The Influence of **Clinical** and **Psychological** Wellbeing on the **Decision to Proceed** with Bariatric Surgery

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INTRODUCTION

With the increase in the obesity epidemic, Bariatric surgery has become more and more popular. 3 per cent of the Irish population has a body mass index over 40. Many of these have severe and complex obesity, also involving complications. (1)

Bariatric surgery is undertaken by people unable to lose weight by dietary and exercise changes, with a BMI of 40 or higher, or by people with a BMI of 35-39.9 who suffer from life-threatening weight related problems.

Some of the most serious weight-related problems include heart disease, sleep apnoea, type 2 diabetes, hypertension, and non-alcoholic fatty liver disease (NAFLD). (2)

Bariatric surgery not only reduces these co-morbidities, it also improves the quality of life of patients, enabling them to perform routine daily activities. It also improves self-confidence, self-esteem, and sexual function. (3)

AIMS AND OBJECTIVES

To evaluate demographic and clinical data on all patients referred for their first bariatric consultation and compare information on patients ultimately undergoing bariatric surgery vs patients not proceeding with surgical intervention

METHODS

Single centre retrospective cohort study

Bariatric Unit database: Age, sex, BMI, Smoking, health insurance, diabetes, sleep apnoea, hyperlipidaemia, and psychological assessment tools (Beck Depression Inventory (BDI), Hospital Anxiety and Depression score (HAD), Eating Attitudes Test)

Data stored electronically on a password protected computer.

Data on all patients referred for first bariatric consultation between 2017 – 2021.

All patients completed detailed demographic, clinical and psychological questionnaires prior to their first bariatric surgical consultation.

Data from this questionnaire was entered directly into an encrypted excel file

Data analysis was performed utilizing SPSS version 28.

Clinical Research Ethics Committee approval 09/05/2021

Unpaired T-test - continuous variables (BMI, Weight)

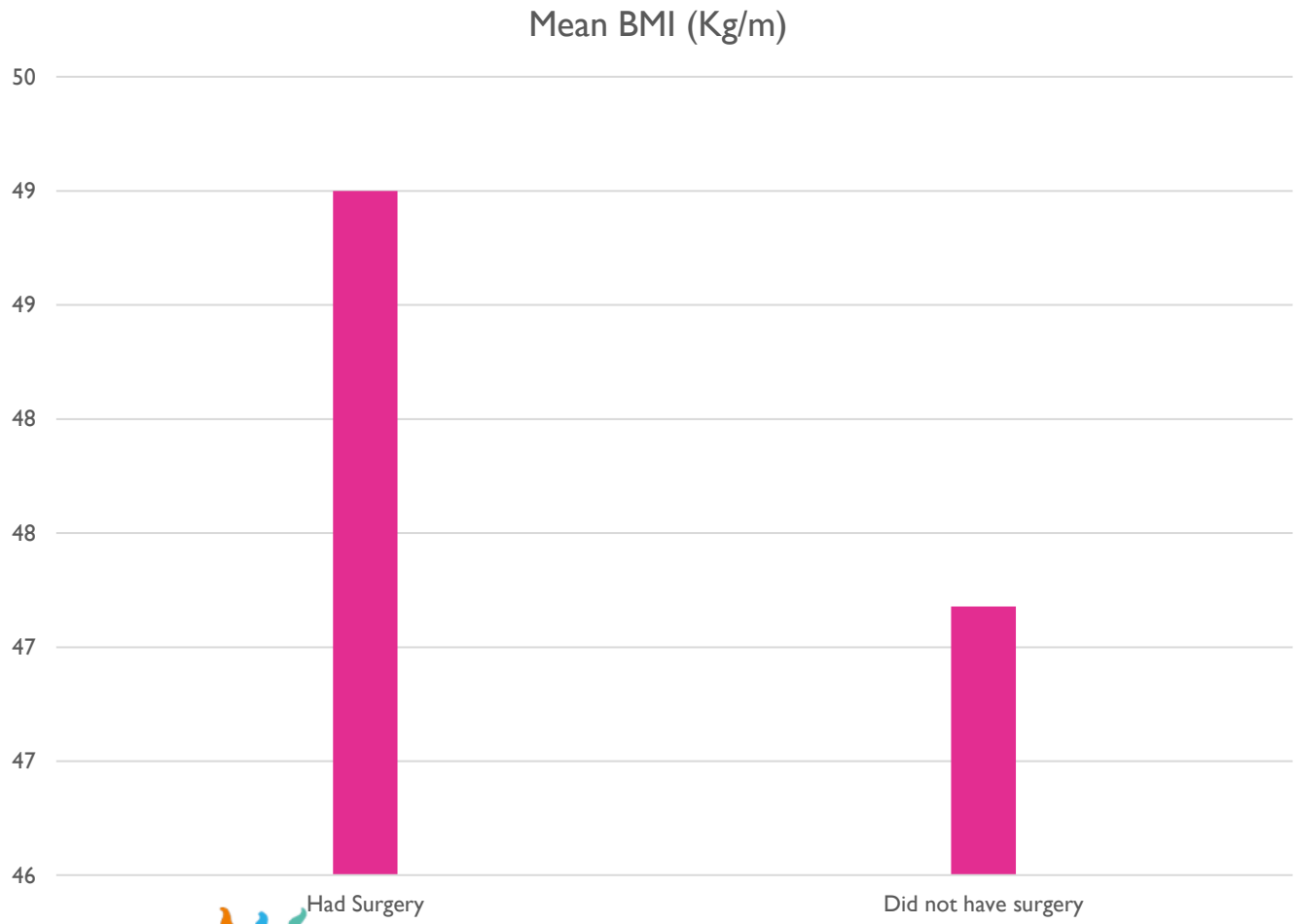
Chi-square test and Fishers exact test (for frequencies <5) for categorical data.

