Changes in Food Preference and Intake after Roux-en-Y gastric bypass

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CONFLICT OF INTEREST DISCLOSURE

[ ] I have no potential conflict of interest to report

Do patients after MBS change the food preferences and intake?

Systematic review and meta-analyses showed changes of food preferences in terms of macronutrient and food selection

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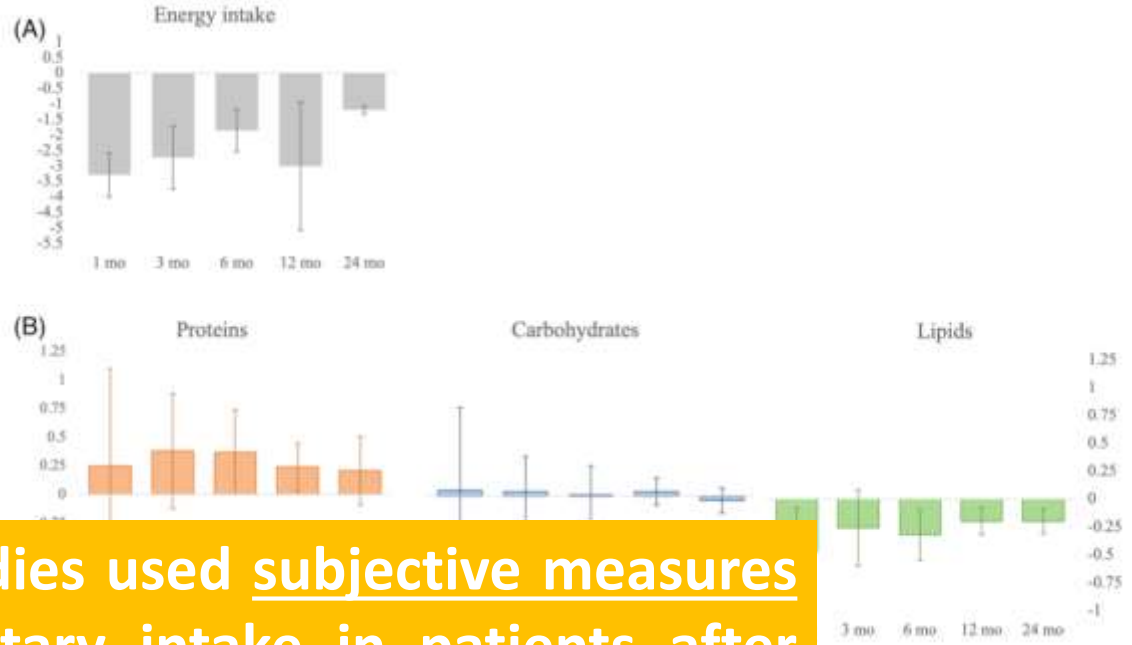
BARIATRIC SURGERY/NUTRITION

OBESITY WILEY

A systematic review and meta-analyses of food preference modifications after bariatric surgery

Erika Guyot[1,2] | Anestis Dougkas[2] | Julie-Anne Nazare[1,3] | Sarah Bagot[1,2] | Emmanuel Disse[1,3,4] | Sylvain Iceta[5]



"…most of the included studies used subjective measures of food preferences or dietary intake in patients after bariatric surgery."

Methodological challenges in dietary intake measurement

Indirect Measures

Dietary assessment

- 24HR
- Diet records
- FFQ

- Possible recall bias

How much?

Direct Measures

Laboratory-based dietary studies

- Universal Eating Monitors
- Cafeteria-like setting
- Residential conditions

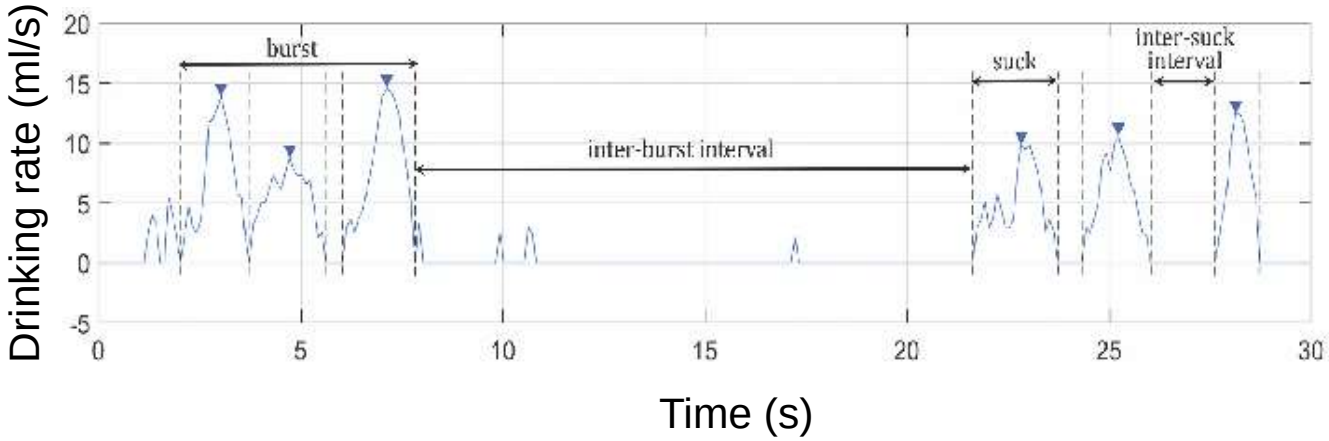
What?

