Does exercise frequency impact reflux and eating-related symptoms in Metabolic and Bariatric Surgery Patients? A cross-sectional analysis at a major academic center.

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Background

- Exercise is critical for success in patient's undergoing metabolic and bariatric surgery (MBS)
- Patient Reported Outcomes (PROMS) are validated clinically relevant endpoints such GERD HRQL (reflux symptoms) and BODY-Q (eating related symptoms)
- There remains limited understanding in the impact of exercise frequency as it relates to clinically relevant endpoints with rigorous patient-reported outcome measures (PROMs)
- We hypothesize that patients who exercise more frequently pre-operatively have improved eating-related symptoms (GERD-HRQL) and behavior (BODY-Q) scores post-operatively.

Methods

- Exercise frequency was determined by self-reported individual instances of exercise per week.
  - Patients were categorized into two groups:
    - low exercise (<3 times/week)
    - high exercise (≥3 times/week)
- GERD-HRQL, a validated 15-question survey, was scored from 0 to 75, with higher scores reflecting more severe symptoms.
- Body-Q (Table1) evaluated three domains: Eating related eating behavior (ER Behavior), distress (ER Distress), and symptoms (ER Symptoms); with scores ranging from 0 (poor health) to 100 (optimal health).
- For each exercise group the average total score for each questionnaire was compared between the pre-operative baseline and post-operative time period using a student's unpaired t-test. of

BODY-Q™ - EATING BEHAVIOR

HOW ARE YOUR EATING HABITS?

Think about the FOOD you ate in the past week. How often did you:

	Never	Sometimes	Often	Always
1. Feel satisfied after eating?	1	2	3	4
2. Eat healthy food that your body needs?	1	2	3	4
3. Show self-control when you ate?	1	2	3	4
4. Feel in control of what you ate?	1	2	3	4
5. Chew food thoroughly before swallowing?	1	2	3	4
6. Eat the right amount of food?	1	2	3	4
7. Eat at the right speed (not too fast)?	1	2	3	4
8. Avoid unhealthy snack foods?	1	2	3	4
9. Stop eating before you felt full?	1	2	3	4

Table 1

Demographic	Preoperative	Postoperative	p-value
Age	44.61 (11.89)	44.31 (10.66)	0.297
Gender (M, n%)	25.60%	23.50%	0.434
BMI	46.2 (7.40)	41.0 (7.55)	<0.001

Table 2

High Exercise Frequency Pre-Operatively and Post-Operative

Questionnaire	High Exercise Pre-Operatively (≥4 times/week)	High Exercise Post-Operatively (≥4 times/week)	P-Value
GERD-HRQL	4.652	5.941	0.293
BODY-Q ER Symptoms	80.30	75.06	0.016
BODY-Q ER Behavior	60.89	68.63	0.001
BODY-Q ER Distress	84.96	90.14	0.041

Table 3

Low Exercise Frequency Pre-Operatively and Post-Operatively

Questionnaire	Low Exercise Pre-Operatively (≥3 times/week)	Low Exercise Post-Operatively (≥3 times/week)	P-Value
GERD-HRQL	5.984	6.727	0.741
BODY-Q ER Symptoms	76.92	72.18	0.234
BODY-Q ER Behavior	53.73	56.64	0.513
BODY-Q ER Distress	77.51	78.27	0.901

Table 4

Results

- 305 dietary recall questionnaires were completed:
  - 224 pre-operatively and 81 post-operatively.
  - Survey compliance was 82%.
- The baseline demographics of pre-operative and post-operative groups did not differ significantly in age or gender, but the post-operative group had significantly lower BMI (41 vs. 46, p <0.001). (Table 2)
- Patients who engaged in high exercise frequency both pre-operatively and post-operatively had a statistically significant improvement in their ER Behavior and ER Distress, while they had worsening in their ER symptoms(Table 3)
- There was no significant change in the low exercise group (Table 4)

Conclusions

- Our results show that frequency of exercise has a statistically significant impact on improving eating related behavior and distress in patients who undergo bariatric surgery.
- Additional benefits may be garnered by patients who participate in high frequency exercise regimens.
- Exploring the impact of exercise frequency in these patients can help optimize patient success and improve outcomes in patients undergoing MBS.

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