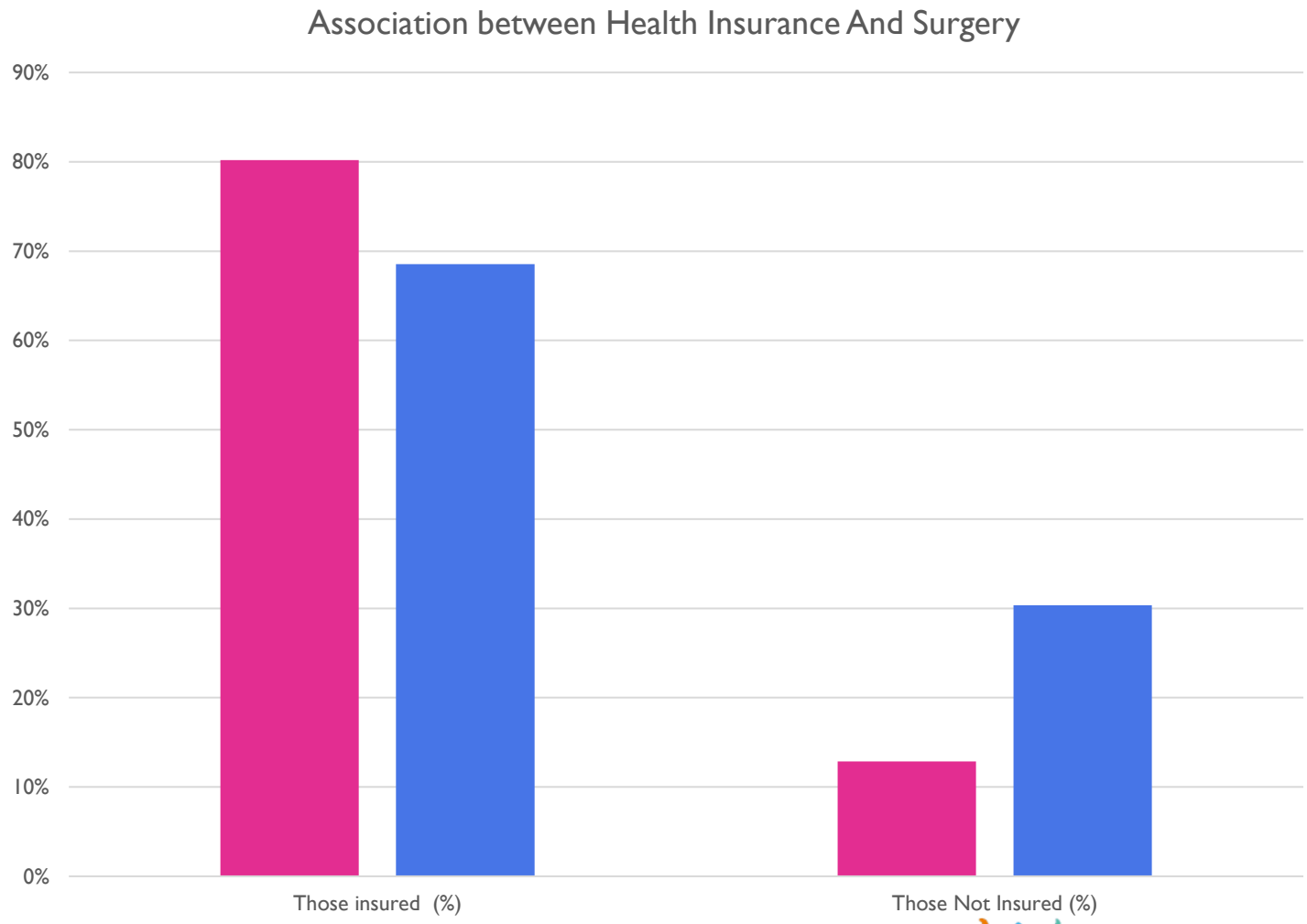
	Total (n=172)	Surgery (n=92)	Non-surgery (n=80)	Chi square test
	n (%)	n (%)	n (%)	p-value
Patient Demographics				
Age (years): median (IQR)	46 (39 to 54)	47 (41 to 53)	46 (37 to 55)	0.316
Gender				
Male	44(26%)	21(21%)	23(28%)	0.171
Female	128(74%)	72(71%)	56(69%)	0.171
Mean BMI	47 ± 8	49 ± 8	46 ± 10.6	0.85
Insurance	135(77%)	81(86%)	13(14%)	0.05
Co-morbidities				
Urinary Symptoms	60(33%)	31 (32.7%)	27 (33.3%)	0.023
GORD	89(50%)	54 (54.4%)	35 (44.3%)	0.175
Diabetes Mellitus	16(9%)	6 (6.3%)	10 (12.7%)	0.153
OSA	78(44%)	46 (47.4%)	32 (40.5%)	0.358
Dyslipidaemia	48(26%)	26 (25.7%)	22 (27.2%)	0.726
Hypertension	71(40%)	39 (39.8%)	32 (40.5%)	0.924
Psychological Questionnaires (mean±SD)				
BDI	14.63±10.5 (n=170)	13.2±10.5	16.4±10.2	0.04
HAD	6.34±4.5 (n=168)	5.5±4.2	7.4±4.6	0.01
QOL	8.4±1.5	8.5±1.4	8.1±1.6	0.13
Eating attitudes	22.5±8.5	23.6±8.5	21.6±8.6	0.133

