Gastric Bypass Vs. Sleeve Gastrectomy: Which Procedure Results In Better Quality Of Life For Patients With Obesity?

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I have no potential conflict of interest to report

This study has been ethically approved by IRB (MREC-NMRR)

Introduction

- Sleeve gastrectomy (SG) and Roux-en-Y gastric bypass (RYGB) are the common procedure performed

- SG and RYGB are effective in the treatment of obesity

RESEARCH QUESTION

Is there a difference in quality of life between patient who undergo sleeve gastrectomy and Roux-en-Y gastric bypass among Asian population?

PRIMARY OBJECTIVE

1. To compare the quality of life before and after bariatric surgery among Asian population

2. To compare the quality of life between patients with obesity that underwent sleeve gastrectomy and Roux-en Y gastric bypass in Asia

SECONDARY OBJECTIVE

To assess the excess weight loss and postoperative complication among patient with obesity who underwent sleeve gastrectomy and Roux-en-Y gastric bypass in Asia

Methodology

Study design

- Prospective observational study
- Convenience sampling

Study location

- Single-centre

Study sample size

- N=90

Inclusion

1. Patients age 18-60 years
2. Patients undergoing bariatric surgery
3. Patients feeding route is oral

Exclusion

1. Patients on tube feeding or parenteral nutrition
2. Logistic issue
3. Patients with medically diagnosed psychiatric disorder

Instruments:
WHOQOL-BREF questionnaire

Appendix 2. Quality of life assessment instrument - WHOQOL-Bref adapted (OMS, 1998)

Instructions: The following questions ask how you feel about your quality of life, health, or other areas of your life. I will read out each question to you, along with the response options. **Please choose the answer that appears most appropriate.** If you are unsure about which response to give to a question, the first response you think of is often the best one.
Please keep in mind your standards, hopes, pleasures and concerns. We ask that you think about your life **in the last two weeks.**

		Very poor	Poor	Neither poor nor good	Good	Very good
1	How would you rate your quality of life?	1	2	3	4	5
		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
2	How satisfied are you with your health?	1	2	3	4	5

The following questions ask about **how much** you have experienced certain things in the last two weeks.

		Not at all	A little	A moderate amount	Very much	An extreme amount
3	To what extent do you feel that physical pain prevents you from doing what you need to do?	5	4	3	2	1
4	How much do you need any medical treatment to function in your daily life?	5	4	3	2	1
5	How much do you enjoy life?	1	2	3	4	5
6	To what extent do you feel your life to be meaningful?	1	2	3	4	5
7	How well are you able to concentrate?	1	2	3	4	5
8	How safe do you feel in your daily life?	1	2	3	4	5
9	How healthy is your physical environment?	1	2	3	4	5

Domain	Facets incorporated within domains
1. Physical health	Activities of daily living Dependence on medicinal substances and medical aids Energy and fatigue Mobility Pain and discomfort Sleep and rest Work Capacity
2. Psychological	Bodily image and appearance Negative feelings Positive feelings Self-esteem Spirituality / Religion / Personal beliefs Thinking, learning, memory and concentration
3. Social relationships	Personal relationships Social support Sexual activity
4. Environment	Financial resources Freedom, physical safety and security Health and social care: accessibility and quality Home environment Opportunities for acquiring new information and skills Participation in and opportunities for recreation / leisure activities Physical environment (pollution / noise / traffic / climate) Transport

Instruments:
Anthropometry Measurements

1. Weight
2. Height
3. Body Mass Index (BMI)
4. The weight loss progress: percent excess weight loss (%EWL)

   %EWL = Operative weight – [(follow up weight/ideal weight) × 100]

Classification of weight by BMI based on Asian Pacific cut-off points (WHO, 2004)	
Classification	**BMI (kg/m^2)**
Obese Class 1	27.5 – 32.4
Obese Class 2	32.5 – 37.4
Obese Class 3	≥ 37.5
Super Obese	≥ 50

Socio-demographic characteristics

Characteristics	SG (n = 55)	RYGB (n = 35)	P value
Gender, n (%)			
Female	36 (65.5)	26 (74.3)	0.101
Male	19 (34.5)	9 (25.7)	0.089
Age, mean (SD)	41.6 (9.9)	42.2 (10.5)	0.226
Age, n (%)			
< 40 years old	27 (49.0)	18 (51.4)	0.189
> 40 years old	28 (50.9)	17 (48.6)	0.111
Race, n (%)			
Southeast Asian (Malay)	28 (50.9)	20 (57.1)	0.099
East Asian (Chinese)	13 (23.6)	7 (20.0)	0.267
South Asian (Indian)	14 (25.5)	8 (22.9)	0.142
Comorbidities			
T2DM	2 (3.6)	25 (71.4)	0.018
Hypertension	15 (27.3)	10 (28.6)	0.104
Dyslipidaemia	9 (1.6)	12 (34.3)	0.089
Cardiovascular disease	2 (3.6)	2 (5.7)	0.254
Obstructive sleep apnea	19 (34.5)	8 (22.9)	0.071
Depression	9 (16.4)	7 (20.0)	0.213
Osteoarthritis of the knee	31 (56.4)	13 (37.1)	0.039

