

Supplementary Online Content

Dawes AJ, Maggard-Gibbons M, Maher AR; et al. Mental Health Conditions Among Patients Seeking and Undergoing Bariatric Surgery. *JAMA*. doi:10.1001/jama.2015.18118

eAppendix. Search Strategies

eTable. Evidence Table of Studies of Prevalence of Mental Health Conditions in Bariatric Surgery Patients or Candidates

eReferences

This supplementary material has been provided by the authors to give readers additional information about their work.

eAppendix. Search Strategies

BARIATRIC SURGERY – MALADAPTIVE EATING (From Livhits and colleagues)

SEARCH METHODOLOGY

SEARCH #1:

DATABASE SEARCHED & TIME PERIOD COVERED:

PubMed -10/1/2009-12/6/2013

LANGUAGE:

English

SEARCH STRATEGY:

[bariatric OR obesity/su OR (obesity AND (surgery OR surgical OR operation OR pre-operation)) OR (obese OR (weight AND reduce) OR (weight AND reducing) OR (weight AND reduction) OR weight-reducing OR (decreas* AND weight) OR "weight loss" OR (weight AND lost) OR overweight) AND (surgery OR surgical OR operation OR pre-operation)) OR gastric band* OR gastric bypass OR stomach bypass OR (laparoscop* AND band) OR (laparoscop* AND bands) OR (laparoscop* AND banding) OR lapband* OR "lap band" OR "lap bands" OR "lap banding" OR gastrectom* sleeve* OR sleeve gastrectom* OR biliopancreatic bypass OR duodenal switch* OR duodenum switch* OR biliopancreatic diver* OR gastroplasty OR gastric restrict*

AND

"adaptation, psychological" OR psychology OR psychological OR psychiatry OR psychiatric OR mental illness OR mentally ill OR binge eating" OR bulimia OR bulimic OR eating disorder* OR feeding behavio* OR eating behavio* OR maladaptive eating OR "portion size" OR "sweet eater" OR "volume eater"

TOTAL: 462

UPDATES TO SEARCH #1

TIME PERIOD: 11/1/2013-8/31/2014 (Search performed 8/13/2014)

NUMBER OF RESULTS: 189

TIME PERIOD: 1/1/2014-7/8/2015

NUMBER OF RESULTS: 31

SEARCH #2:

DATABASE SEARCHED & TIME PERIOD COVERED:

PubMed -10/1/2009-12/6/2013

LANGUAGE:

English

SEARCH STRATEGY:

[bariatric OR obesity/su OR (obesity AND (surgery OR surgical OR operation OR pre-operation))

OR

gastric band* OR gastric bypass OR stomach bypass OR (laparoscop* AND band) OR (laparoscop* AND bands) OR (laparoscop* AND banding) OR lapband* OR "lap band" OR "lap bands" OR "lap banding" OR gastrectom* sleeve* OR sleeve gastrectom* OR biliopancreatic bypass OR duodenal switch* OR duodenum switch* OR biliopancreatic diver* OR gastroplasty OR gastric restrict*]

AND

"adaptation, psychological" OR psychology OR psychological OR psychiatry OR psychiatric OR mental illness OR mentally ill OR binge eating" OR bulimia OR bulimic OR eating disorder* OR feeding behavio* OR eating behavio* OR maladaptive eating OR "portion size" OR "sweet eater" OR "volume eater"

AND

predict* or pre-surgical or pre-surgery or presurgery or presurgical or candidate*

NUMBER OF PRELIMINARY RESULTS: 217

TOTAL: 171

SEARCH #3:

DATABASE SEARCHED & TIME PERIOD COVERED:

MEDLINE ON OVID -1/1/2009-2014

LANGUAGE:

English

SEARCH STRATEGY:

obese or obesity or (weight adj3 reduce) or (weight adj3 reducing) or (weight adj3 reduction) or weight-reducing or (decreas* adj3 weight) or "weight loss" or (weight adj3 lost) or overweight) IN ALL FIELDS

AND

surgery or surgical or operation or pre-operation or pre-operative or presurgery or presurgical or pre-surgery or pre-surgical (((obese or obesity) adj3 surgery) or surgical)IN ALL FIELDS

OR

gastric band* or "gastric bypass" or "stomach bypass" or laparoscop*) adj3 band) or laparoscop*) adj3 bands) or laparoscop*) adj3 banding) or lapband* or "lap band" or "lap bands" or "lap banding") OR