- A slightly higher mean BMI and weigh in Kg was reported in patients that had surgery.

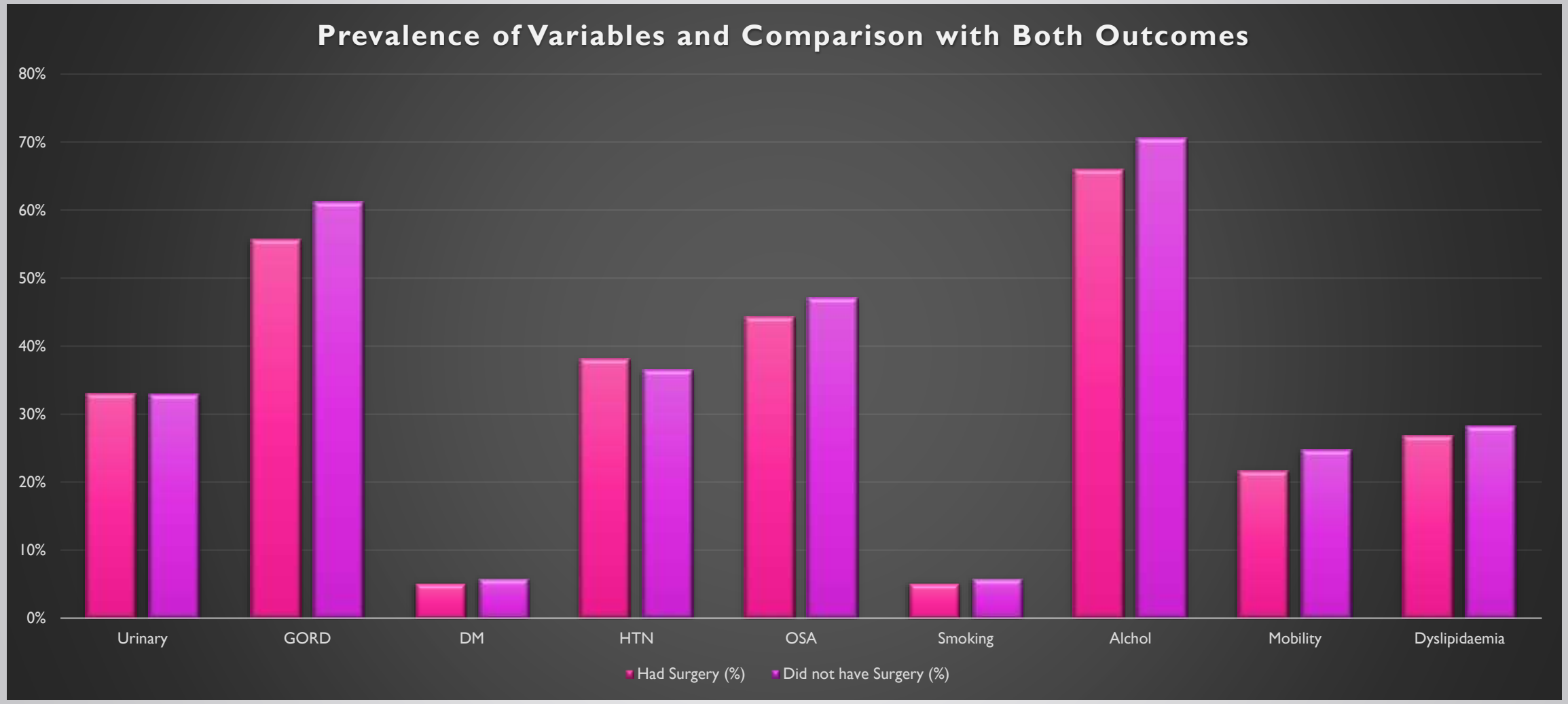
- The mean BMI in those who had surgery was 49 +/- 8 (n=101), while the mean BMI in those that did not get surgery was 46 +/- 10.1 (n=81)

- Pearson's' correlation between the outcome of surgery and BMI was 0.156 showing a weak positive correlation between BMI and the outcome





- Private insurance cover had a significant influence on whether patients proceeded with surgery n = 81(80%) insured versus n = 13 (12%) uninsured, p <0.01.
- Pearson Chi square test result = 3.7881, P = 0.05
- By univariate logistic regression analysis, one preconsultation characteristic was identified as a factor associated significantly (P<0.05) with declining surgery: insurance (p=0.005)


Prevalence of Variables and Comparison with Both Outcomes
80%
70%
60%
50%
40%
30%
20%
10%
0%
Urinary
GORD
DM
HTN
OSA
Smoking
Alchol
Mobility
Dyslipidaemia
Had Surgery (%)
Did not have Surgery (%)