1. Quality of life before and after bariatric surgery

WHOQOL-BREF domain scores	Type of Surgery	Before surgery Mean (SD)	3 months after surgery Mean (SD)	p-value (within)	p-value (SG vs. RYGB)
Physical health	SG	13.5 (3.0)	16.0 (2.3)	<0.001*	0.465
	RYGB	12.2 (2.7)	15.9 (2.9)		
Psychological	SG	12.7 (2.2)	16.1 (2.3)	<0.001*	0.819
	RYGB	12.4 (2.8)	14.9 (1.9)		
Social relationship	SG	13.6 (3.2)	15.5 (2.6)	<0.001*	0.372
	RYGB	13.0 (3.3)	15.4 (2.5)		
Environment	SG	15.0 (2.3)	16.7 (2.6)	0.0013*	0.772
	RYGB	14.9 (2.8)	16.2 (2.1)		

*$p < 0.05$ is significant

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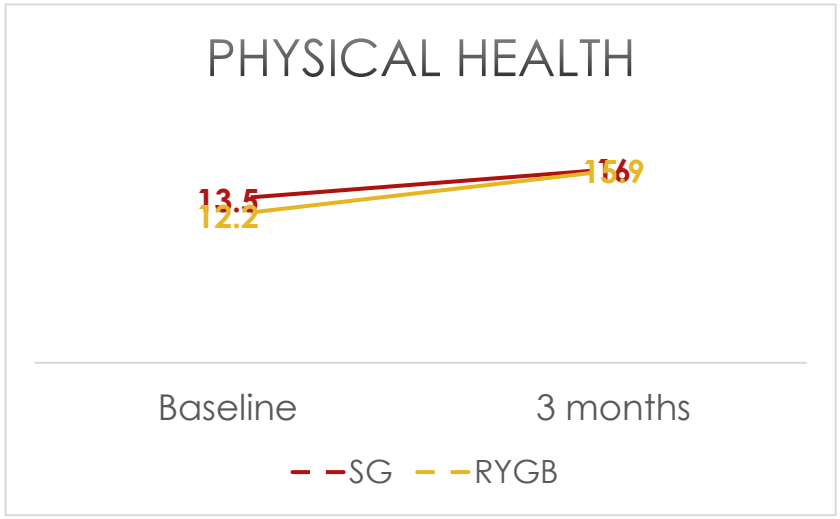
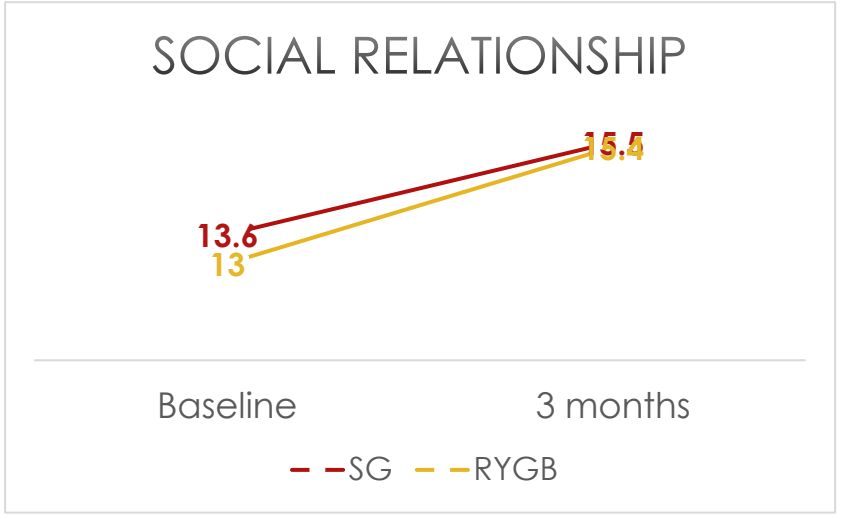
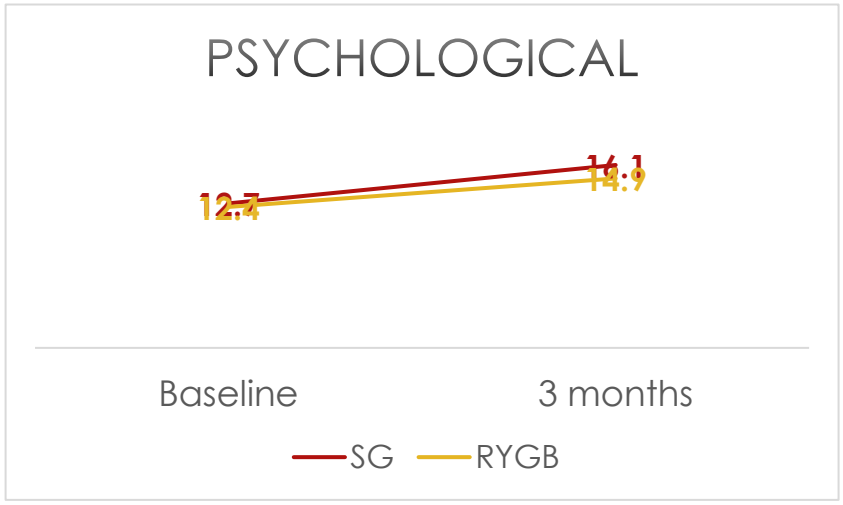
WHOQOL domains. SG vs. RYGB