(gastrectom* adj3 sleeve*) or (sleeve adj3 gastrectom*) or (biliopancreatic adj3 bypass) or (duodenal adj3 switch*) or (duodenum adj3 switch*) or (biliopancreatic adj3 diver*) or gastroplasty or (gastric adj3 restrict*) OR bariatric OR ((obese or obesity) adj3 surgery or surgical) IN ALL FIELDS

AND

"adaptation, psychological" or psychology or psychological or psychiatry or psychiatric or mental illness or mentally ill OR (binge adj3 eating) or bulimia or bulimic or (eating adj3 disorder*) or (feeding adj3 behavio*) or (eating adj3 behavio*) or (maladaptive adj3 eating) or "portion size" or "sweet eater" or "volume eater" IN ALL FIELDS

AND

(predict* or pre-surgical or pre-surgery or presurgery or presurgical or candidate*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

TOTAL: 40

UPDATES TO SEARCH #3

TIME PERIOD: 11/1/2013-8/31/2014 (Search performed 8/13/2014)

NUMBER OF RESULTS: 17

TIME PERIOD: 1/1/2014-7/14/2015

NUMBER OF RESULTS: 60

SEARCH #4:

DATABASE SEARCHED & TIME PERIOD COVERED:

PsycINFO - 10/1/2009-12/10/2013

LANGUAGE:

English

SEARCH STRATEGY:

bariatric OR obese OR obesity OR (weight AND reduce) OR (weight AND reducing) OR (weight AND reduction) OR weight-reducing OR (decreas* AND weight) OR "weight loss" OR (weight AND lost) OR overweight) AND (surgery OR surgical OR operation OR pre-operation OR pre-surgical or pre-surgery or presurgery or presurgical)) OR (gastric band* OR gastric bypass OR stomach bypass OR (laparoscop* AND band) OR (laparoscop* AND bands) OR (laparoscop* AND banding) OR lapband* OR "lap band" OR "lap bands" OR "lap banding" OR gastrectom* sleeve* OR sleeve gastrectom* OR biliopancreatic bypass OR duodenal switch* OR duodenum switch* OR biliopancreatic diver* OR gastroplasty OR gastric restrict*

AND

predict* OR candidate*

TOTAL: 77

UPDATES TO SEARCH #4

TIME PERIOD: 11/1/2013-8/31/2014 (Search performed 8/13/2014)

NUMBER OF RESULTS: 11

TIME PERIOD: 1/1/2014-7/8/2015

NUMBER OF RESULTS: 51

BARIATRIC SURGERY – PSYCHIATRIC DISORDERS (From Livhits and colleagues)

SEARCH METHODOLOGY

DATABASE SEARCHED & TIME PERIOD COVERED:

PubMed – 10/1/2009-12/11/2013

LANGUAGE:

English

SEARCH STRATEGY:

gastric band* OR gastric bypass OR stomach bypass OR (laparoscop* AND band) OR (laparoscop* AND bands) OR (laparoscop* AND banding) OR lapband* OR "lap band" OR "lap bands" OR "lap banding" OR gastrectom* sleeve* OR sleeve gastrectom* OR biliopancreatic bypass OR duodenal switch* OR duodenum switch* OR biliopancreatic diver* OR gastroplasty OR gastric restrict*

OR

bariatric OR obesity/su OR (obesity[ti] AND (surgery OR surgical OR operation OR pre-operation OR pre-operative OR pre-surgical or pre-surgery or presurgery or presurgical))

OR

(obese[ti] OR (weight AND reduce) OR (weight AND reducing) OR (weight AND reduction) OR weight-reducing OR (decreas* AND weight) OR "weight loss" OR (weight AND lost) OR overweight) AND (surgery OR surgical OR operation OR pre-operation)

AND

“Adjustment Disorders” [Mesh] OR adjustment[tiab] OR “Affective Disorders, Psychotic” [Mesh] OR affective disorder*[tiab] OR psychotic[tiab] OR psychosis[tiab] OR “Bipolar Disorder” [Mesh] OR bipolar[tiab] OR counsel*[tiab] OR “Depression” [Mesh] OR depression[tiab] OR depressive[tiab] OR “Depression, Chemical” [Mesh] OR “Depressive Disorder” [Mesh] OR “Depressive Disorder, Major” [Mesh] OR “Dysthymic Disorder” [Mesh] OR dysthymic OR “Psychiatric Counseling” OR “Psychiatric evaluation” OR “Seasonal Affective Disorder” [Mesh] OR “seasonal affective disorder” OR psychopatholog*

TOTAL: 106

UPDATES TO SEARCH #1

TIME PERIOD: 11/1/2013-8/31/2014 (Search performed 8/15/2014)