Psychological Questionnaires (Mean Scores for Each Outcome)

Beck Depression Index

Aron T Beck 1961BD, 1996 BDII. - Self -reporting. Multiple choice

Quantitative assessment of intensity of depression (psychometric test)

21 Questions x 0-3 = 0-63

Mild Depression 14-19. Mod Depression 20-28

Hospital Anxiety and Depression Score

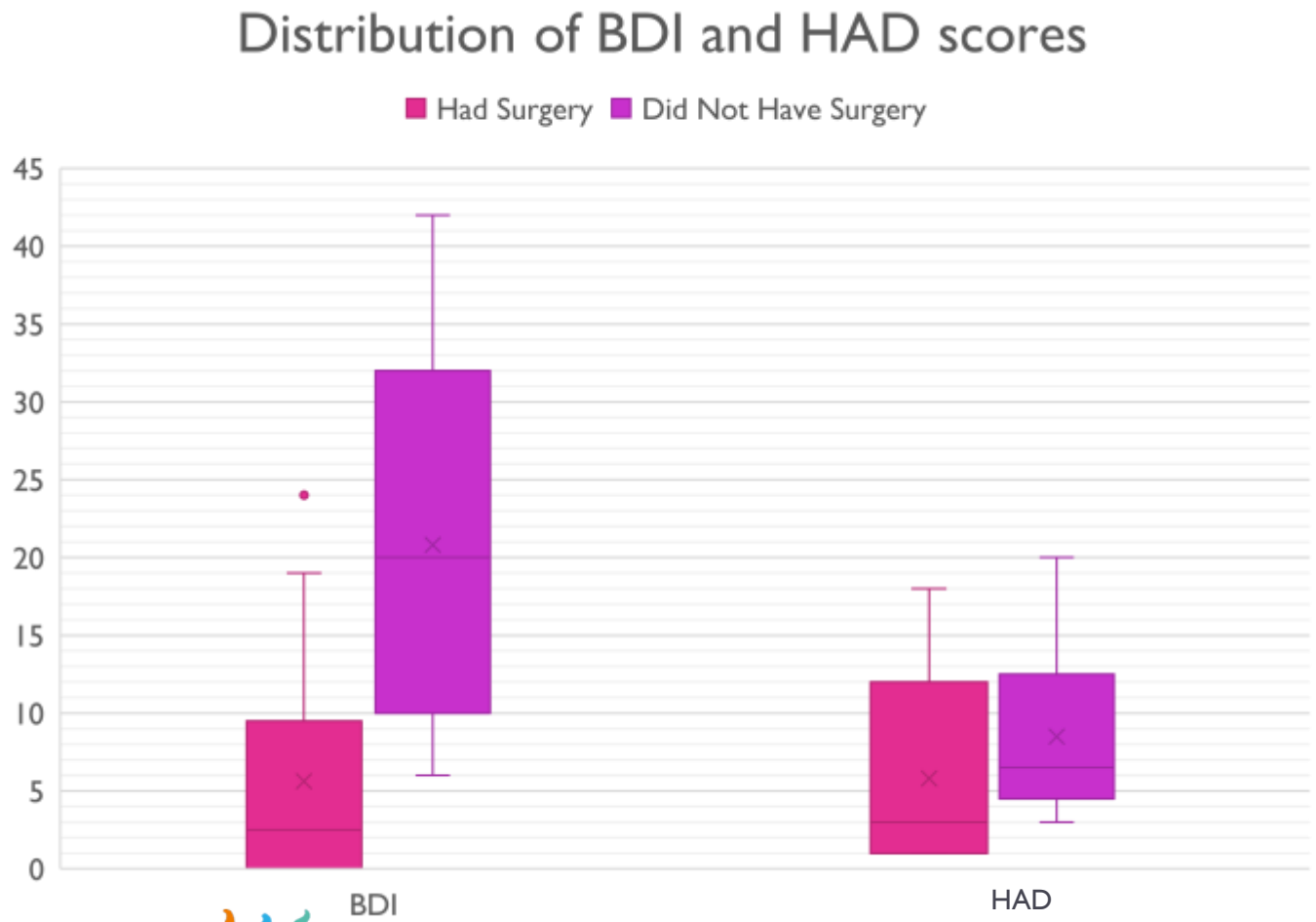
Zigmond & Snaith 1983

Determine levels of depression in people with physical health problems - to avoid confusion with somatic symptoms.

