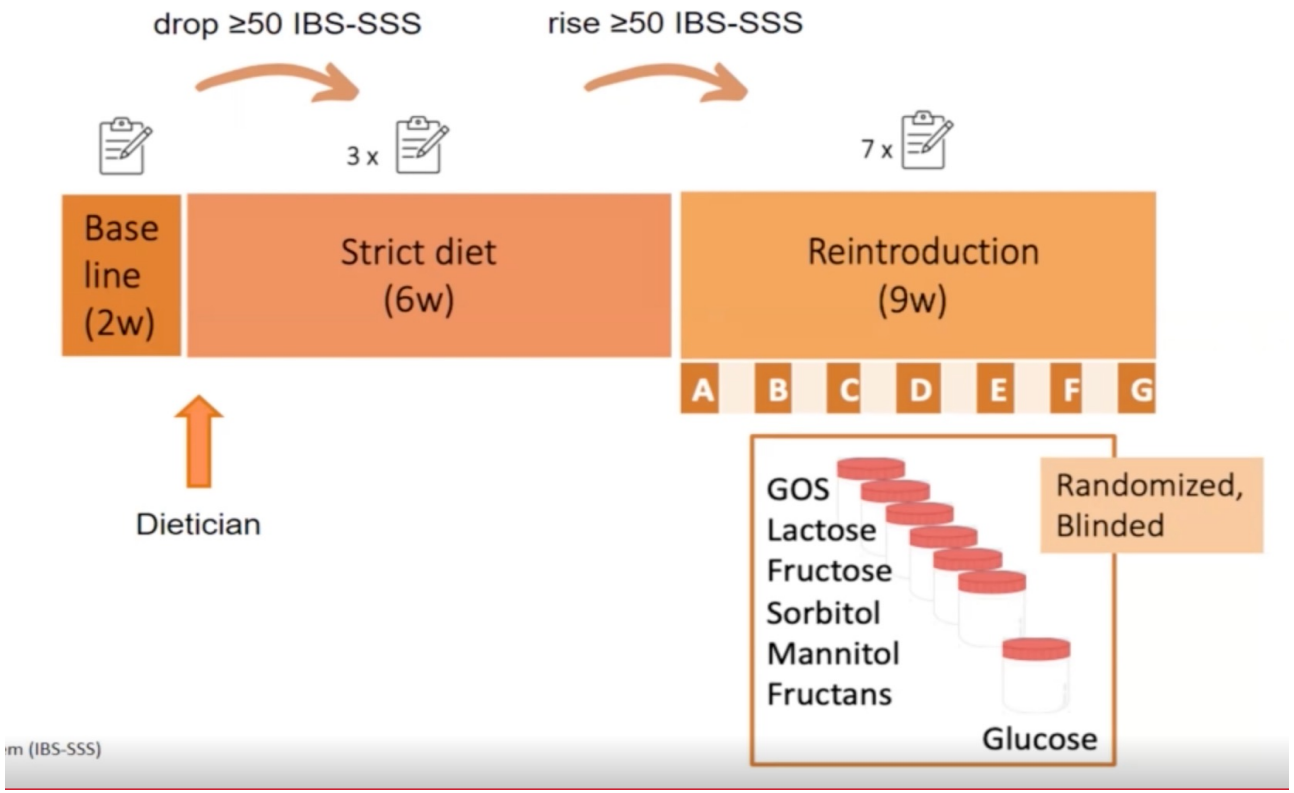


Functional Disorders

Efficacy of a New Approach to the Reintroduction Phase of the Low-FODMAP diet in IBS (#381)

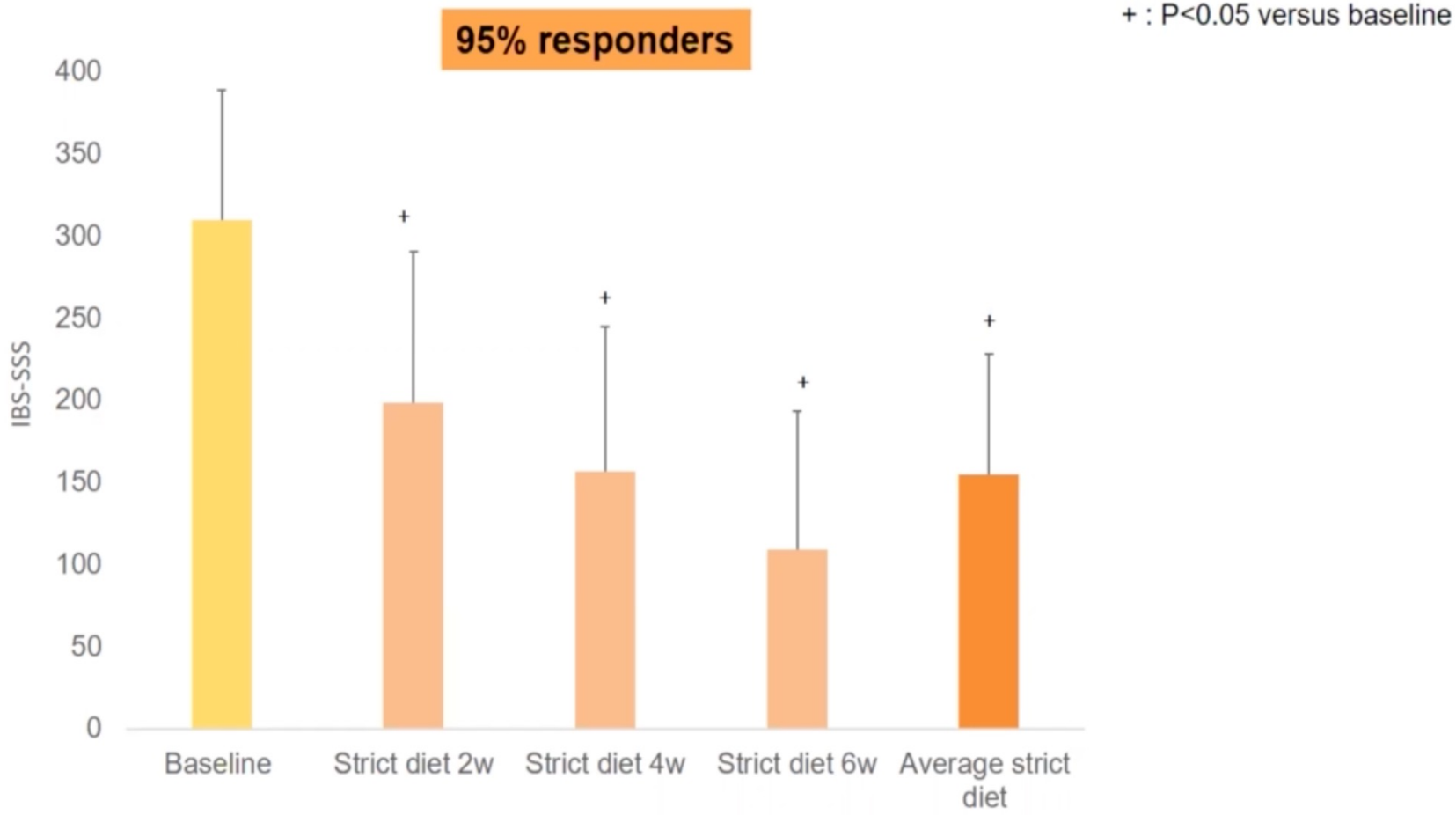
K. Van Den Houte, E. Colomier, et. al

- 46 patients, results for 26 patients to date (87% Female, base IBS-SSS 310 +/-75)