NUMBER OF RESULTS: 112

TIME PERIOD: 1/1/2014-7/9/2015

NUMBER OF RESULTS: 268

TARGETED PSYCHOLOGICAL LITERATURE DATABASE SEARCH

SEARCH METHODOLOGY

DATABASE SEARCHED & TIME PERIOD COVERED:

PsycINFO – 1/1/2009-12/12/2013

LANGUAGE:

English

SEARCH STRATEGY:

gastric band* OR gastric bypass OR stomach bypass OR (laparoscop* AND band) OR (laparoscop* AND bands) OR (laparoscop* AND banding) OR lapband* OR "lap band" OR "lap bands" OR "lap banding" OR gastrectom* sleeve* OR sleeve gastrectom* OR biliopancreatic bypass OR duodenal switch* OR duodenum switch* OR biliopancreatic diver* OR gastroplasty OR gastric restrict*

OR

(bariatric OR obese OR obesity OR (weight AND reduce) OR (weight AND reducing) OR (weight AND reduction) OR weight-reducing OR (decreas* AND weight) OR "weight loss" OR (weight AND lost) OR overweight) AND (surgery OR surgical OR operation OR pre-operation OR pre-surgical or pre-surgery or presurgery or presurgical)

AND

psychopatholog* OR adjustment OR affective OR psychotic OR psychosis OR bipolar OR counsel* OR depression OR depressive OR dysthymic OR "Psychiatric Counseling" OR "Psychiatric evaluation" OR "seasonal affective disorder"

Search modes - Find all search terms

TOTAL: 52

UPDATES TO SEARCH OF PSYCHOLOGICAL LITERATURE

TIME PERIOD: 11/1/2013-8/31/2014 (Search performed 8/15/2014)

NUMBER OF RESULTS: 14

TIME PERIOD: 1/1/2014-7/9/2015

NUMBER OF RESULTS: 33

RELATED ARTICLE SEARCH FOR MALIK AND COLLEAGUES' KEY ARTICLE

DATABASE SEARCHED & TIME PERIOD COVERED:

PubMed– 1/1/1990-12/12/2013

LANGUAGE:

English

SEARCH STRATEGY:

“RELATED ARTICLES” SEARCH ON THE FOLLOWING REFERENCE:

S. Malik, J. E. Mitchell, S. Engel, R. Crosby and S. Wonderlich (2013). "Psychopathology in bariatric surgery candidates: A review of studies using structured diagnostic interviews." *Compr Psychiatry*. Oct 24

TOTAL: 22

UPDATES TO SEARCH FOR RELATED ARTICLES

TIME PERIOD: 11/1/2013-8/31/2014 (Search performed 8/15/2014)

NUMBER OF RESULTS: 2

TIME PERIOD: 1/1/2014-7/9/2015

NUMBER OF RESULTS: 5

eTable. Evidence Table of Studies of Prevalence of Mental Health Conditions in Bariatric Surgery Patients or Candidates

Author, Year Country	Sample (Candidates/All received surgery)	Method of Recruitment	Sample size	Sex (n, % female)	Mean BMI	Mean Age	Details of Surgery	Mental Health Diagnoses Assessed	Methods of Assessment Kept Confidential from Surgery Team
Data from RCTs (n=4)									
Arterburn, 2011 ¹ USA	Candidates and persons meeting NIH criteria (% receiving surgery not stated)	Patients enrolled in an RCT assessing a video-based decision aid, 2008-2009	152	111 (73%)	47	50	Mix of procedures	Depression warranting treatment	PHQ-9 <i>Not stated</i>
Gade, 2014 ² Norway	Candidates selected for surgery (% receiving surgery not stated)	Patients enrolled in an RCT assessing a 10-week cognitive behavioral therapy intervention on dysfunctional eating, depression, and anxiety, Sep 2011-Dec 2013	102	69 (68%)	44	43	Not stated	Anxiety Depression	HADS <i>Not stated</i>
Kalarchian, 2012 ³ USA	All received surgery	Patients enrolled in an RCT assessing a pre-surgery lifestyle intervention, (dates not stated)	36	89% [†]	43	53	33 (91%) RYGB 2 (6%) LAGB 1 (3%) VBG	BED Depression Substance abuse	Self-reported substance problems EDE BDI <i>Not stated</i>