7 items -depression x 0-3 = 0-21

	BDI	HAD
Mean	14.63	6.34
N	170	168
SD	10.493	4.542

- The overall BDI and HAD scores for the group were 14.63 and 6.34, respectively, which were in the moderately depressed range.
- However, patients not proceeding with surgery had a significantly higher BDI [16.2 (+/-10.1)] and HAD score [7.2 (+/- 4.6)] than those who ultimately proceeded to surgery.



DISCUSSION OF FINDINGS

The demographics depicted in this study are broadly comparable with literature in this area.

Ferriby et al deduced that pre-surgery candidates with higher BMI reported a higher negative influence of obesity on their relationships than those of lower BMI. Lima et al reported that higher BMI is related to low/lack of self-acceptance, increased stress level and depression – all of which contribute to lower QOL. (4,5) This is reflected in the results of this study.

This study differs from the literature as there was no statistically significant association between OSA and the outcome of surgery.(4,6)

In regards to the relationship between undergoing surgery and private health insurance, the study reflected Worsek et al and Huang et al, which both identified the correlation between higher yearly income and following through with surgery in comparison with a control group. (7)

CONCLUSIONS

- This study found that patients who decline subsequent bariatric surgical intervention had statistically significant higher Beck Depression Inventory scores and higher Hospital Anxiety and Depression scores on completing questionnaires prior to their initial consultation.
- The possession of insurance was also associated with an increased likelihood of undergoing subsequent surgery.
- This suggests unsurprisingly that financial considerations play a major part in bariatric surgical decision-making.
- There may be a role for psychological counselling prior to referral for surgical intervention.

CRITICAL REFLECTION

- Strengths

- Large Sample size
- Data from the single leading centre in Irish bariatric surgery.
- Standardised questionnaire given to each participant.

