

Comparing Health-Related Quality of Life in Obese Patients With and Without Bariatric Surgery: A Cross-Sectional Study in a Multi-Ethnic Asian Population in Singapore

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BACKGROUND

- Western studies showed bariatric surgery (BS) improves health-related quality of life (HRQoL), but evidence is limited in Asia where lower BMI thresholds for BS eligibility due to higher cardiovascular risk.
- We compared self-reported HRQoL between patients with and without BS in multi-ethnic Singapore.

METHODS

- Eligibility criteria:** Adults (≥ 21 years) who had undergone bariatric surgery at least 6 months ago or adults with obesity who qualified for BS but have not received BS.
- Study setting:** Participants were recruited during their visit to the hospital specialist outpatient management clinics. About 85% self-completed the questionnaire while in the clinics while the remaining self-completed the questionnaire after leaving the clinic.
- Instruments and outcome variables:**

Instrument	Outcome variable	Variable type
EQ-5D-5L	Mobility, Self-care	Dichotomous: 0 – No problem 1 – Have problem
	Usual activities, Pain / Discomfort, Anxiety / Depression	
	EQ VAS, EQ-5D Index	Continuous
EQ-HWB-9	Exhausted, Lonely, Cognition, Anxious, Depressed, Autonomy, Physical pain	Dichotomous: 0 – Never / No pain 1 – Occasionally or more / Mild to severe pain
	Level sum score (LSS), EQ-HWB Index	Continuous
PROMIS-10	Overall health, Overall quality of life	Dichotomous: 0 – Good / Very good / Excellent 1 – Poor / Fair
Pittsburgh Sleep Quality (PSQI)	Subjective sleep quality	0 – Good 1 – Bad
	Sleep sufficiency	0 – Sufficient 1 – Insufficient

- Statistical analysis:** Multiple logistic regressions were used for dichotomous outcome variable while multiple linear regressions were used for continuous outcome variable. All regressions were adjusted for age, gender, and ethnicity.

RESULTS

- We recruited 89 non-BS patients and 85 patients.
- Non-BS patients were statistically significantly younger (mean: 37.8) than BS patients (mean: 43.3). The two groups were similar in gender and ethnicity (Table 1).

Table 1. Participant characteristics.

Characteristics	Non-BS patients (N = 89)	BS patients (N = 85)
Age**	37.8 \pm 12.1	43.3 \pm 9.1
Gender	Male 36 (40.5%) Female 53 (59.6%)	32 (37.7%) 53 (62.4%)
Ethnic group	Chinese 28 (31.5%) Malay 44 (49.4%) Indian 14 (15.7%) Others 3 (3.4%)	26 (30.6%) 39 (45.9%) 15 (17.7%) 5 (5.9%)

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

RESULTS

- Compared to non-BS participants, BS participants had significantly lower odds of reporting problems in EQ-5D-5L **usual activities** (OR: 0.36), EQ-5D-5L **pain / discomfort** (OR: 0.47), EQ-HWB-9 **daily activities** (OR: 0.46), EQ-HWB-9 **physical pain** (OR: 0.39), and also significantly lower odds of reporting poorer PROMIS **overall health** (OR: 0.21) and **overall quality of life** (OR: 0.43) (Table 2).
- BS participants reported significantly better **EQ VAS** (β : 16.3) than non-BS participants (Table 2).

Table 2. Comparing HRQoL between non-BS and BS patients.

Instrument	Outcomes	Odds ratio (Reference: Non-BS patients)	p
EQ-5D-5L	Mobility	0.56	0.099
	Self-care	0.52	0.338
	Usual activities*	0.36	0.012
	Pain / Discomfort*	0.47	0.024
EQ-HWB	Anxiety / Depression	1.31	0.464
	Mobility	0.44	0.055
	Daily activities*	0.46	0.031
	Exhaustion	0.67	0.340
PROMIS-10	Loneliness	0.73	0.329
	Cognition	0.81	0.527
	Anxiety	1.81	0.082
	Sadness / Depression	1.00	0.995
PSQI	Control	0.81	0.521
	Physical pain**	0.39	0.006
	Overall health***	0.21	<0.001
	Overall quality of life*	0.43	0.016
EQ-HWB	Subjective sleep quality	0.78	0.472
	Sleep sufficiency	0.81	0.531
Instrument	Scores	Coefficient, β (Reference: Non-BS patients)	p
EQ-5D	EQ VAS***	16.3	<0.001
	EQ-5D Index	0.07	0.056
EQ-HWB	EQ-HWB LSS	-1.26	0.190
	EQ-HWB Index	0.03	0.199

CONCLUSION

- Asian obese patients who received BS reported better overall health and HRQoL, usual/daily activities, and pain or discomfort than those without BS.
- This supports BS in enhancing HRQoL and underscores the importance of patient-reported outcomes alongside clinical measures.

QUESTIONS OR COMMENTS? WELCOME TO CONNECT!

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