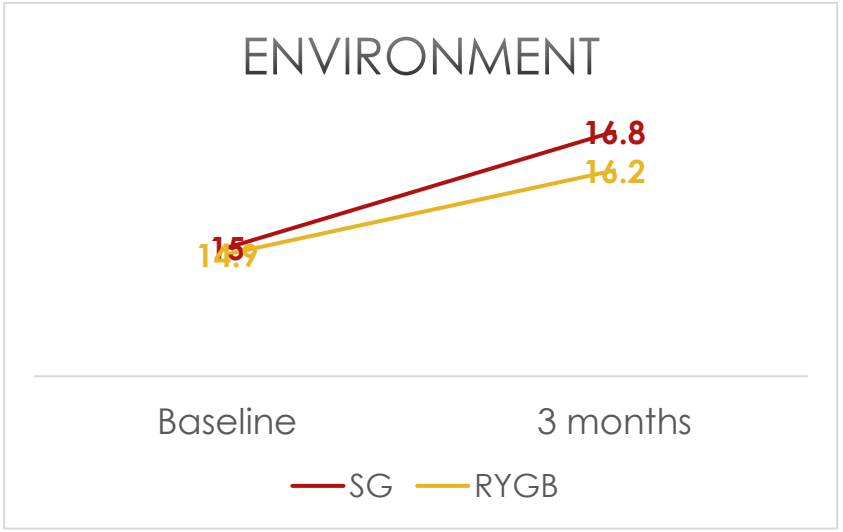


RYGB

- Improvement of the co-morbidities
- Increase score for "being respected and accepted"
- Greater social activity