Author, Year Country	Sample (Candidates/All received surgery)	Method of Recruitment	Sample size	Sex (n, % female)	Mean BMI	Mean Age	Details of Surgery	Mental Health Diagnoses Assessed	Methods of Assessment Kept Confidential from Surgery Team
Nijamkin, 2013 ⁴ USA	All received surgery	Patients enrolled in an RCT assessing an intervention to improve depressive symptoms (dates not stated)	144	120 (83%)	36	44	100% RYGB	Depression	BDI-II <i>Not stated</i>
Data from Consecutive or Random Samples of Candidates for Surgery (n=15)									
Allison, 2006 ⁵ USA	Candidates (% receiving surgery not stated)	Consecutive patients with extreme obesity seeking bariatric surgery at a university-based program (dates not stated)	210	172 (82%)	50	44	Not stated	BED Bulimia nervosa	QEWP-R Clinical interview <i>Not stated</i>
Castellini, 2013 ⁶ Italy	Candidates (% receiving surgery not stated)	Consecutive patients referred for the first time to the obesity surgery clinic (dates not stated)	394	289 (73%)	45	45	Not stated	Depression BED OCD Generalized anxiety disorder	SCID <i>Not stated</i>
Chen, 2012 ⁷ Chen, 2012 ⁸ USA	Candidates (% receiving surgery not stated)	Consecutive adult candidates for bariatric surgery at the University of Chicago, 2008-2010	396	254 (76%)	49	44	Not stated	Suicidal ideation	Suicidal behaviors questionnaire <i>Not stated</i>

Author, Year Country	Sample (Candidates/All received surgery)	Method of Recruitment	Sample size	Sex (n, % female)	Mean BMI	Mean Age	Details of Surgery	Mental Health Diagnoses Assessed	Methods of Assessment <i>Kept Confidential from Surgery Team</i>
Duarte-Guerra, 2015 ⁹ Brazil	Candidates (% receiving surgery not stated)	Consecutive patients seeking surgery at the largest university-based bariatric center in Brazil, 2010	393	311 (79%)	48	43	Not stated	Any Axis I disorder Any mood disorder Bipolar disorder Major depressive disorder Any anxiety disorder PTSD OCD Generalized anxiety disorder Alcohol abuse Drug abuse BED	SCID <i>Not stated</i>
Grothe, 2014 ¹⁰	Candidates (% receiving surgery not stated)	Consecutive patients seeking bariatric surgery at a large academic medical center, 2009-2011	935	75% [†]	47	47	Not stated	Bipolar disorder	Mood Disorder Questionnaire Clinical interview <i>Not stated</i>
Hall, 2013 ¹¹ USA	Candidates (% receiving surgery not stated)	Consecutive patients referred for psychological evaluation prior to RYGB at an urban academic medical center (dates not stated)	505	84% [†]	51	42	100% RYGB	Depression Personality disorders	BDI-II Personality Assessment Inventory: Depression Scale Semi-structured clinical interview <i>Not stated</i>

Author, Year Country	Sample (Candidates/All received surgery)	Method of Recruitment	Sample size	Sex (n, % female)	Mean BMI	Mean Age	Details of Surgery	Mental Health Diagnoses Assessed	Methods of Assessment <i>Kept Confidential from Surgery Team</i>
Hayden, 2012 ¹² Australia	Candidates (% receiving surgery not stated)	Consecutive adult candidates for bariatric surgery at Monach University in Australia, 2007-2009	201	165 (82%)	43	45	Not stated	Major depressive disorder Bipolar disorder	SCID <i>Not stated</i>
Hayden, 2014 ¹³	Candidates (200 [98%] received surgery)	Consecutive patients meeting eligibility criteria for bariatric surgery at one institution, 2007-2009	204	168 (82%)	43	45	100% LAGB	Any Axis I disorder Any mood disorder Major depressive disorder Dysthymia Bipolar disorder Any anxiety disorder Panic disorder OCD PTSD Generalized anxiety disorder Schizophrenia Alcohol abuse BED	SCID <i>Not stated</i>
Kalarchian, 2007 ¹⁴ USA	Candidates (% receiving surgery not stated)	Consecutive candidates seeking bariatric surgery at a large urban medical	288	83% [†]	52	46	Not stated	Any Axis I disorder Any Axis II disorder Major depressive	SCID <i>Not stated</i>