New methods to measure DIRECTLY ingestive behavior are needed

Drinkometer to directly measure ingestive behavior in humans

Macrostructural parameters of ingestion

1. Meal size (ml)
2. Meal duration (s)
3. Drinking rate (ml/s)
4. Suck number (n)



Gero, et al., 2019
Alceste, et al., 2022

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Study outcomes

Aim

To assess the effect of RYGB surgery on postoperative changes in diet selection.

Primary outcome

- Differences in absolute and relative caloric intake from each macronutrients.

Secondary outcomes

- Changes in meal duration (s) and drinking rate (ml/s).
- Correlation between body weight loss after one-year RYGB and differences from baseline of energy and macronutrients intake as well as meal size, meal duration and meal rate.

Multicenter, prospective observational case-control study

Intervention group

n= 23

BMI > 35 kg/m^2

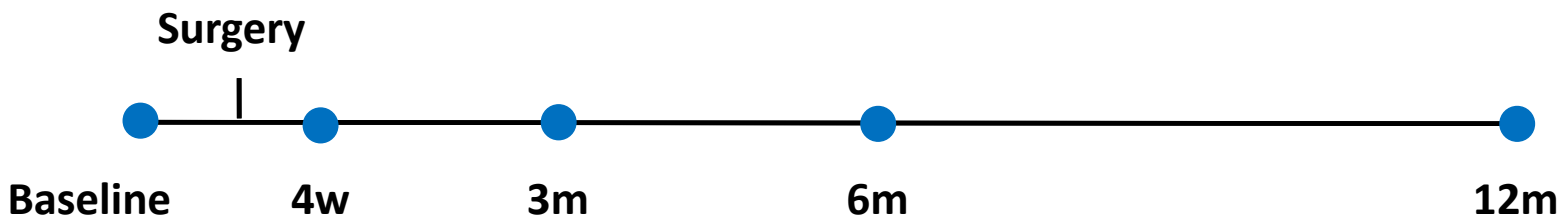
Control groups

n= 24

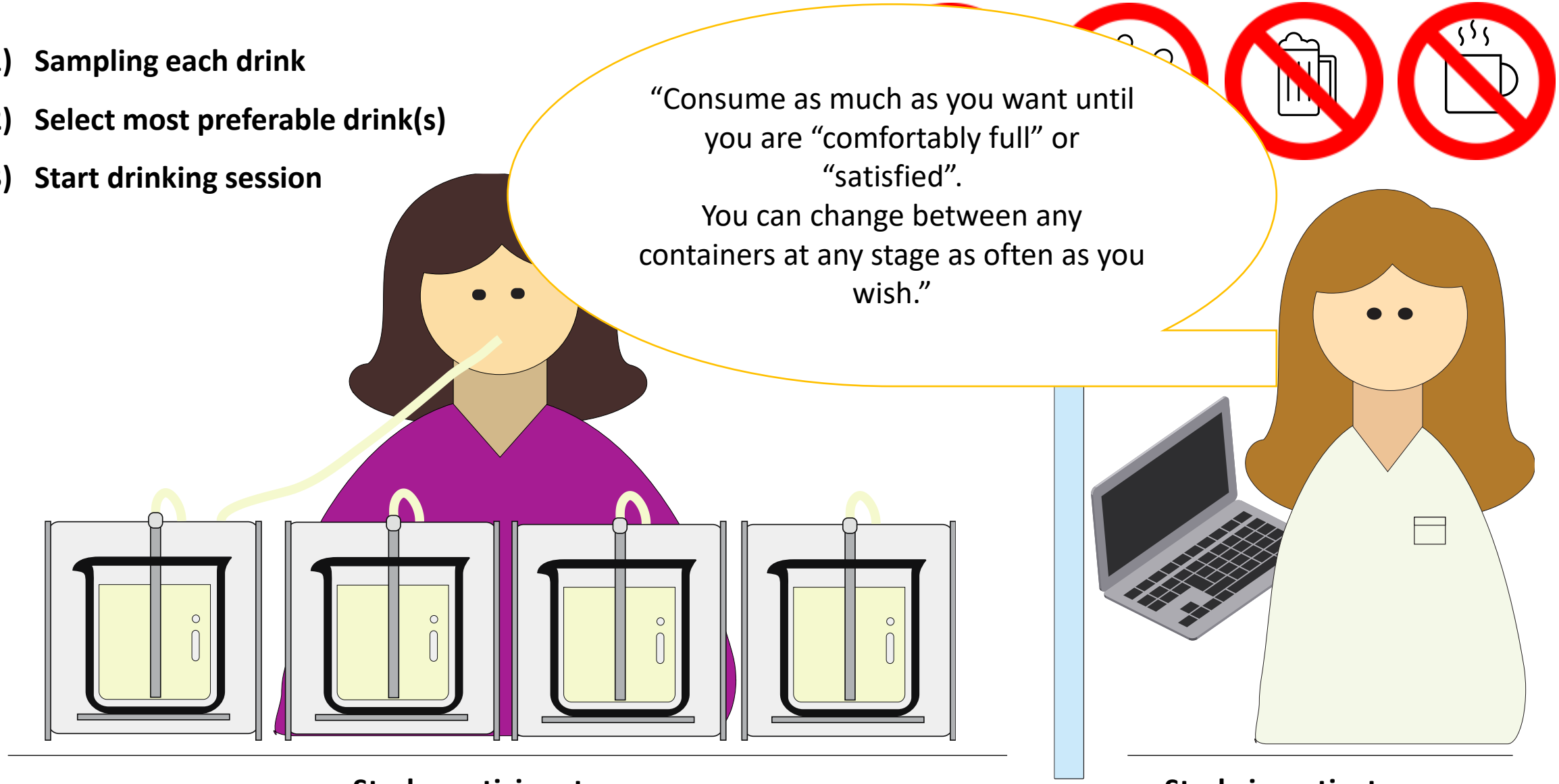
BMI > 30 kg/m^2

n= 11

BMI < 25 kg/m^2



1) **Sampling each drink**
2) **Select most preferable drink(s)**
3) **Start drinking session**

