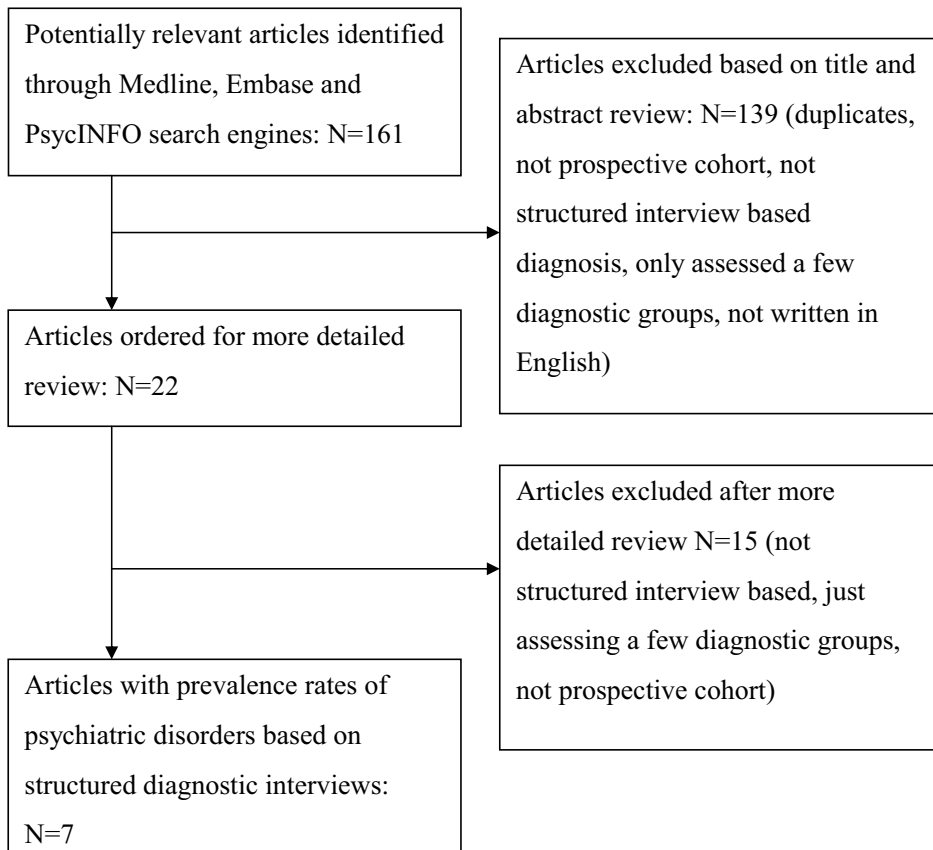


8. Appendices

8.1 Tables and Figures

Figure 1. Studies that evaluate prevalence rates of psychiatric disorders by structured diagnostic interviews in patients who underwent bariatric surgery *



Studies were identified by searching MEDLINE, EMBASE, and PsycINFO (1.1.2000 to 31.12.2010) under the search words “bariatric surgery” OR “weight loss surgery” OR “obesity surgery” OR “weight reduction surgery” OR “gastric bypass” OR “gastric band” OR “gastric sleeve” OR “biliopancreatic diversion” OR “duodenal switch” AND “obesity” AND “mental disorders” OR “ mental disease” OR “psychiatric comorbidity”. The same search terms were applied for Medline, Embase and PsycINFO search engines to retrieve all potentially relevant English articles from 1.1.2000 until 31.12.2010.

Figure 2. Flow chart describing screening, inclusion, and follow-up and numbers of included and excluded