Author, Year Country	Sample (Candidates/All received surgery)	Method of Recruitment	Sample size	Sex (n, % female)	Mean BMI	Mean Age	Details of Surgery	Mental Health Diagnoses Assessed	Methods of Assessment Kept Confidential from Surgery Team
		center (dates not stated)						disorder Bipolar Panic disorder OCD PTSD Generalized anxiety disorder BED Bulimia nervosa Anorexia Alcohol abuse Drug abuse	
Lester, 2011 ¹⁵ Italy	Candidates (% receiving surgery not stated)	Consecutive patients seeking bariatric surgery referred for mental health evaluation (dates not stated)	69	56 (80%)	Not stated	45	Not stated	Suicide Depression	Minnesota Multiphasic Personality Inventory-2 <i>Not Stated</i>
Marek, 2013 ¹⁶ USA	Candidates (% receiving surgery not stated)	Consecutive patients seeking surgery at the Cleveland clinic (dates not stated)	982	658 (67%)	49	46	Not stated	Mental disorders Personality disorders BED Substance abuse Sexual abuse Suicidal ideation Anxiety Depression	Chart review Semi-structured interview <i>Not stated</i>

Author, Year Country	Sample (Candidates/All received surgery)	Method of Recruitment	Sample size	Sex (n, % female)	Mean BMI	Mean Age	Details of Surgery	Mental Health Diagnoses Assessed	Methods of Assessment <i>Kept Confidential from Surgery Team</i>
Marek, 2014 ¹⁷ USA	Candidates (% receiving surgery not stated)	Consecutive patients seeking bariatric surgery at one hospital, 2009-2012	1,283	72% [†]	49	46	Not stated	BED	Clinical interview BES Chart review <i>Not stated</i>
Mauri, 2008 ¹⁸ Italy	Candidates (% receiving surgery not stated)	Consecutive candidates for bariatric surgery presenting to the University of Pisa, 2001-2006	282	225 (80%)	44	42	Not stated	Any Axis I disorder Any Axis II disorder Major depressive disorder Bipolar OCD PTSD Generalized anxiety disorder BED Bulimia nervosa	SCID Hamilton Depression Rating Scale Bulimic Investigatory Test, Edinburgh <i>Not stated</i>
Strimas, 2013 ¹⁹ Sockalingam, 2015 ²⁰ Canada	Candidates (164 [51%] received surgery)	Consecutive patients referred for surgery at a single regional bariatric surgery center, Feb 2010-Nov 2012	321	257 (80%)	50	44	156 (95%) RYGB 8 (5%) sleeve gastrectomy	Any Axis I disorder Any mood disorder Major depressive disorder Bipolar disorder Any anxiety disorder PTSD OCD Generalized anxiety disorder	Mini International Neuropsychiatric Interview <i>Not stated</i>

Author, Year Country	Sample (Candidates/All received surgery)	Method of Recruitment	Sample size	Sex (n, % female)	Mean BMI	Mean Age	Details of Surgery	Mental Health Diagnoses Assessed	Methods of Assessment <i>Kept Confidential from Surgery Team</i>
								Substance abuse Schizophrenia	
Windover, 2010 ²¹ USA	Candidates (445 [44%] received surgery)	Consecutive patients seeking surgery at Cleveland Clinic, 2006-2008	1,020	781 (77%)	50	46	296 (67%) RYGB 75 (17%) LAGB 55 (12%) sleeve gastrectomy	Suicide attempts	Semi-structured Interview <i>Not stated</i>
Data from Consecutive or Random Samples of Patients Receiving Surgery (n=16)									
Booth, 2015 ²² UK	All received surgery	All patients with a record of bariatric surgery in the UK Clinical Practice Research Datalink, Jan 2000-Apr 2012	3,045	2,406 (79%)	44	46	1,297 (43%) LAGB 1,265 (42%) RYGB 477 (16%) sleeve gastrectomy	Depression	Medical record review (diagnosis in the current year or lifetime diagnosis plus current use of antidepressant medications) <i>Not stated</i>

Author, Year Country	Sample (Candidates/All received surgery)	Method of Recruitment	Sample size	Sex (n, % female)	Mean BMI	Mean Age	Details of Surgery	Mental Health Diagnoses Assessed	Methods of Assessment Kept Confidential from Surgery Team
Creieux, 2010 ²³ USA	All received surgery	All patients in a proprietary database of 5 million Americans who had received bariatric surgery and had continuous insurance coverage, Jan 1998-Jan 2006	5,502	4,553 (83%)	Not stated	44	73% RYGB [†] Mix of other procedures	Depression	Claims data <i>Not applicable</i>
Cunningham, 2012 ²⁴ USA	All received surgery	Random sample of procedures, Jan 2002-Nov 2004	350	281 (80%)	47	47	100% RYGB	Depression Generalized anxiety disorder Dysthymia	Semi-structured interview BDI II <i>Not stated</i>
Dixon, 2003 ²⁵ Australia	All received surgery	Consecutive patients receiving bariatric surgery at a university program, 1999-2003	487	412 (85%)	44	41	100% LAGB	Depression	BDI <i>Not stated</i>
Herpertz, 2006 ²⁶ Germany	All received surgery	Consecutive patients at 6 German hospitals were approached day of admission (dates not stated)	153	103 (67%)	51	39	Not stated	Substance abuse Any mood disorders Anxiety BED	Composite International Diagnostic Interview Structured Interview for Anorexia and Bulimia Nervosa