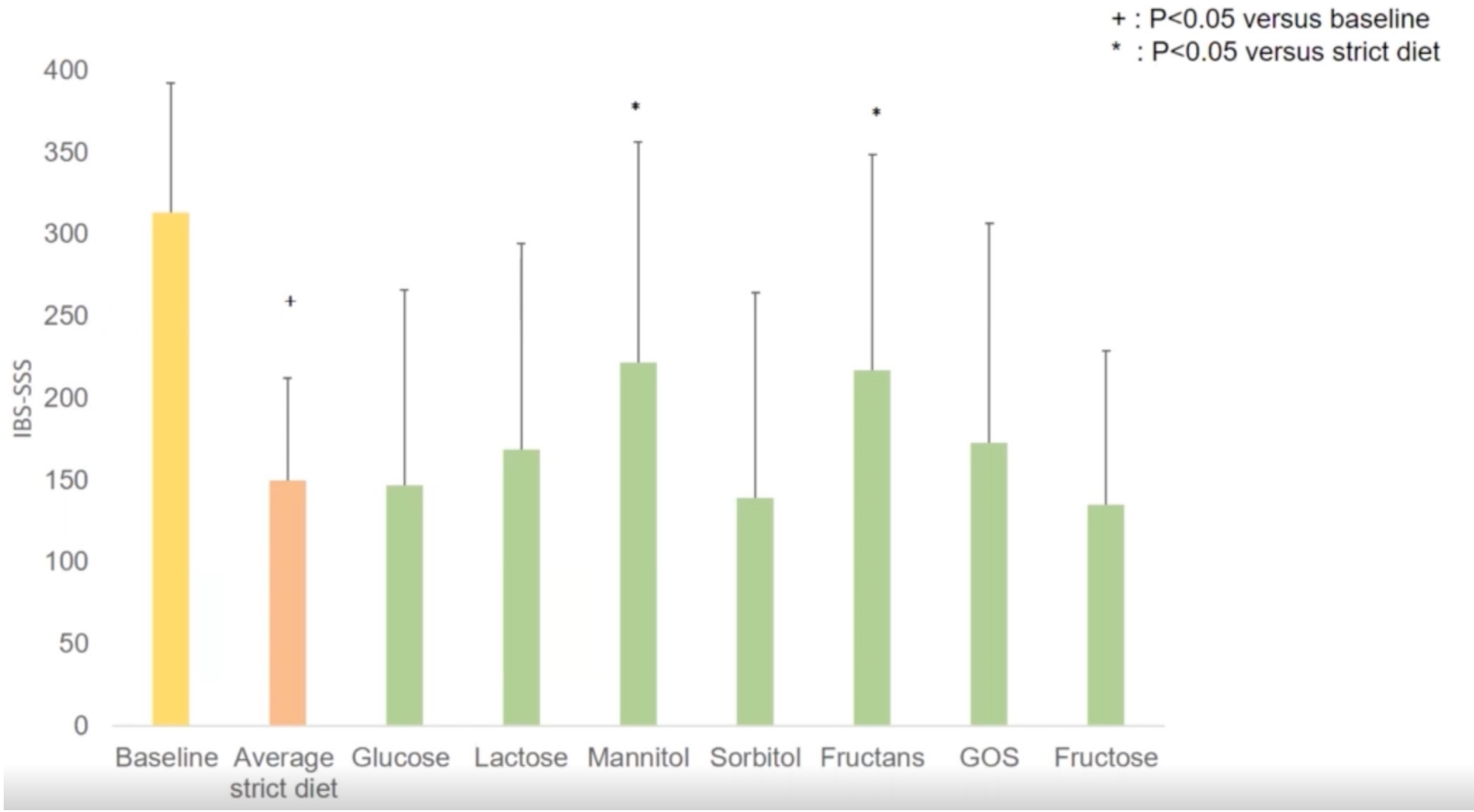
Functional Disorders

- Significant improvement in IBS-SSS (defined as >50) in all but 2 patients during the strict diet phase