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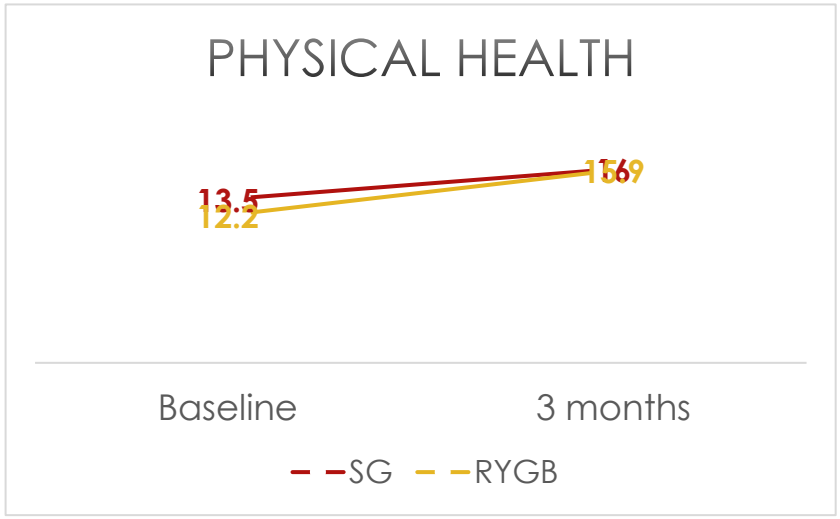
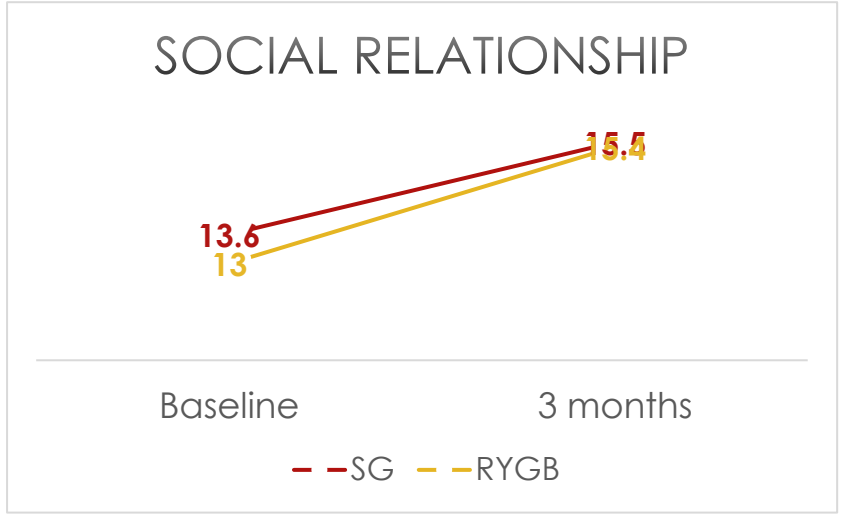
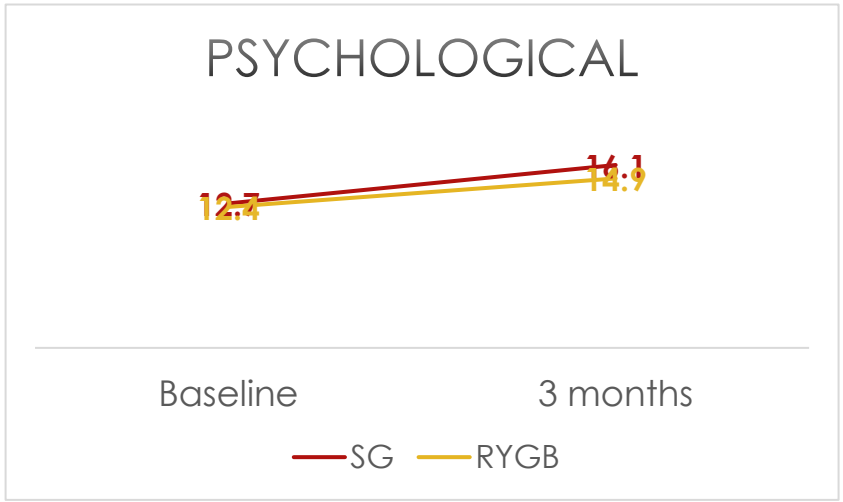
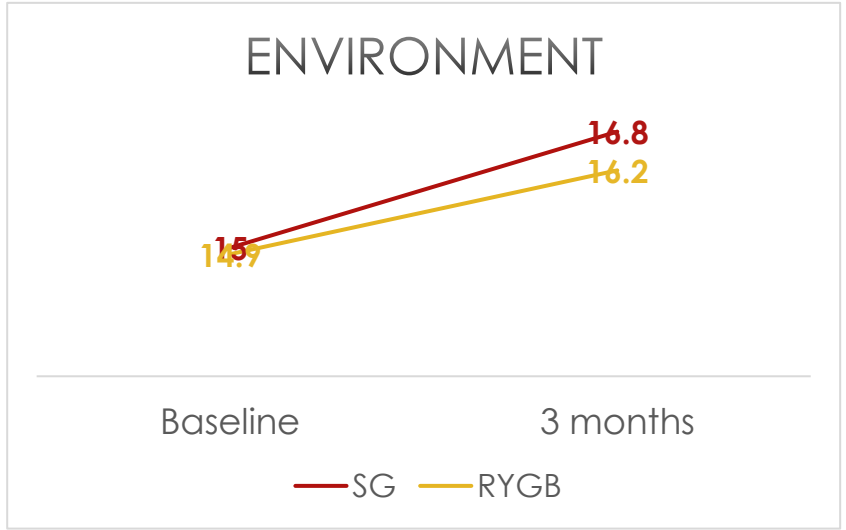






SG

- Better self-image
- Improve financial resources & opportunities to acquire new information, skills, leisure activities



2. Early postoperative complications

There were no early postoperative complications documented in both groups

2. Weight loss. SG vs. RYGB

Characteristics	Type of Surgery	Before surgery Mean (SD)	1 month after surgery Mean (SD)	3 months after surgery Mean (SD)	p-value (within)	p-value (SG vs. RYGB)
% EWL**	SG		14.5 (6.0)	32.3 (10.8)	<0.0001*	0.303
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Discussion

- There is an improvement in the QOL before and 3 months after bariatric surgery but there is no difference between SG ad RYGB
- No early postoperative complication observed between both groups
- There is improvement in the EWL at 1 month and 3 months after bariatric surgery but there is no difference between SG ad RYGB

Strength

- First study to assess QOL among patients with obesity after SG and RYGB in Asia.

Limitation

- Follow-up period was limited to 3 months.

Recommendations

- Suggest a long-term observation study with controls and a randomized trial with a larger sample size.

Conclusion

Sleeve gastrectomy and Roux-en-Y gastric bypass are both equally effective in improving quality of life and excess weight loss of patient with obesity in Asia.

THANK YOU

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