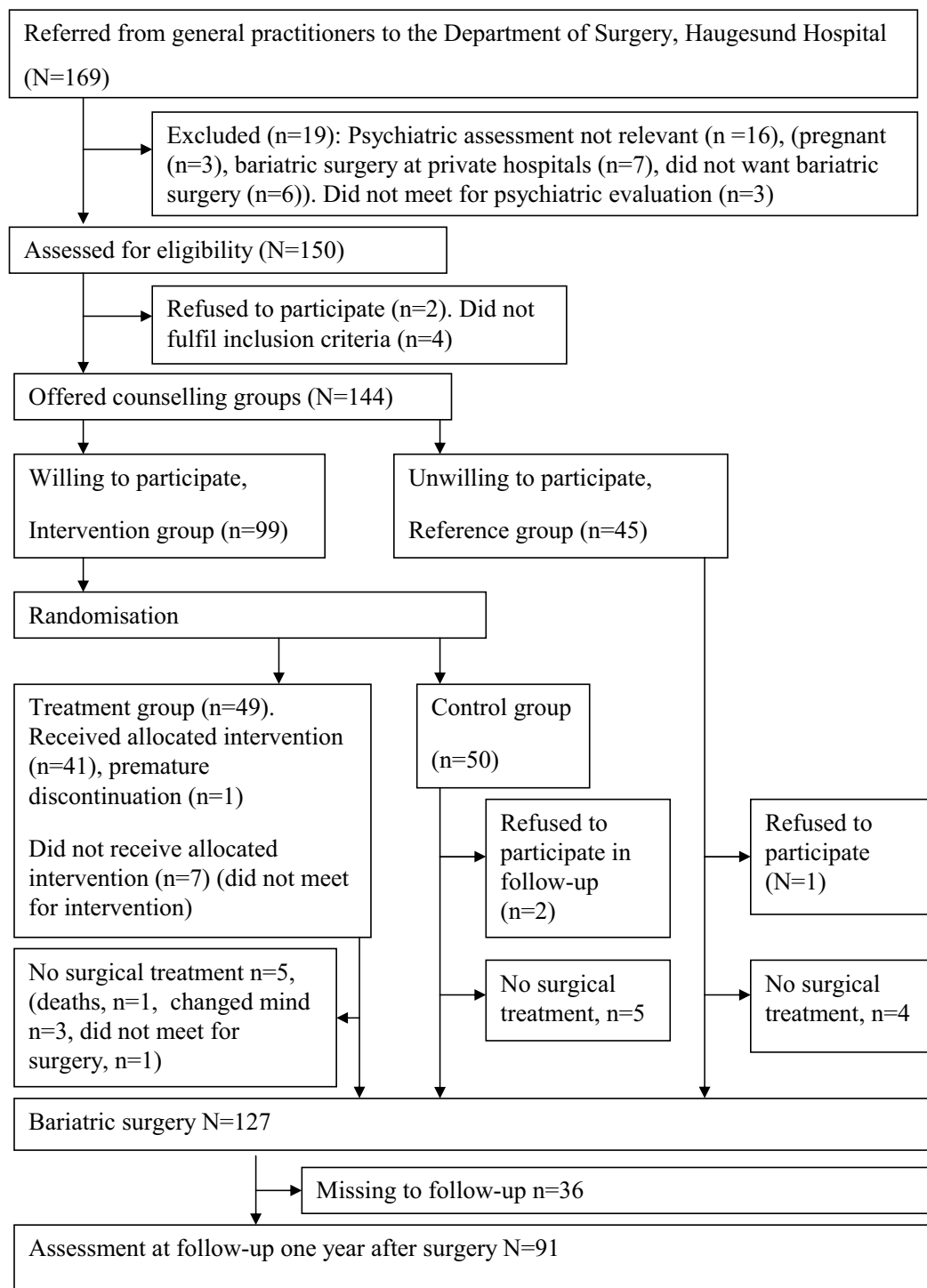


Table 1. Overview of sample characteristics, methods of assessment, and prevalence rates of Axis I and II (current and lifetime) Disorders in studies of patients who underwent bariatric surgery

First author and reference	N	Age (mean/SD)	Gender, Female (%)	BMI (mean/SD)	Participation rate (%)	Assessment	Prevalence rates					
							Axis I Current (%)				Axis I Lifetime (%)	Axis II (%)
							Mood Disorders	Anxiety Disorders	Eating Disorders	Total Disorders		
Muhlhans, et al. ^a (2009)	146	38.7/10	72	49.3/7.8	61	SCID-I	32	15	38	56	73	
Kalarchian, et al. ^a (2007)	288	46.6/9.4	83	52.2/9.7	80 ^c	SCID-I/SCID-II	16	24	16	38	66	29
Rosenberger, et al. ^b (2006)	174	50.2/8.5	75	50.2/8.5	Not reported	SCID-I	11	12	10	24	37	
Mauri, et al. ^b (2008)	282	42.1/11.4	80	43.5/7.0	Not reported	SCID-I/SCID-II	22	18	13	21	38	20
Herpertz, et al. ^a (2006)	153	38.7/10.3	67	50.9/8.0	98	M-CIDI/DIA-X	5	13	2	32	54	
de Zwaan et al. (2011)	107	37.5/9.7	70	49.4/7.4	71	SCID-I	33	17				
Lier, et al. ^b (2010) (Paper I in this thesis)	141	42/10.4	73	45.2/5.3	83	M.I.N.I./SCID-II	24	30	11	43	52	26

^a independent of the approval for bariatric surgery

^b part of the evaluation process for bariatric surgery

^c 28.8 % of all the patients who agreed to be contacted and 80% of the patients who consented to participate