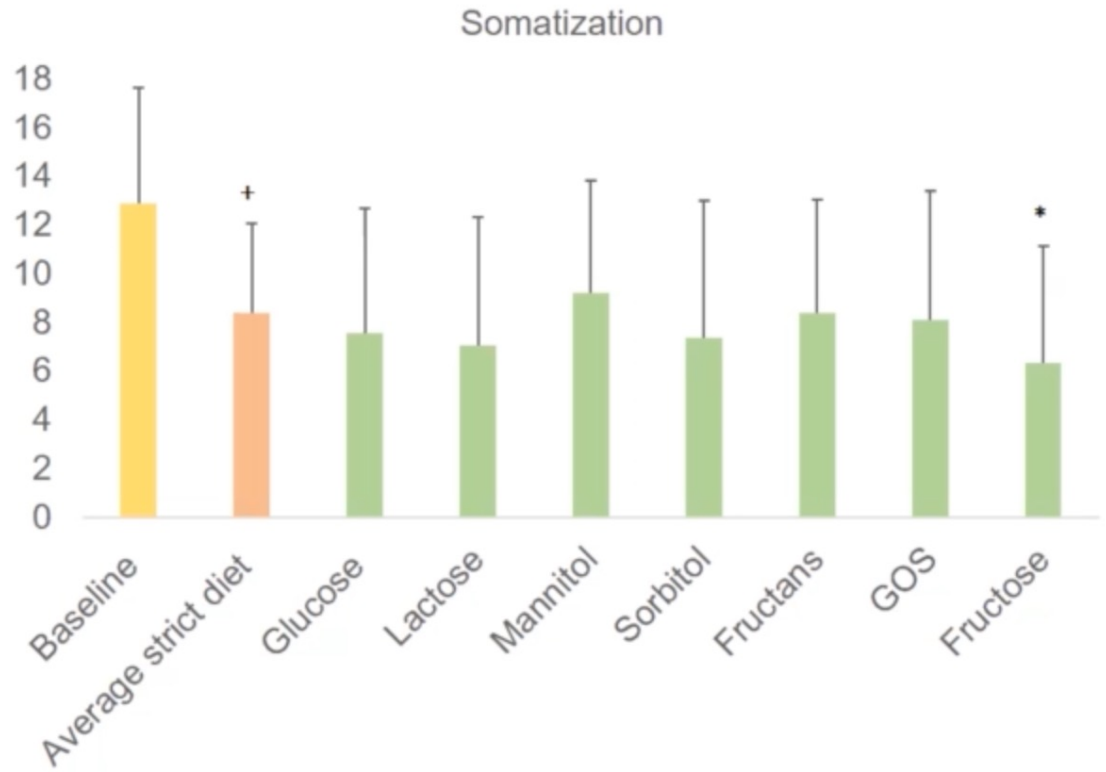
Functional Disorders

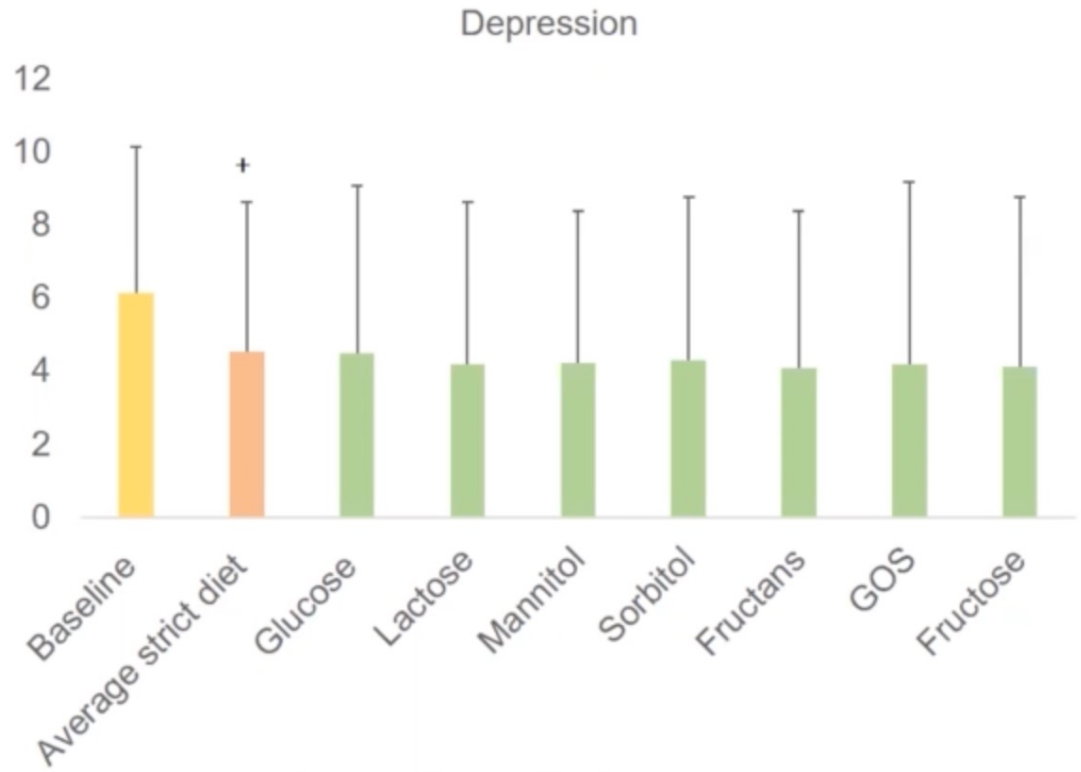
- Statically significant increase of IBS-SSS when introducing Mannitol and Fructans.