Author, Year Country	Sample (Candidates/All received surgery)	Method of Recruitment	Sample size	Sex (n, % female)	Mean BMI	Mean Age	Details of Surgery	Mental Health Diagnoses Assessed	Methods of Assessment <i>Kept Confidential from Surgery Team</i>
									<i>Not stated</i>
Hood, 2012 ²⁷ USA	All received surgery	Consecutive patients referred for RYGB at an urban medical center (dates not stated)	530	84% [†]	51	42	100% RYGB	Maladaptive eating	BES <i>Not stated</i>
King, 2012 ²⁸ USA	All received surgery	Participants in the LABS-2 observational study who underwent surgery and completed AUDIT at baseline and either 1 or 2 years after surgery, Feb 2006-Feb 2009	1,945	1,532 (79%)	46	47	1360 (70%) RYGB 490 (25%) LAGB 50 (3%) gastric sleeve 30 (2%) banded gastric bypass 15 (1%) BPD	Alcohol abuse	AUDIT <i>Not stated</i>
Legenbauer, 2009 ²⁹ Legenbauer, 2011 ³⁰ Germany	All received surgery	Consecutive patients receiving surgery at 6 German hospitals (dates not stated)	151	101 (68%)	51	39	Mix of LAGB banding and gastroplasty	Depression Anxiety BED	Composite International Diagnostic Interview Structured Interview for Anorexia and Bulimia Nervosa <i>Not stated</i>

Author, Year Country	Sample (Candidates/All received surgery)	Method of Recruitment	Sample size	Sex (n, % female)	Mean BMI	Mean Age	Details of Surgery	Mental Health Diagnoses Assessed	Methods of Assessment Kept Confidential from Surgery Team
Mitchell, 2012 ³¹ USA	All received surgery	A subset of participants from 3 centers in the LABS-2 observational study who were recruited into a separate study on psychopathy (LABS-3 psychosocial study), Feb 2008-Feb 2009	199	165 (83%)	45*	46*	Not stated (but rates of LAGB were higher than in the larger LABS-2 study)	Any anxiety disorder PTSD Substance abuse	SCID <i>Not stated</i>
Mitchell, 2014 ³² Lavender, 2014 ³³ Mitchell, 2015 ³⁴ USA	All received surgery	Participants in the LABS-2 observational study who underwent surgery and completed an eating questionnaire at baseline, Feb 2008-Feb 2009	2,225	1,745 (79%)	46*	46*	Not stated (but in other LABS-2 reports the proportion receiving RYGB was approximately 70%)	BED	Survey <i>Not stated</i>

Author, Year Country	Sample (Candidates/All received surgery)	Method of Recruitment	Sample size	Sex (n, % female)	Mean BMI	Mean Age	Details of Surgery	Mental Health Diagnoses Assessed	Methods of Assessment Kept Confidential from Surgery Team
Mitchell, 2014 ³⁵ King, 2013 ³⁶ USA	All received surgery	Participants in the LABS-2 observational study who underwent surgery, completed the BDI at baseline, and had at least one follow-up visit, Feb 2008-Feb 2009	2,146	1,685 (79%)	46*	46*	Not stated (but in other LABS-2 reports the proportion receiving RYGB was approximately 70%)	Depression	BDI <i>Not stated</i>
Ostlund, 2013 ³⁷ Sweden	All received surgery	Nationwide population based cohort, Jan 1980-Dec 2006	11,115	8,548 (77%)	Not stated	40	4,161 (37%) RYGB 6,954 (63%) mix of gastric banding and VBG	Depression Substance abuse Suicide attempts Alcohol abuse	ICD-9 or 10 codes <i>Not applicable</i>
Raebel, 2006 ³⁸ USA	All received surgery	All patients receiving surgery at 10 sites sharing a clinical information system, 2005-2009	11,719	9,538 (81%)	44	47	8,863 (76%) RYGB 1,750 (15%) LAGB 839 (7%) other 267 (2%) gastric sleeve	Depression Anxiety Substance abuse Bipolar disorder PTSD	ICD-9 codes <i>Not applicable</i>
Wolnerhanssen, 2008 ³⁹ Switzerland	All received surgery	All patients with obesity treated with LAGB at one Swiss hospital, 1996-2004	380	78% [†]	43*	40*	100% LAGB	BED	Clinical interview <i>Not stated</i>