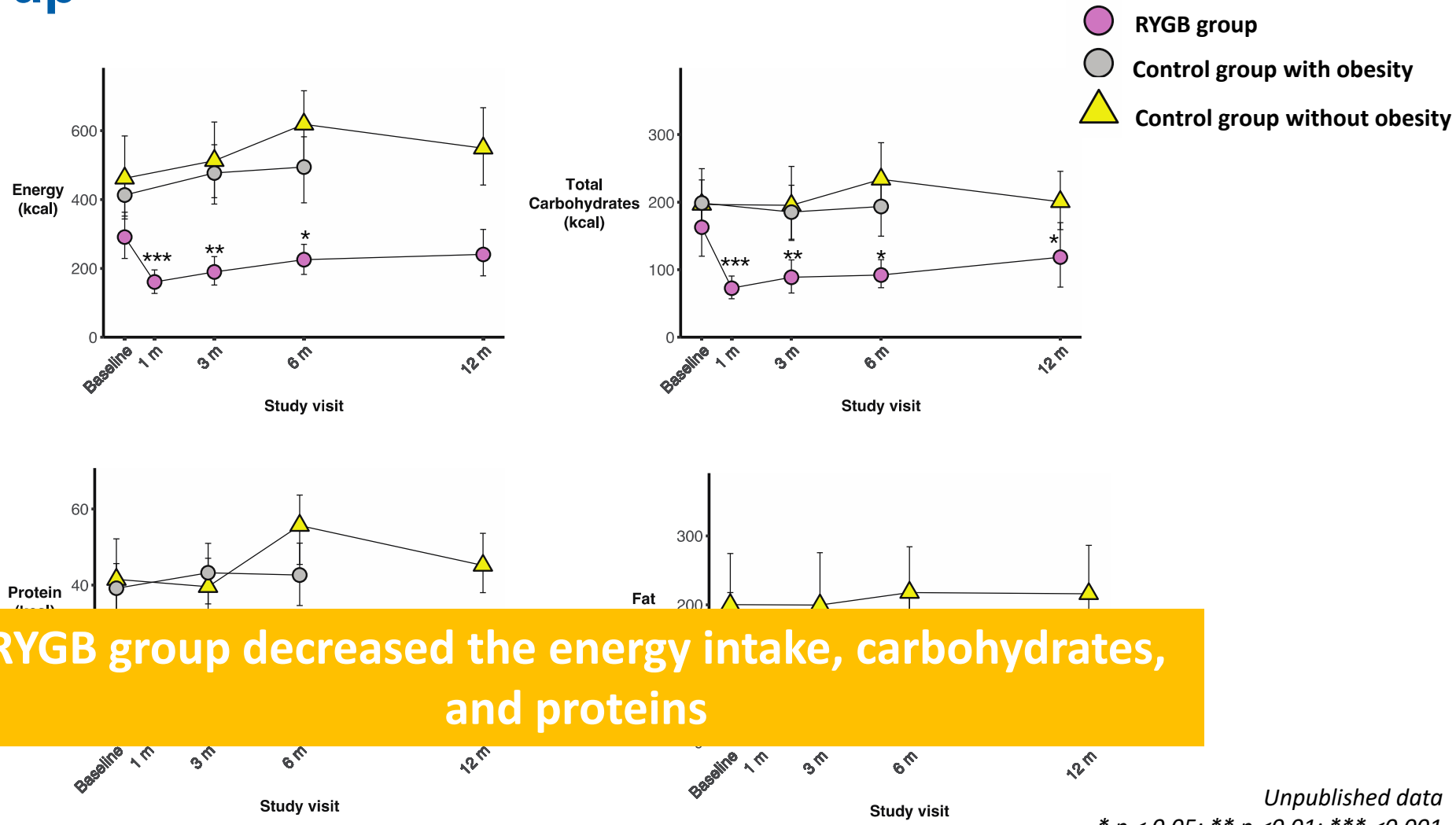


Baseline characteristics

Variables	RYGB (n=23)	Control with obesity (n=24)	Control without obesity (n=11)
Age (years)	42.3 (10.2)	45.2 (13.3)	26.3 (5.3)
Body weight (kg)	113.2 (12.7)	98.1 (15.4)	63.8 (7.8)
BMI (kg/m^2)	40.0 (2.9)	36.8 (4.5)	22.8 (2.5)
Special diet			
None	23/23(100%)	22 / 24(92%)	11 / 11 (100%)
Physical Activity (n)			
None	12 / 23 (52%)	11 / 24 (46%)	4 / 11 (36%)
1-2 h/week	6 / 23 (26%)	3 / 24 (12%)	1 / 11 (9.1%)
2-6 h/week	5 / 23 (22%)	8 / 24 (33%)	5 / 11 (45%)
> 6 h/week	0 / 23 (0%)	2 / 24 (8.3%)	1 / 11 (9.1%)
Nights Sleep (h)	7.1 (1.4)	6.9 (1.4)	7.5 (1.2)
Menstruation cycle			
Menopause	5 / 23 (22%)	8 / 24 (33%)	0 / 11 (0%)
Not reported	6 / 23 (26%)	1 / 24 (4.2%)	0 / 11 (0%)
Regular cycle	12 / 23 (52%)	15 / 24 (62%)	11 / 11 (100%)
Smoking§	6 / 23 (26%)	2 / 24 (8.3%)	2 / 11 (18%)

Data are shown with mean (SD) or frequency (%). Independent of the number of cigarettes smoked and smoking occasions (§). Abbreviations: SD, standard deviation; BMI, body mass index; RYGB, Roux-en-Y gastric bypass.