Functional Disorders

+ : P<0.05 versus baseline
* : P<0.05 versus strict diet



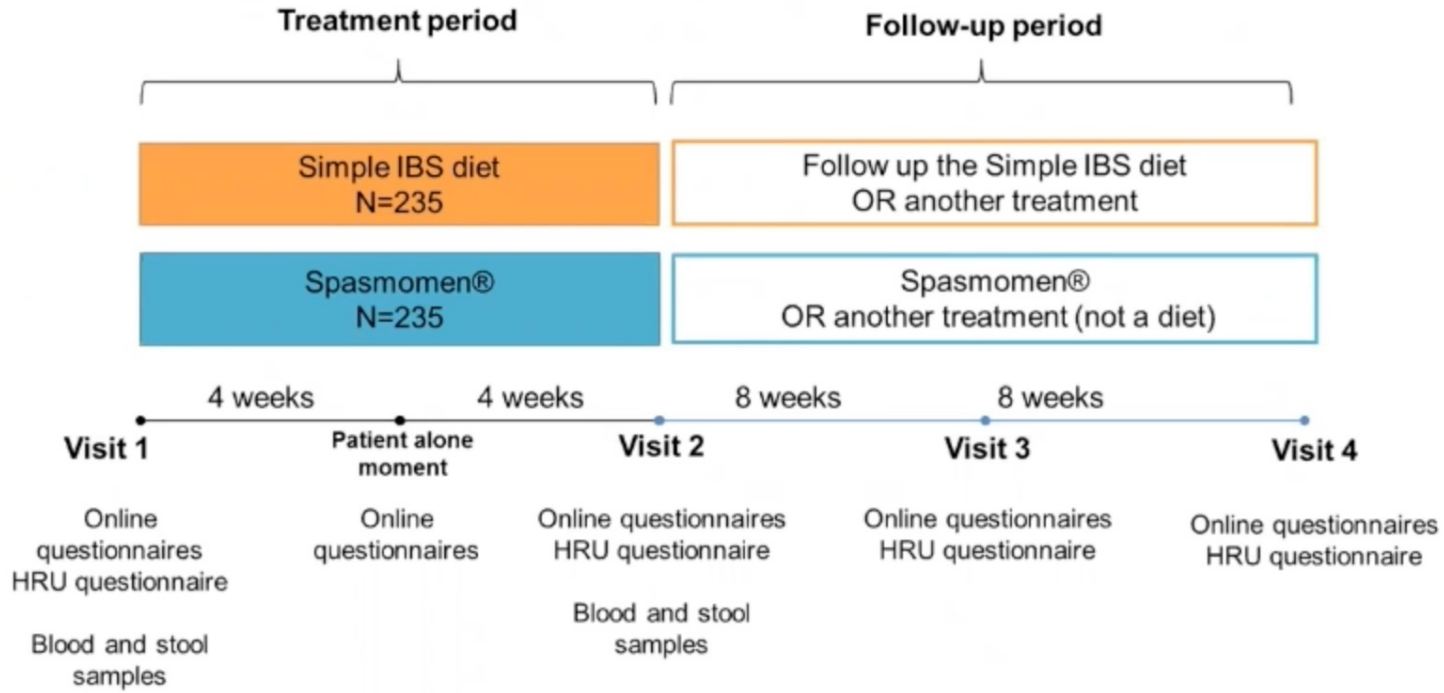


Functional Disorders

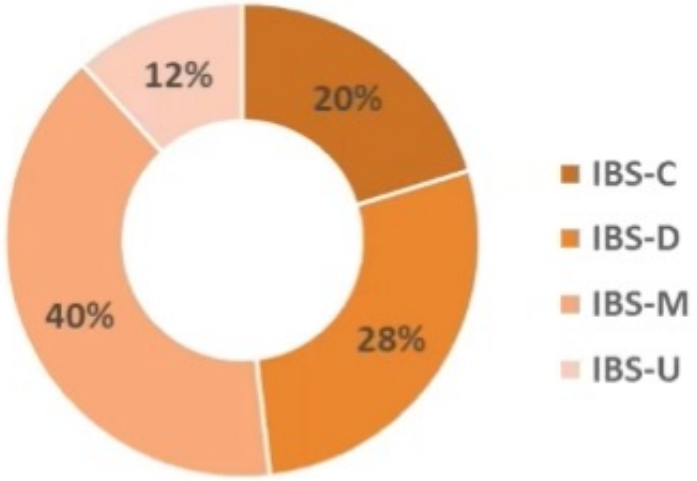
The DOMINO study: Diet or medication in primary care patients with irritable bowel syndrome (#512)

F. Carbone, K. Van den Houte, et. al

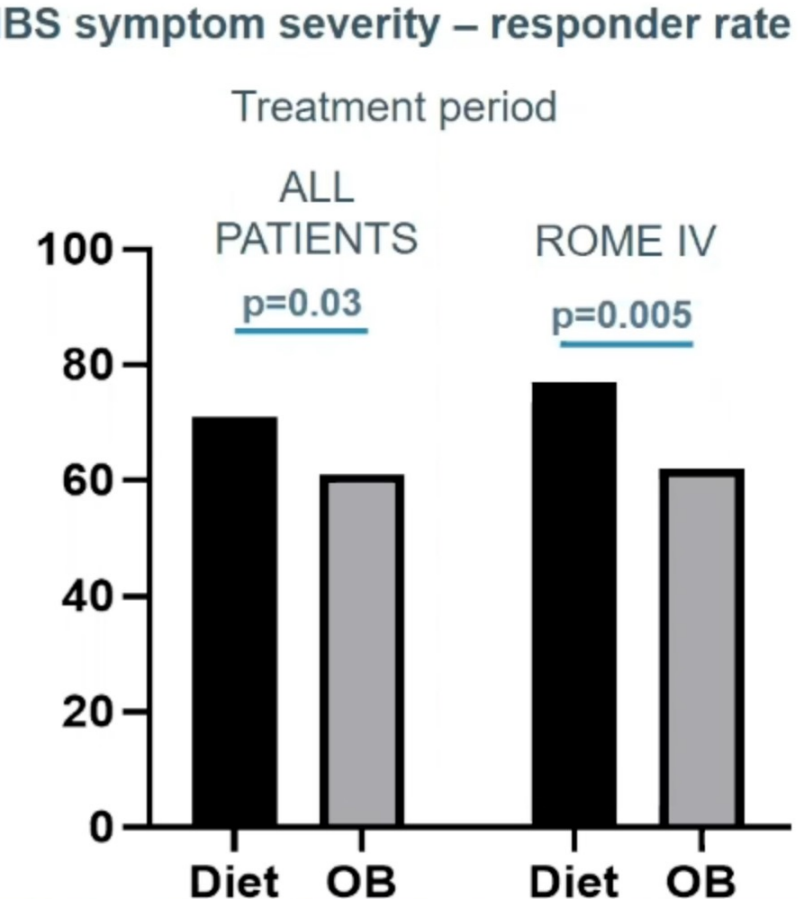
- 470 patients recruited and randomized to a simple low FODMAP diet (smartphone app) or Spasmomen 40mg TID (otilonium bromide)
  - Treated for at least 8 weeks and then followed for 16 weeks after