- Limitations

- Single centre study
- Private patient population
- Retrospective study

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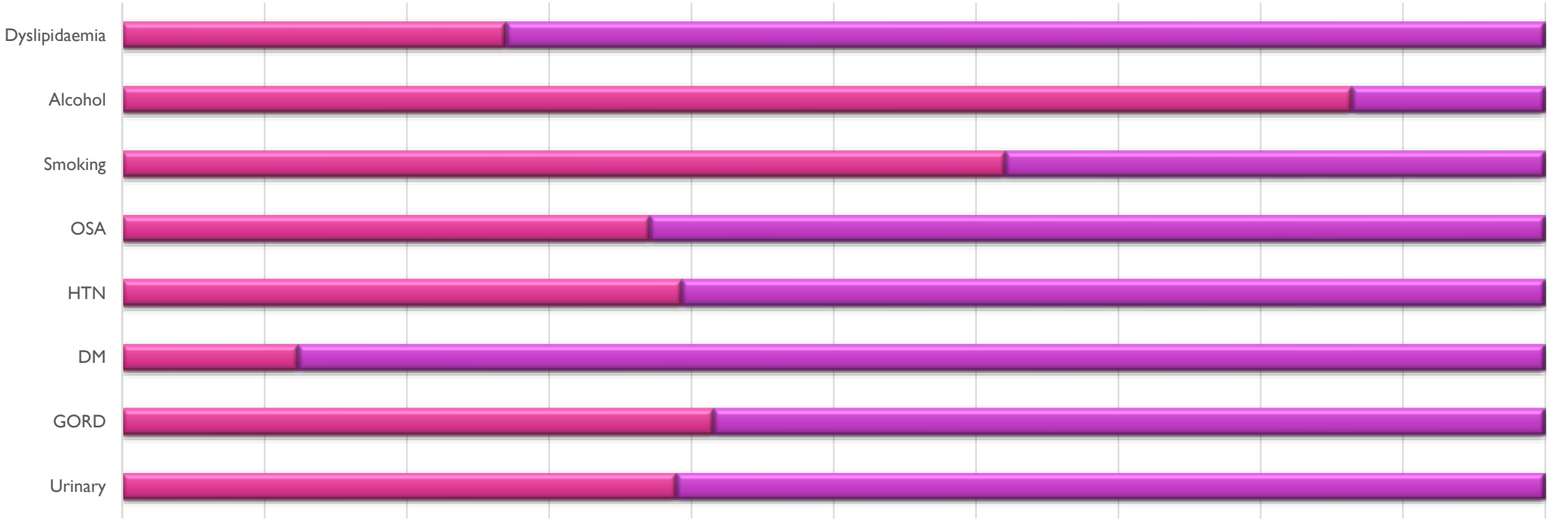
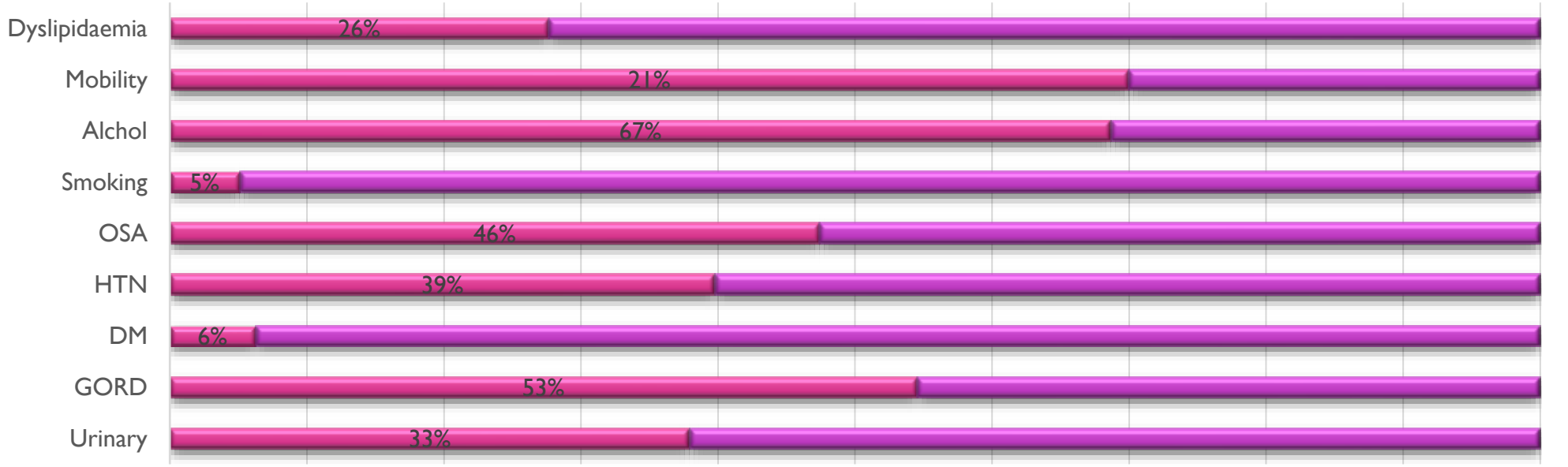
% Variables in Those Who Decline Surgery



	Urinary	GORD	DM	HTN	OSA	Smoking	Alcohol	Dyslipidaemia
Yes (%)	34%	42%	12%	39%	37%	20%	79%	27%
No(%)	53%	58%	88%	61%	63%	12%	12%	73%

% Variables in Those That Get Surgery



	Urinary	GORD	DM	HTN	OSA	Smoking	Alchol	Mobility	Dyslipidaemia
Yes (%)	33%	53%	6%	39%	46%	5%	67%	21%	26%
No (%)	53%	45%	89%	58%	50%	92%	31%	9%	67%

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