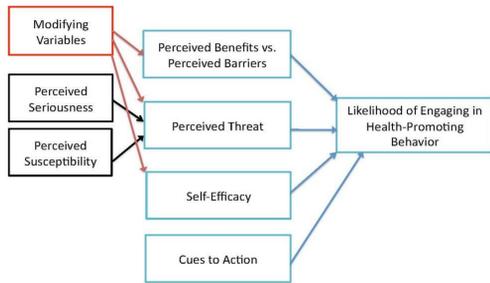




Purpose

To help educate patients, families, and healthcare professionals on the impact bariatric surgery can have on BMI and obesity related comorbidities. Using the Health Belief Model as guidance this study examines the differences between age, sex, ethnicity, race, BMI, hemoglobin A1c, hypertension, Gastroesophageal Reflux Disease (GERD), sleep apnea, cholesterol, and diabetes status before and up to 26 months after Laparoscopic Sleeve Gastrectomy (LSG), Laparoscopic Roux-en Y Gastric Bypass (LRYGB), and Laparoscopic Band Explant to Roux-en Y Gastric Bypass (LB-RYGB) at Mosaic Life Care in St. Joseph, Missouri.

Health Belief Model



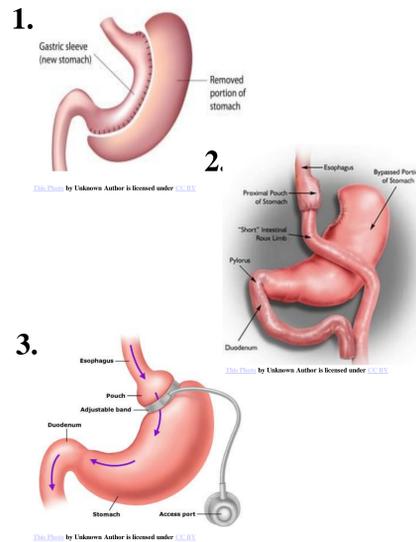
The Health Belief Model helps describe how a person comes to the decision to have bariatric surgery.

https://upload.wikimedia.org/wikipedia/commons/7/7a/The\_Health\_Belief\_Model.pdf

Introduction

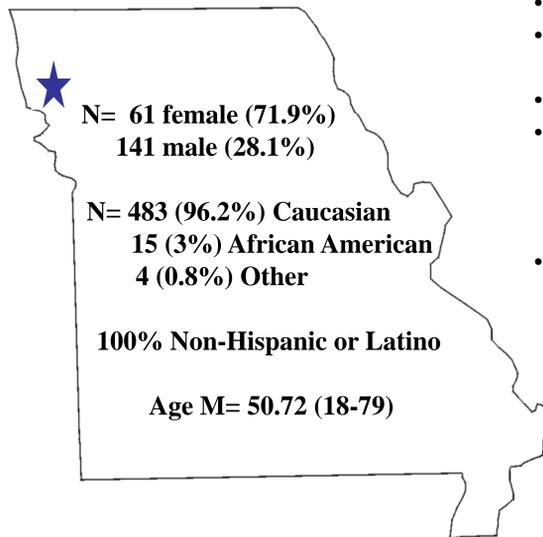
- The CDC reported 30% of America as obese. Many Americans cannot lose weight on exercise and dieting alone and are turning to bariatric surgery.
The most common bariatric surgeries include the LSG and LRYGB.
Laparoscopic Adjustable Gastric Band is not done routinely due to complications.
LRYGB is a safe and effective procedure for improving glycemic control, obesity, body fat percentage and blood pressure control, blood lipid levels, without malnutrition or severe anemia in patients with T2DM and obesity.
Yan et al. (2016) meta-analysis of a randomized control study reported LRYGB as superior to medical treatment for remission of Type 2 DM, improvement of metabolic condition, and cardiovascular health.
The LRYGB and LSG complication rate and outcomes on T2DM, HTN, OSAS, hypothyroidism, and weight loss at one year were similar. Weight loss was significantly greater for the LRYGB patients after two years when compared to LSG patients. GERD resolved in all LRYGB patients but only in 50% of LSG patients.