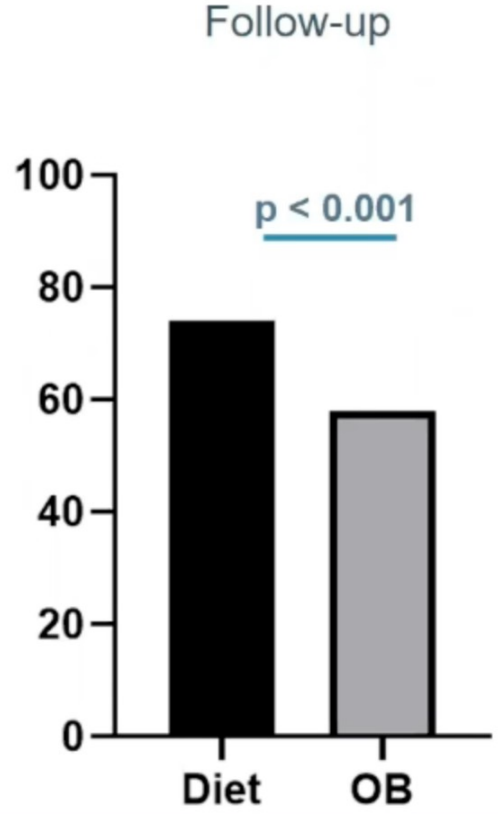


Functional Disorders

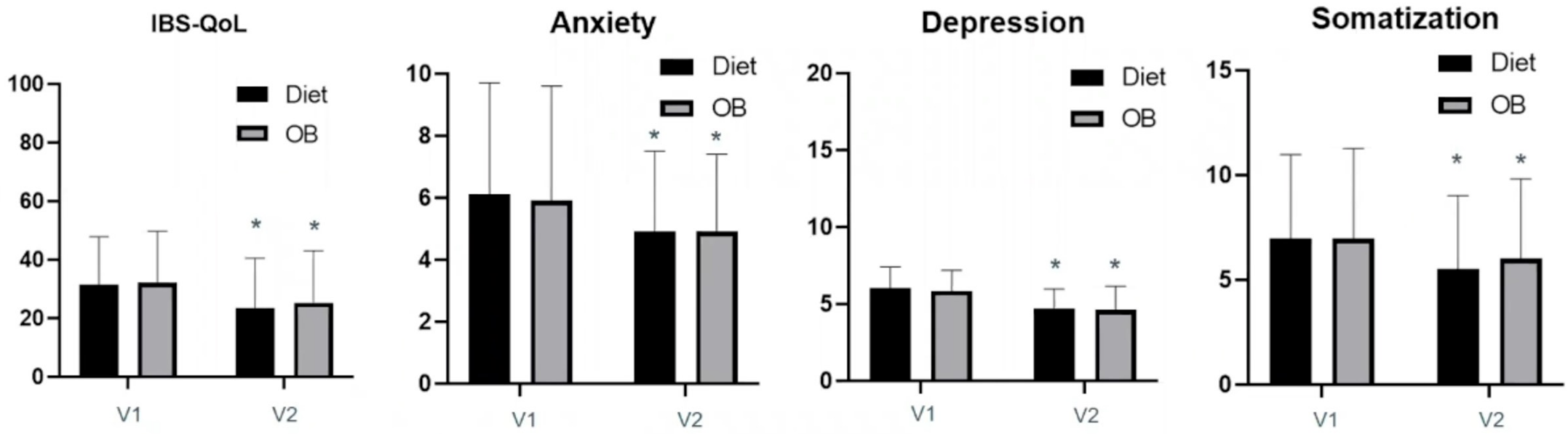


70% met Rome IV criteria for IBS





Functional Disorders



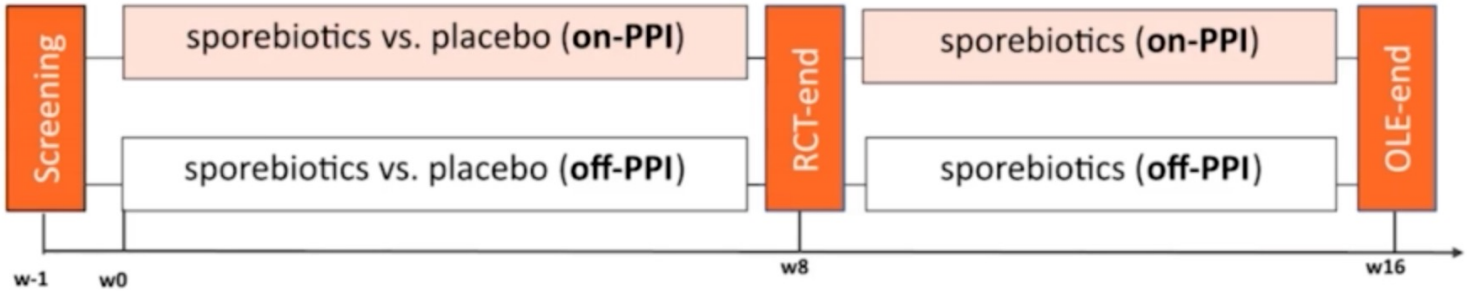
- Significant improvement in quality of life, anxiety, depression in both groups.
- Female gender was a predictor for response to diet.
- Somatization was a predictor of response to medication.

Functional Disorders

Efficacy and safety of spore-forming probiotics in functional dyspepsia: a randomised placebo-controlled trial (#464)

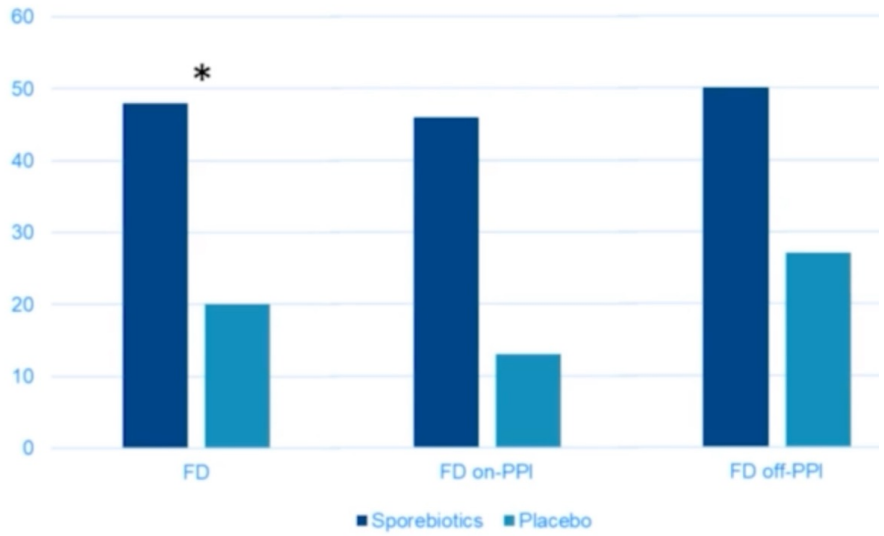
L. Wauters, M. Ceulemans, et. al

- Spore-forming probiotics: Bacilli class (Bacillus and Lactobacillus)
  - Gastric-acid resistant endospores which are thought to decrease inflammation and permeability in the small intestines.
  - Response measured using Leuven Postprandial Distress Scale (≥0.7 change)
- 68 patients enrolled with 55 completing (25 probiotic, 30 placebo)