Table 2. Bariatric surgery procedures: overview of outcomes and side effects

Bariatric surgical procedure	Outcome	Side effects
Laparoscopic Roux-en-Y gastric bypass (restrictive and malabsorptive procedure; divides the stomach and creates a small pouch which is anastomosed to the small intestine)	77% EWL at one year follow-up. 69-83% EWL at two years follow-up (90) 95% of obesity related comorbidities are controlled and 95% reported improvement in quality of life (90)	Nausea, vomiting, or postprandial regurgitation, dumping syndrome, diarrhoea, and hypoglycaemia. Peptic ulcer, small bowel obstruction, ventral hernia (309)
Gastric banding (restrictive procedure; creates a small pouch with the use of a band)	50% EWL (eight year follow-up). Improvements of obesity related conditions, diabetes, hypertension, and musculoskeletal disorders (89)	Band erosions, pouch dilatation, reflux disease, weight regain (310).
Sleeve gastrectomy (restrictive procedure, resection of the greater curvature)	47.3% EWL (13 month follow-up). 66.2% resolution of diabetes (88)	Leakage, stenosis, bleeding, incisional hernia (12%) (311). Weight regain (88).
Biliopancreatic diversion (restrictive and malabsorptive procedure; subtotal gastrectomy, 200 cm alimentary limb and 50 cm common channel (Usually reserved for patients who are super-obese, BMI > 60 kg/m ²)	75% EWL (ten year follow-up) (91). Improvements of obesity related conditions, diabetes, hypertension and musculoskeletal disorders (91).	Gastric leak (.7%), mortality (.6%). Diarrhoea, excessive weight loss, protein malnutrition (91).

EWL = Excess Weight Loss

Table 3. Overview of studies that assessed the associations between participation in support groups and bariatric surgery outcome

Author/Year	N	Design	Intervention	Result
Boeka et al./ 2010	82	RCT	RYGBP/one preoperative session based on Protection Motivation Therapy	No differences in intention to comply with post-surgical eating behaviour
Wild et al./ 2009	16 (73 % of the invited) 10 fulfilled	Pre-post intervention	12 preoperative sessions for patients with comorbid anxiety, affective or eating disorders	Reduction in depression level Improvement of mental quality of life
Ashton et al./ 2009	24	Pre-post	4 session, preoperative	Reduction in binge eating behaviour
Saunders et al./ 2004	16 groups with 6-8 participants		Twelve sessions after surgery for patients compulsive eating patterns before surgery	Patients gave positive feedback. No standardized measure to assess patients
Ort et al. / 2008	46	Retrospective	Gastric bypass/banding and pre- and postoperative support groups.	Percentage decrease in BMI, ASG (n=18) compared to NASG : (n=28) 42% vs. 32%; $p < .03$).
Song et al. / 2008	78	Retrospective	RYGBP, postoperative support groups	Patients >5 support group meetings; 56% EWL and patients < 5 meetings; 47% EWL ($p < .05$).
Kaiser et al./ 2010	102	Retrospective	Gastric banding/postoperative support groups	A significant linear relationship was found between support group meeting attendance and the percentage of excess weight loss with simple regression analysis ($r^2 = .061, p = .007$).
Ellakary et al./ 2006	38	Retrospective	Gastric banding/ postoperative support groups. Attended support groups (B), n=10. Did not attend support groups (A), n=28	BMI reduction: 8.1 ± 2.1 kg/m2 in group A; 9.7 ± 1.9 kg/m2 in group B ($p = .04$)
Hillebrandt et al./ 1998	103 (1000 patients received the questionnaire)	Retrospective	RYGBP/pre- and postoperative support groups	Weight loss was related to the number of support group meetings attended. Time elapsed since surgery was related to weight loss, after controlling for time elapsed since surgery, number of support group meetings accounted for an additional significant proportion of variance r^2 was 0.09, $p < .05$)
Livhits et al./2010	148 (75% participated)	Retrospective	RYGBP/ postoperative support groups	> 1 postoperative support group meeting was predictive for successful weight loss (>50%EWL), OR(CI) 3.7(1.3-10.9)

RYGBP= Roux-En-Y Gastric Bypass, ASG = Patients attended support groups, NASG = Patients did not attend support groups, EWL= Excess Weight Loss

Table 4. Prevalence of psychiatric disorders; at follow up one year after bariatric surgery and in the general population

	The present study sample at follow-up one year after surgery (%)	Norwegian psychiatric epidemiological studies (%)		
		Axis I Disorders in urban areas(119)	Axis I Disorders in rural areas (244)	Axis II Disorders(250)
Axis I	18	33	17	
Major Depressive Disorders	9	7	4	
Social Phobia	8	8	5	
Agoraphobia without Panic Disorder	7	3	2	
Axis II	8			13
Avoidant Personality Disorders	7			5

8.2 Papers