Changes in Absolute Energy and Macronutrient Intake over One Year Follow-up

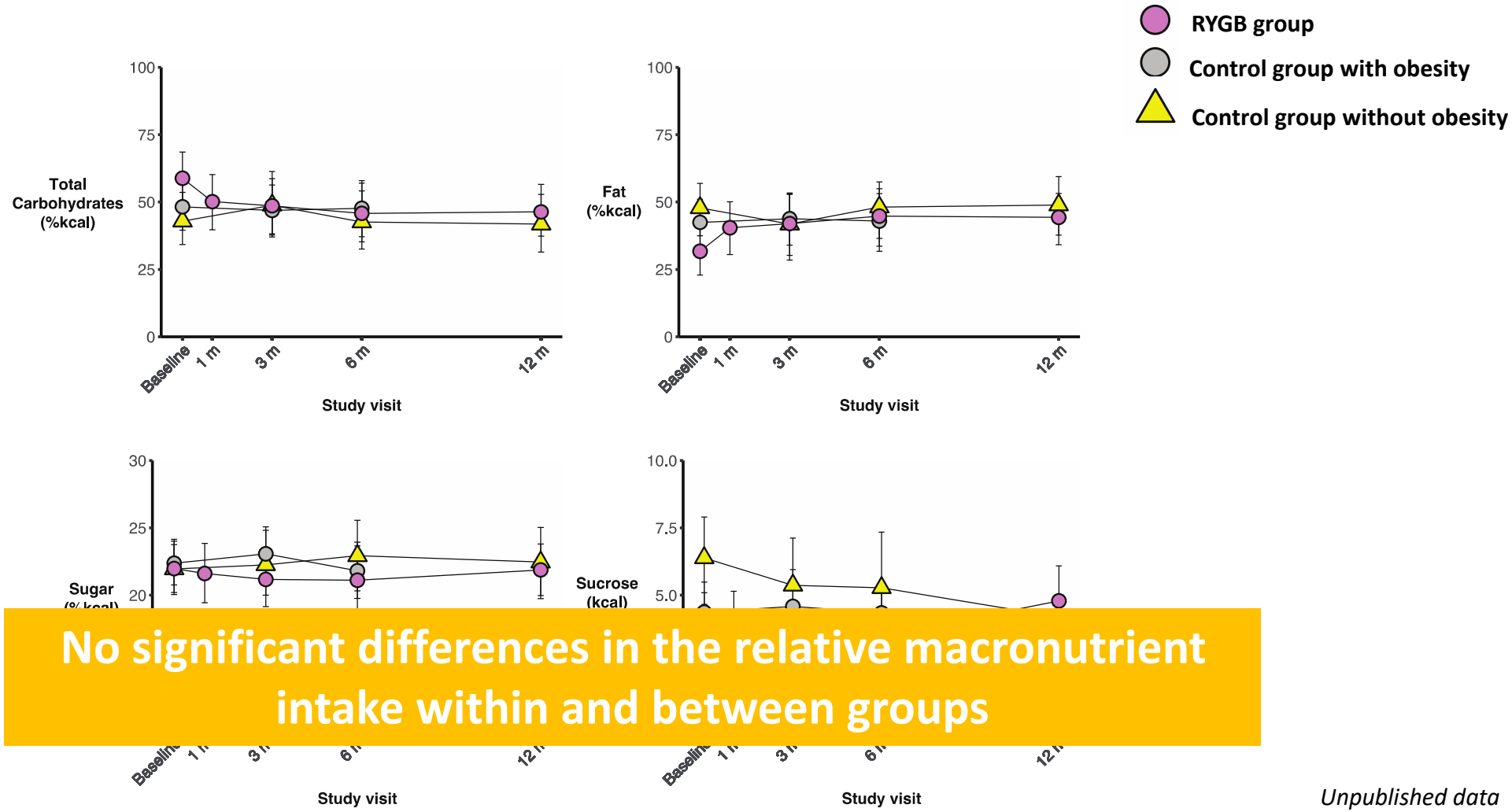


RYGB group decreased the energy intake, carbohydrates, and proteins

Unpublished data

** p < 0.05; ** p <0.01; *** <0.001*

Changes in Relative Macronutrient Intake over One Year Follow-up



No significant differences in the relative macronutrient intake within and between groups

Unpublished data

** p < 0.05; ** p <0.01; *** <0.001*

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Bariatric surgery do not affect food preferences when assessed by ab libitum buffet meal and residential conditions

Original Article
CLINICAL TRIALS AND INVESTIGATIONS

Obesity

Bariatric Surgery Does Not Affect Food Preferences, but Individual Changes in Food Preferences May Predict Weight Loss

Mette Søndergaard Nielsen[1,2], Simone Rasmussen[1], Bodil Just Christensen[1], Christian Ritz[1], Carel W. le Roux[4,5], Julie Berg Schmidt[1] and Anders Sjödin[1]

The Journal of Nutrition
Obesity and Eating Disorders

Food Intake Following Gastric Bypass Surgery: Patients Eat Less but Do Not Eat Differently

M Barbara E Livingstone,[1] Tamsyn Redpath,[1] Fathimath Naseer,[1] Adele Boyd,[1] Melanie Martin,[1] Graham Finlayson,[2] Alex D Miras,[3] Zsolt Bodnar,[4] David Kerrigan,[5] Dimitri J Pournaras,[6] Carel W le Roux,[7] Alan C Spector,[8] and Ruth K Price[1]

Nielsen, el al., *Obesity* 2018; Livingstone, et al., Journal of Nutriton 2022

Conclusions

- Patients **decrease meal size**, absolute intake of **all four macronutrients**, and drinking rate.
- **RYGB did not have an effect on the relative macronutrient intake** in adult females during the first postoperative year.
- Results aligned with latest literature using direct measures

Thank you

Research Retreat, Lenzerheide, Switzerland

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