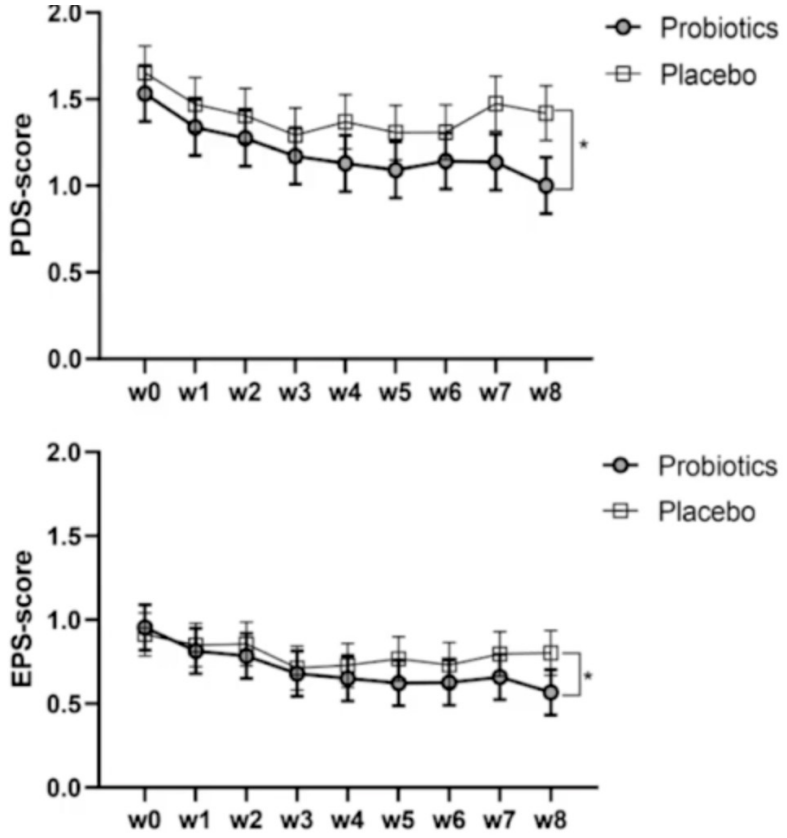


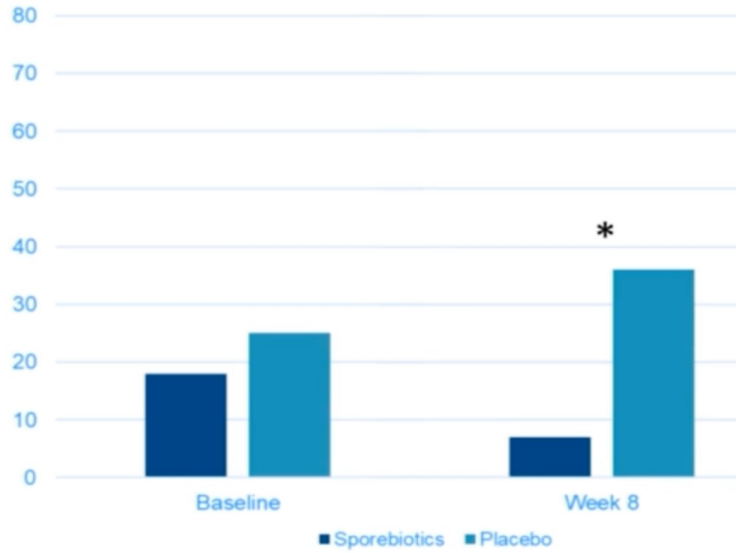
	Visit 1	Online	Visit 2	Online	Visit 3
Clinical	X	X	X	X	X
Biological	X		X		X
Bile acid breath test	X (on-PPI)		X (on-PPI)		

Functional Disorders



Clinical response (ΔPDS ≥ 0.7)

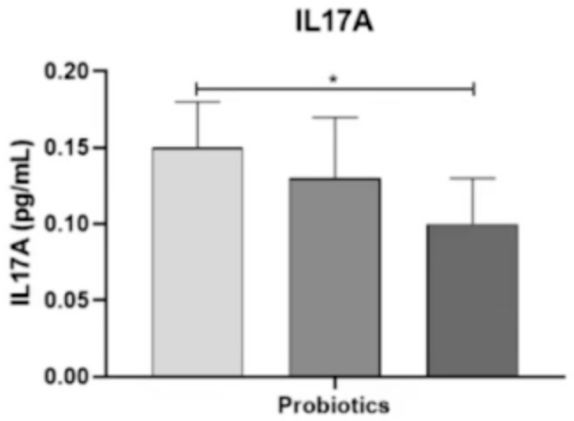


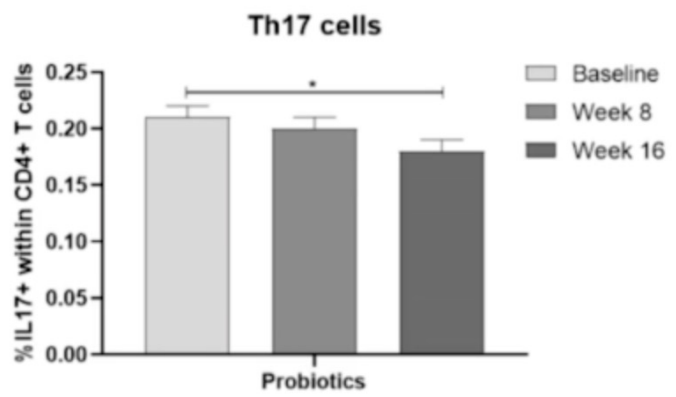


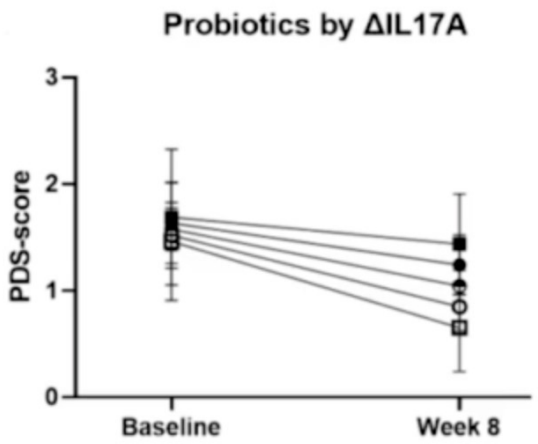
Positive breath test results

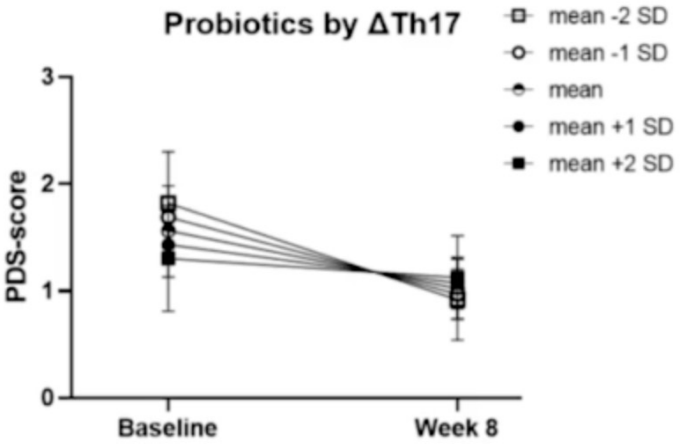
Functional Disorders

- Decreased inflammation as evidenced by decreased IL17A and Th17 cells at 16 weeks in the probiotic group
- Decreased gut-homing Th17 and Th2 cells for patients with FD on PPI therapy
- Correlation of decreased PDS score with decreased IL17A and Th17 cells