Bariatric Surgery Review



- 1. Laparoscopic Sleeve Gastrectomy (LSG) removes approximately 80% of the stomach, leaving a tubular pouch that looks like a banana.
2. Laparoscopic Roux-en-Y Gastric Bypass (LRYGB), considered the 'gold standard'. A small one ounce pouch is made at the top of the stomach. The rest of the stomach and first part of the small intestine is bypassed. The remaining small intestine is connected to the small pouch.
3. Laparoscopic Adjustable Gastric Band is an inflatable band placed around the upper stomach to create a small pouch. This reduces the amount of food the stomach can hold and the band is adjusted to the person.

Sample



Methodology

- IRB approval obtained
Retrospective data collected (January 1 2015- May 31 2018)
Names de-identified
Qualifications for study: > 18 years of age, BMI > 33 kg/m, Passed a psychological evaluation
Data: Intake 0 (1 to 60 days prior to surgery), Intake 1 (1 to 14 days after surgery), Intake 2 (15 to 60 days after surgery), Intake 3 (61 to 180 days after surgery), Intake 4 (181 to 270 days after surgery), Intake 5 (271 to 360 days after surgery), Intake 6 (361 to 720 days after surgery), Intake 7 (over 721 days after surgery)

Results

MANOVA table with columns: Surgery (N), Preop BMI M, Preop HTN med M, Preop Hemoglobin A1c M. Rows: All surgeries (502), LSG (51), LRYGB (424), LB-RYGB (27).

MANOVA- Interval/Ratio level \*p< .001, \*\*p< .01, \*\*\*p< .05

BMI: LSG vs LB-RYGB, p= .019

Results

Two tables: RANOVA for all surgeries (BMI, Blood pressure Meds, Hemoglobin A1c) and Friedman for all surgeries (Sleep Apnea, GERD, Hypertension, Diabetes Mellitus, High Cholesterol).

RANOVA- Interval/Ratio level; Freidman- Ordinal level \*p< .001, \*\*p< .01, \*\*\*p< .05

Discussion

- The BMI for LSG was significantly higher than LB-RYGB
Although significant lower mean scores noted on BMI, BP medications, and Hg A1c for all surgeries from Preop to intake 4 was significant, BMI was also significantly lower at intake 7.
Non parametric analyses revealed significant decrease in sleep apnea, GERD, hypertension, diabetes, and cholesterol for all surgeries at intake 4 with hypertension and cholesterol having a significant decrease at intake 7.

Conclusion/ Limitations

- Bariatric surgery helps improve obesity and related comorbidities.
Need for continued education for healthcare providers, patients, and families to understand how bariatric surgery can significantly improve a persons health.
Limitations of this study include: 1. Sample was predominately Caucasian, Non Hispanic women, 2. Small sample size at intake 7, 3. Unequal sample size
Future implications included emphasis on long term follow up and Hemoglobin A1c
Further research is needed for LB-RYGB outcomes and to explore ways to break barriers against the low number of men, other ethnicities and races receiving bariatric surgery.

References

1. American Society for Metabolic and Bariatric Surgery. (2018). Bariatric Surgery Procedures. Retrieved from https://asmbs.org/patients/bariatric-surgery-procedures
2. Garg, H., Priyadarshini, P., Aggarwal, S., Aggarwal, S., & Chaudhary, R. (2017). Comparative study of outcomes following laparoscopic Roux-en-Y gastric bypass and sleeve gastrectomy in morbidly obese patients: A case control study. World Journal of Gastrointestinal Endoscopy, 9(4), 162-170.
3. Pin, Z., Hongwei, Z., Xiaodong, H., Jianzhong, D., Yulong, Z., Kun, L., & Qi, Z. (2016). Effectiveness and safety of laparoscopic Roux-en-Y gastric bypass for the treatment of type 2 diabetes mellitus. Experimental & Therapeutic Medicine, 11(3), 827-831.
4. The Centers of Disease for Control and Prevention and Control. (2016). Percent of adults aged 18 and older who have obesity- National. Retrieved from https://chronicdata.cdc.gov/Nutrition-Physical-Activity-and-Obesity/Percent-of-adults-aged-18-and-older-who-have-obesity/cwlv-83mi
5. Yan, Y., Sha, Y., Yao, G., Wang, S., Kong, F., Liu, H., Zhang, X. (2016). Roux-en-Y Gastric Bypass Versus Medical Treatment for Type 2 Diabetes Mellitus in Obese Patients: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. Medicine, 95(17), e3462. http://doi.org/10.1097/MD.0000000000003462