Author, Year Country	Sample (Candidates/All received surgery)	Method of Recruitment	Sample size	Sex (n, % female)	Mean BMI	Mean Age	Details of Surgery	Mental Health Diagnoses Assessed	Methods of Assessment Kept <i>Confidential from Surgery Team</i>
Won, 2014 ⁴⁰	All received surgery	All patients undergoing bariatric surgery at a single institution, 2008-2011	485	394 (81%)	48	46	100% laparoscopic RYGB	Any Axis I disorder Major depressive disorder Anxiety disorder Bipolar disorder	Clinical interview BDI-II Burns Anxiety Inventory Yale-Brown Obsessive Compulsive Scale Weight and Lifestyle Inventory <i>Not stated</i>
Wise, 2015 ⁴¹ USA	All received surgery	Patients undergoing laparoscopic RYGB at a single academic medical center, 2004-2013	647	515 (80%)	47	47	100% laparoscopic RYGB	Depression Anxiety	ICD-9 codes <i>Not applicable</i>
Data from Non-consecutive and Non-random Samples of Candidates for Surgery (n=9)									

Author, Year Country	Sample (Candidates/All received surgery)	Method of Recruitment	Sample size	Sex (n, % female)	Mean BMI	Mean Age	Details of Surgery	Mental Health Diagnoses Assessed	Methods of Assessment <i>Kept Confidential from Surgery Team</i>
Caixas, 2013 ⁴² Spain (and compared to previously collected US data)	Candidates (% receiving surgery not stated)	Obese subjects recruited from hospital or university staff, acquaintances, or relatives. Non-obese controls were patients attending an outpatient unit at 16 university hospitals in Spain, June 2010 to Dec 2010 (Comparison to Duke database for North American subjects)	800	75% [†]	46	43	Not stated	BED Depression Anxiety Bipolar disorder Schizophrenia	Not stated <i>Not stated</i>
Corsica, 2010 ⁴³ USA	Candidates (% receiving surgery not stated)	Patients seeking surgery at a major urban medical center (dates not stated)	546	85% [†]	50	43	Mix of RYGB and LAGB	Anxiety Depression Personality disorders Mania Schizophrenia Alcohol abuse Drug abuse Suicidal ideation	Personality Assessment Inventory BDI-II <i>Not stated</i>

Author, Year Country	Sample (Candidates/All received surgery)	Method of Recruitment	Sample size	Sex (n, % female)	Mean BMI	Mean Age	Details of Surgery	Mental Health Diagnoses Assessed	Methods of Assessment <i>Kept Confidential from Surgery Team</i>
Corsica, 2012 ⁴⁴ USA	Candidates (% receiving surgery not stated)	Patients seeking surgery at a major urban medical center (dates not stated)	790	85% [†]	50	42	Mix of RYGB and LAGB	Depression BED	BDI BES <i>Not stated</i>
Georgiadou, 2014 ⁴⁵ Germany	Candidates (% receiving surgery not stated)	Patients undergoing psychiatric evaluation prior to bariatric surgery at two academic medical centers in Germany, May 2011-May 2013	50	43 (86%)	48	42	Not stated	BED	EDE (German version) <i>Yes</i>
Kudsi, 2013 ⁴⁶ USA	Candidates (83% [†] received surgery)	“Systematic” sample of patients seeking surgery at 2 academic medical centers in Boston from the Assessment of Bariatric Surgery study, 2008-2010	653	490 (75%)	47	44	Not stated	Alcohol abuse	AUDIT <i>Yes</i>

Author, Year Country	Sample (Candidates/All received surgery)	Method of Recruitment	Sample size	Sex (n, % female)	Mean BMI	Mean Age	Details of Surgery	Mental Health Diagnoses Assessed	Methods of Assessment <i>Kept Confidential from Surgery Team</i>
Lier, 2012 ⁴⁷ Norway	Candidates (127 [90%] received surgery)	Patients referred for bariatric surgery from general practitioners in Norway. 99 subsequently participated in an RCT; 45 did not consent to participate in the RCT, but are included in the prevalence data (dates not stated)	141	103 (73%)	45	42	100% RYGB	Any Axis I disorder Any Axis II disorder Anxiety Depression	Mini International Neuropsychiatric Interview “Questionnaires on anxiety, depression” <i>Not stated</i>