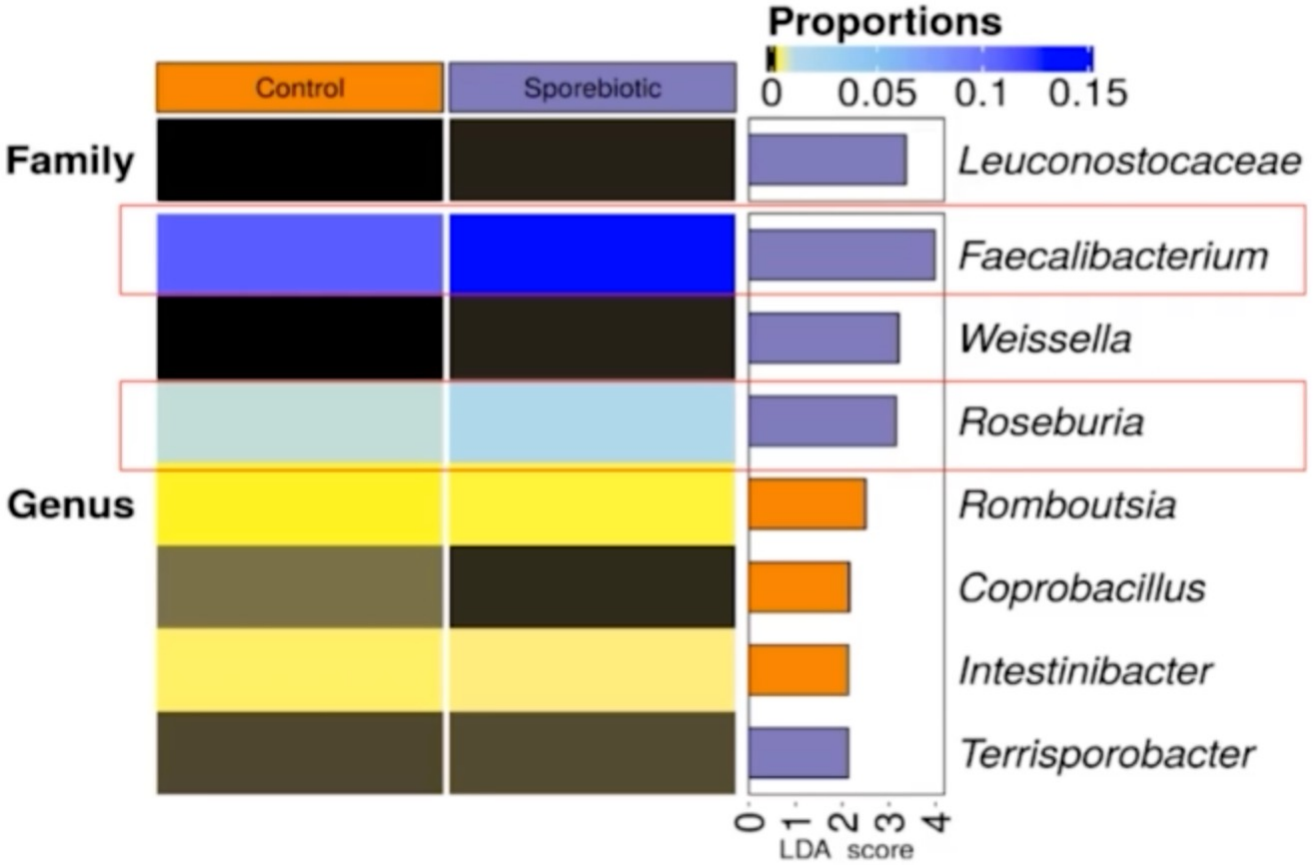






Functional Disorders

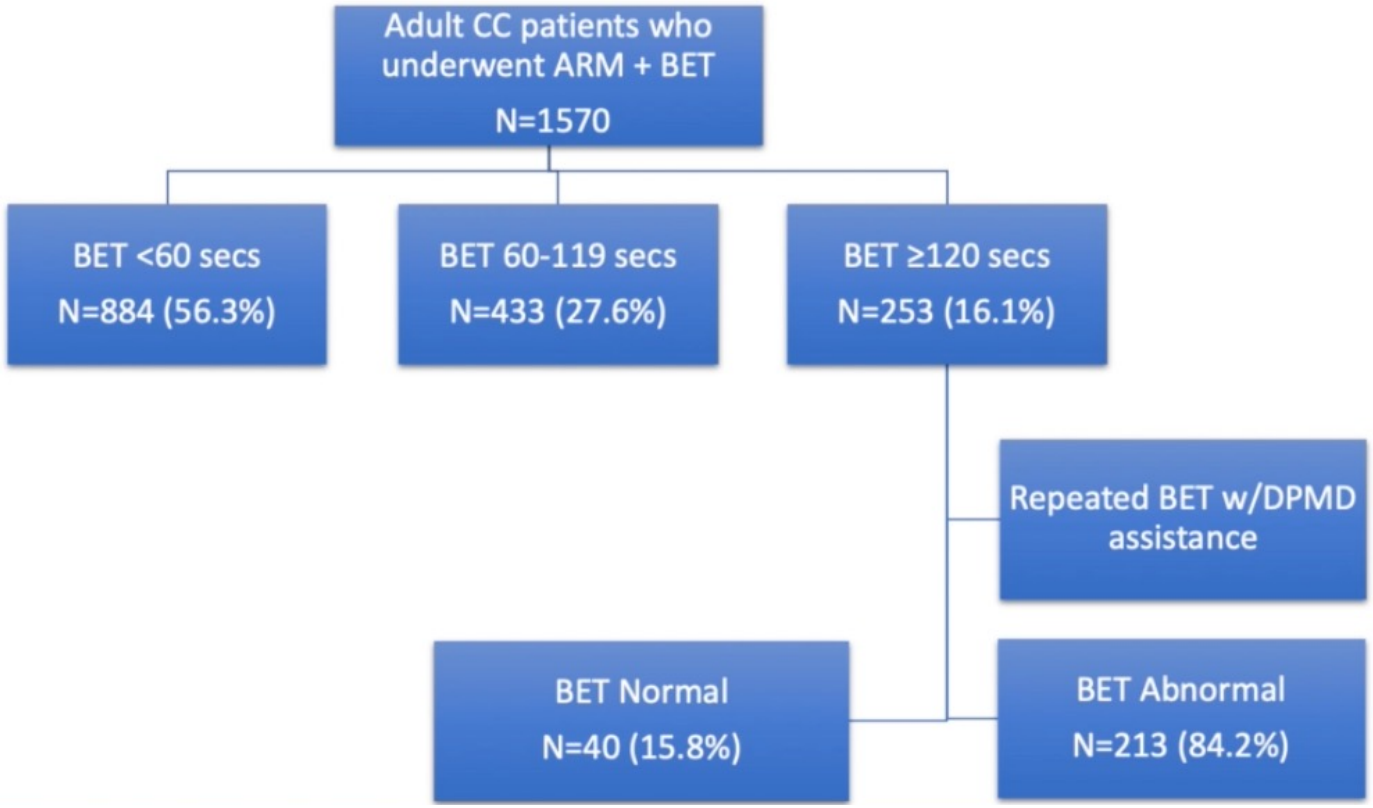
- Increased Faecalibacterium and Roseburia found with probiotics
- PDS score decreased if there was an increase in average Faecalibacterium



Anorectal Disorders

How often does "Squatty Potty" correct an abnormal balloon expulsion test in chronically constipated patients? (#98)

E. Koo, G. Ezell, W.D. Chey, et al.



Anorectal Disorders

Multivariable regression model evaluating for predictors of BET correction with DPMD

Predictor	Odds Ratio (95% CI)	p-value
Age	1.00 (0.98-1.02)	0.72
Male Gender	2.34 (1.08-5.11)	0.03*
DD Diagnosis	0.47 (0.23-0.98)	0.04*
Opiate Hx	0.36 (0.08-1.60)	0.18

