

The Impact of Bariatric Surgery on Psychiatric Disorders: A National Cohort Study

Presenter: Ari Morgenstern MD

Authors:

Adan Z. Becerra, PhD,¹ Syed I. Khalid, MD,¹ Ari S. Morgenstern, MD,² Emilie A. Rembert, BS,³ Madeline M. Carroll, BA,³ Philip A. Onotosho, MD, FACS,¹ Alfonso Torquati, MD MSCI FACS³

¹Department of Surgery, Rush University Medical Center, Chicago, IL

²Department of Psychiatry, Mount Sinai Morningside and Mount Sinai West, New York City, NY

³Rush Medical College, Chicago, IL



- I have no conflicts of interest or any financial disclosures.
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Learning Objectives

- To gain a stronger understanding of the association of psychiatric disorders and bariatric surgery
- To better understand the need for mental health assessments and interventions for bariatric surgery patients

Background

- Previous studies have shown that bariatric surgery reduces the risk of cardiovascular morbidity and mortality. However, less is known about the effects of bariatric surgery on mental disorders.
- This is surprising given the threats that obesity and mental disorders pose to individual patients, as well as public health and healthcare systems.
- It has been reported that the rate of mental disorders among bariatric surgery patients is higher in the postoperative vs. preoperative period, thus illuminating concerns that bariatric surgery may cause increases in the risk of mental disorders.

Background

- Previous studies have not been able to confirm such an association because they did not include a nonsurgery control group.
- This provided the impetus for our study.

Centers for Medicare & Medicaid Services

- Eligibility for Bariatric Surgery
 - 1) BMI > 40
 - or
 - 2) BMI > 35 and at least one or more obesity-related comorbidities

<https://www.cms.gov/medicare-coverage-database/view/ncd.aspx?NCDId=57&ncdver=5&bc=AAAAIAAAAA&>

Methodology

- This was a retrospective cohort study that used de-identified data from the PearlDiver Mariner Database (PearlDiver Technologies, Colorado Springs, CO, USA).
- The PearlDiver Mariner is a Health Insurance Portability and Accountability Act administrative database that contains all healthcare encounters for 30 million patients in all US states and territories.



Methodology

- We identified all individuals with obesity between 2011-2018 who were eligible for bariatric surgery using the Centers for Medicare and Medicaid Services criteria and identified those who did and did not undergo Roux-en-Y gastric bypass or vertical sleeve gastrectomy.

- **Exposure:** Bariatric surgery
- **Outcomes:** Depression and affective disorders, organic disorders and dementias, alcohol-related disorders, drug disorders not alcohol related, schizophrenic disorders, other psychoses, anxiety and personality disorders, other mental disorders (not psychoses)
- Difference in differences (DiD) study design (1/3 yr pre/post)

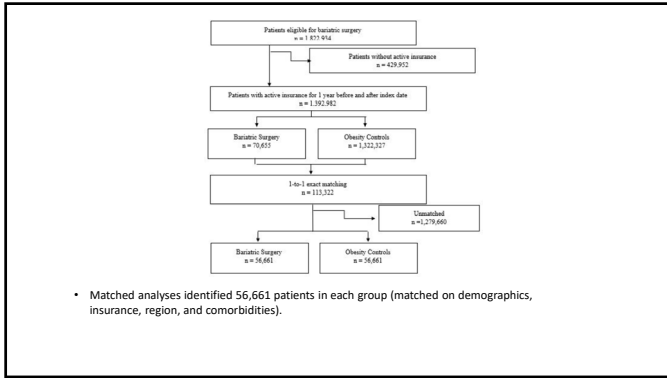


Table 1: Matched 1 Year Cohort

	All Patients		Bariatric Surgery		Obese Controls	
	N	%	N	%	N	%
	113322	--	56661	--	56661	--
Mean age ± standard deviation, years	48 ± 10		48 ± 10		48 ± 10	
Female	91622	81.0	45811	81.0	45811	81.0
Region						
South	42952	37.9	21476	37.9	21476	37.9
Midwest	22678	20.0	11339	20.0	11339	20.0
Northeast	24862	20.7	11401	20.7	11401	20.7
West	12868	11.4	6434	11.4	6434	11.4
Unknown	22	0.0	11	0.0	11	0.0
Insurance						
Medicare	5394	4.7	2652	4.7	2652	4.7
Medicaid	6882	6.1	3441	6.1	3441	6.1
Commercial	98534	87.0	49267	87.0	49267	87.0
Other Government	804	1.0	402	1.0	402	1.0
Unknown	1798	1.6	899	1.6	899	1.6
Gastroesophageal Reflux Disease	10010	8.8	4905	8.8	5095	8.8
Obstructive Sleep Apnea	11742	10.4	5871	10.4	5871	10.4
Type II Diabetes	16782	14.8	8391	14.8	8391	14.8
Non-Alcoholic Fatty Liver Disease	280	0.2	140	0.2	140	0.2
Osteoarthritis	6320	5.6	3160	5.6	3160	5.6
Hypertension	32444	28.6	16222	28.6	16222	28.6
Current Smoker	2424	2.1	1212	2.1	1212	2.1
Congestive Heart Failure	224	0.2	112	0.2	112	0.2
Chronic Kidney Disease	536	0.5	268	0.5	268	0.5
Chronic Pulmonary Disorder	7670	6.8	3835	6.8	3835	6.8

One-year Before and After Bariatric Surgery

	Pre		Post	
	N	%	N	%
	--	--	--	--
1 Year Overall Mental Disorders				
Bariatric Surgery (N= 56,661)	10,269	18%	39,728	70%
Obese Controls (N= 56,661)	11,734	21%	26,300	46%
1 Year Inpatient Mental Disorders				
Bariatric Surgery (N= 56,661)	148	0%	13,746	24%
Obese Controls (N= 56,661)	299	1%	1,812	3%
1 Year Overall Primary Mental Disorders				
Bariatric Surgery (N= 56,661)	5,600	10%	30,568	54%
Obese Controls (N= 56,661)	5,777	10%	11,242	20%
1 Year Inpatient Primary Mental Disorders				
Bariatric Surgery (N= 56,661)	20	0%	10,755	19%
Obese Controls (N= 56,661)	49	0%	254	0%

Thank you

- Patients
- Southern Psychiatric Association
- Alabama Psychiatric Physicians Association