Author, Year Country	Sample (Candidates/All received surgery)	Method of Recruitment	Sample size	Sex (n, % female)	Mean BMI	Mean Age	Details of Surgery	Mental Health Diagnoses Assessed	Methods of Assessment <i>Kept Confidential from Surgery Team</i>
Lin, 2013 ⁴⁸ Taiwan	Candidates (455 [54%] received surgery)	Recruited from obesity surgery center, details not provided (dates not stated)	841	580 (69%)	36	36	Not stated	Any mood disorder Depression Dysthymia General anxiety disorder BED Major depressive disorder Any psychotic disorder Bulimia nervosa Bipolar disorder Anxiety Alcohol abuse Substance abuse BED	Taiwanese Depression Questionnaire Chinese Health Questionnaire SCID <i>Not stated</i>
Matthews-Ewald, 2015 ⁴⁹ USA	Candidates (% receiving surgery not stated)	Severely obese participants in a statewide, non-randomized cohort study on weight loss who chose to pursue bariatric surgery (dates not stated)	232	207 (89%)	48	48	Not stated	BED	QEWP-R <i>Not stated</i>

Author, Year Country	Sample (Candidates/All received surgery)	Method of Recruitment	Sample size	Sex (n, % female)	Mean BMI	Mean Age	Details of Surgery	Mental Health Diagnoses Assessed	Methods of Assessment Kept Confidential from Surgery Team
Shakory, 2015 ⁵⁰ Canada	Candidates (% receiving surgery not stated)	Morbidly obese patients being assessed for surgery at a regional bariatric surgery center, May 2010-Aug 2013	1,388	79% [†]	49	45	Not stated	BED	BES Not stated
Data from Non-consecutive and Non-random Samples of Patients Receiving Surgery (n=4)									
Fuchs, 2015 ⁵¹ USA	All received surgery	Patients receiving surgery at a single medical center, Jan 2006-Aug 2013	590	480 (81%)	44*	44	368 (62%) LAGB 222 (38%) gastric sleeve	Depression, anxiety, bipolar disorder, schizophrenia	Structured psychological interview Medical record review Center for Epidemiological Studies Depression scale Montgomery-Asberg Depression Rating Scale
Heinberg, 2012 ⁵² USA	All received surgery	Patients who had surgery at the Cleveland Clinic and completed 2 or more follow up visits (dates not stated)	608	75% [†]	48	Not stated	409 (67%) RYGB 106 (17%) LAGB 74 (13%) sleeve gastrectomy 19 (3%) revision	BED Suicide attempts Substance abuse	BES Minnesota Multiphasic Personality Inventory-2-Restructured Form Cleveland Clinic Behavioral

Author, Year Country	Sample (Candidates/All received surgery)	Method of Recruitment	Sample size	Sex (n, % female)	Mean BMI	Mean Age	Details of Surgery	Mental Health Diagnoses Assessed	Methods of Assessment Kept Confidential from Surgery Team
									Rating System Semi-structured psychiatric interview <i>Not stated</i>
Svensson, 2013 ⁵³ Sweden	All received surgery	Patients participating in the surgical cohort portion of the Swedish Obese Subject (SOS) study, 1987-2001	2,010	71% [†]	42	47	1,369 (68%) VBG 376 (19%) gastric banding 265 (13%) RYGB	Self-reported alcohol problems	Self-reported alcohol consumption Answer to survey question: "Do you think you have alcohol problems?" <i>Not stated</i>
White, 2015 ⁵⁴ USA	All received surgery	Patients who underwent gastric bypass surgery at two academic medical centers (dates not stated)	357	307 (86%)	51	44	100% RYGB	Depression	BDI <i>Yes, if patient desired</i>
<p>AUDIT, Alcohol Use Disorders Identification Test; BED, binge eating disorder; BES, Binge Eating Scale; BDI, Beck Depression Inventory; BMI, body mass index; EDE, Eating Disorder Examination; HADS, Hospital Anxiety and Depression Scale; LABS, longitudinal assessment of bariatric surgery; LAGB, laparoscopic adjustable gastric band; OCD, obsessive compulsive disorder; PHQ-9, Patient Health Questionnaire; PTSD, post-traumatic stress disorder; QEWP-R, Questionnaire for Eating and Weight Patterns-Revised; RCT, randomized controlled trial; RYGB, Roux-en-Y gastric bypass; SCID, structured clinical interview for the Diagnostic and Statistical Manual; VBG, vertical banded gastroplasty</p> <p>[†]Number of patients not reported</p> <p>*Study reports median instead of mean</p>									

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