Age > or < 60, DD: Dyssynergic defecation

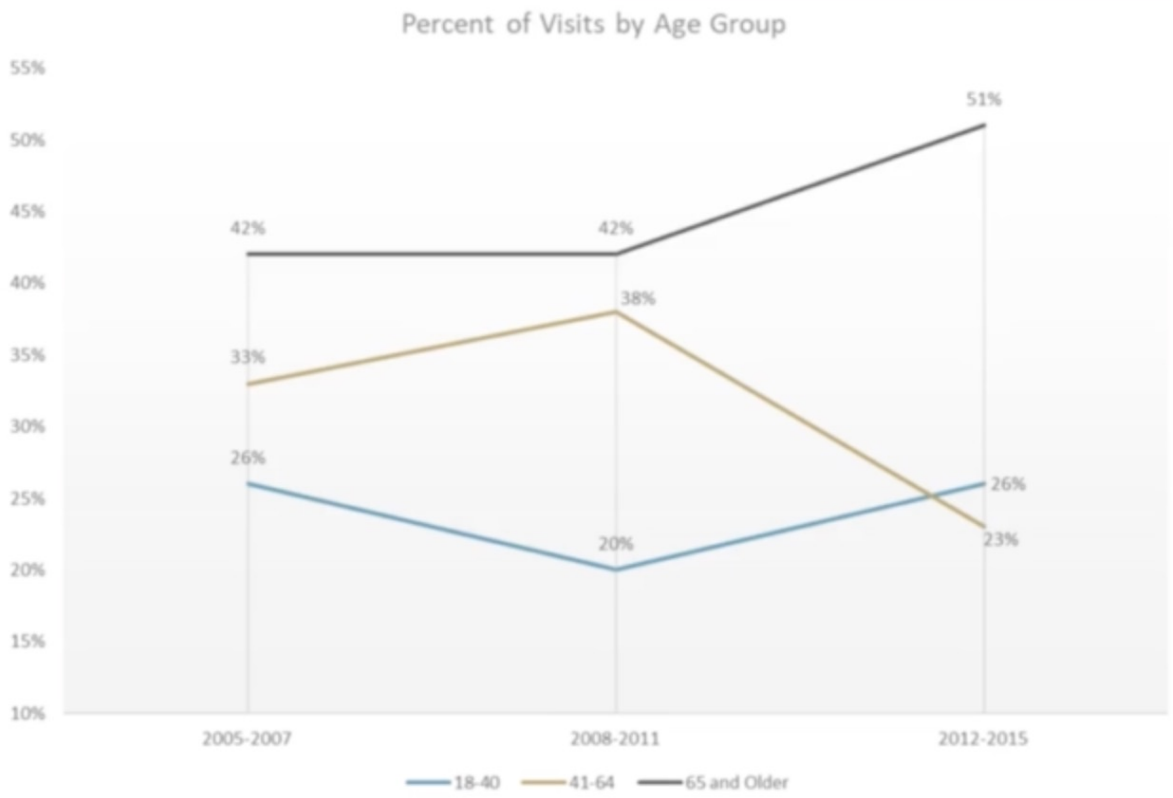
Anorectal Disorders

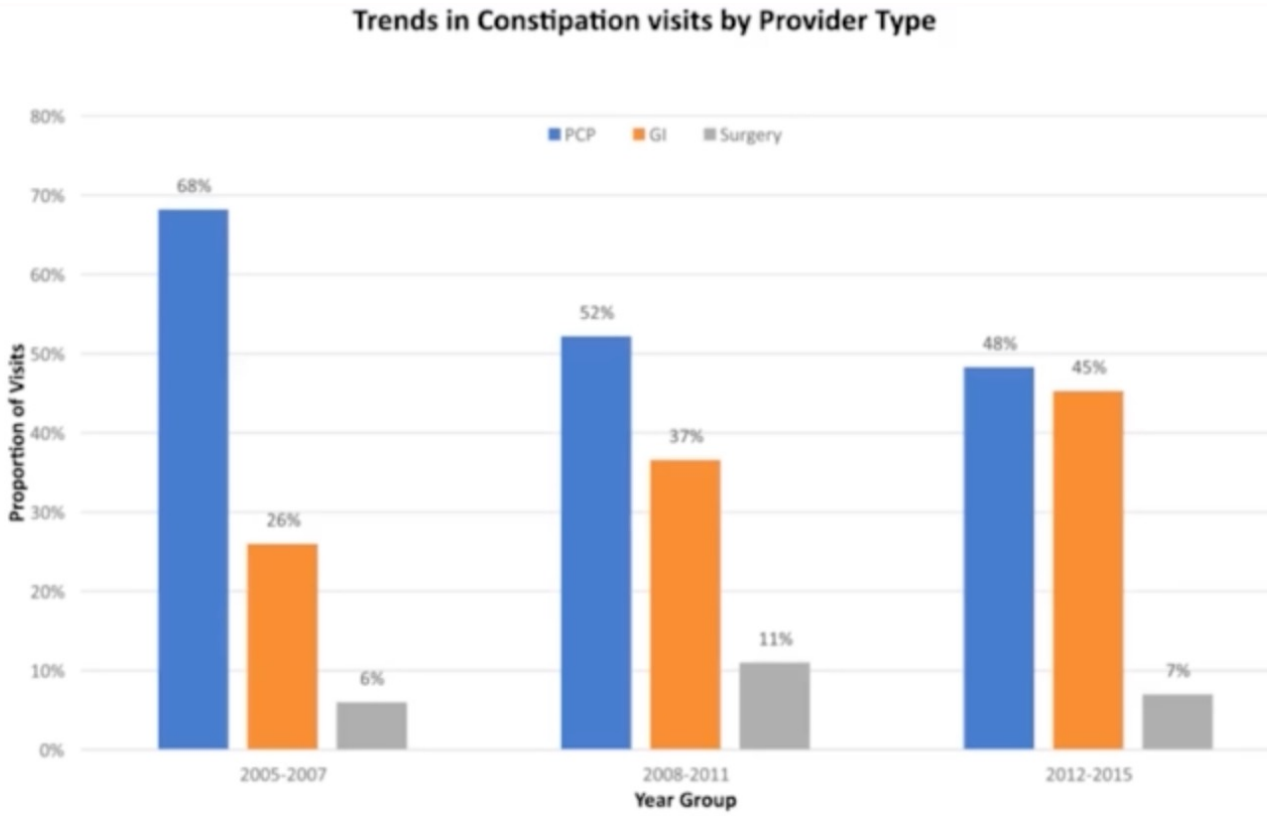
Nationwide Analysis of Ambulatory Care for Constipation in the United States From 2005 to 2015 using the National Ambulatory Medical Care Survey (NAMCS) (#100)

N Nadpara, F. K. Friedenberg

- 34.8 million physician visits in the US for constipation from 2005-2015
- Mean age 58.4 +/- 19.5y, gender 68.2% female
- Race: 82% white, 11.6% black, 6.4% other
- Most patients were on no therapy for their constipation
- Osmotic laxatives were preferred (mean 25.5% per year)
  - 6.9% fiber bulk laxative, 5.4% stimulant laxative, 5.7% stool softener, 5.1% pro-secretory agent
- Significant increase in the use of pro-secretory agents (Linaclotide, lubiprostone): 1% (2005-2007)→ 5% (2008-2011) → 9% (2012-2015)
  - More likely to be prescribed by a GI provider vs PCP (53.6% vs 33.3%, $p < 0.0001$)

Anorectal Disorders





Questions?