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REVIEW

Assessing the Impact of Bariatric Surgery on Quality of Life in the Saudi Population: A Systematic Review

Hussain Alqhtani

Department of Clinical Pharmacy, College of Pharmacy, Najran University, Najran, Saudi Arabia

Correspondence: Hussain Alqhtani, Email hmhalqhtani@nu.edu.sa

Abstract: Obesity, a global pandemic, has a profound adverse impact on health and quality of life (QoL). Therefore, bariatric surgery is the best way to lose weight in the long term and enhance QoL in Saudi Arabia. The data comprising 15 articles related to QoL following bariatric surgery among Saudi people were obtained through the search of databases: Google Scholar, PubMed, and ScienceDirect. The included studies provided data regarding the assessment of QoL via different tools, such as the impact of weight on quality of life (IWQOL-Lite), the Moorehead Ardelt quality of life questionnaire II (MA QoLQII), and the Short Form-36 questions (SF-36) in patients who had undergone bariatric procedures of any type. There was a significant improvement in parameters relevant to obesity, including weight, body mass index (BMI), triglycerides, blood pressure, hemoglobin A1c (HbA1C), and cholesterol, in post-bariatric participants. The weight decreased from 126.38 ± 24.97 kg to 81.41 ± 20.87 kg, and the BMI reduced from 45.78 ± 7.73 kg/m^2 to 30.56 ± 7.53 kg/m^2 in pre- and post-bariatric patients, respectively. The QoL score was higher after surgery, ie, 77.7 ± 15.3, compared to before treatment, ie, 58 ± 16.7. Increased weight loss and bariatric procedures contributed to better QoL among obese people in Saudi Arabia.

Keywords: bariatric surgery, obesity, Saudi Arabia, quality of life, body mass index, (BMI), weight loss

Introduction

Obesity has become a public health concern across the world over the past few decades and is considered an epidemic.[1] The World Health Organization (WHO) estimates that the number of overweight people has increased substantially from 300 million in 2005 to 2.5 billion in 2022.[2] The prevalence rate of obesity in Saudi Arabia is almost 24% while in other countries like the United States, Canada, the United Arab Emirates, and Kuwait, it is 41.9%, 30%, 27.8%, and 39.7% respectively.[3] The adverse health outcomes of obesity are the elevated risk of diabetes, cardiovascular diseases, dyslipidemia, anxiety, hypertension, and cancer.[4] Approximately 2.5 million fatalities have been linked to these comorbid conditions annually, and being obese significantly shortens the lifespan compared to a healthy person.[5]

Moderate weight loss can be achieved through various methods, including lifestyle changes, low-calorie food, behavioral adjustments, medication therapy, and bariatric treatment.[6] For long-term weight management, cognitive behavioral therapy (CBT) offers psychological support.[7] According to the 1991 National Institute of Health Guidelines, obese individuals with a body mass index (BMI) of ≥40 kg/m^2 should be considered for bariatric procedures.[6] Bariatric surgery has become a far more common treatment for morbid obesity during the last twenty years.[8] In Saudi Arabia, initially, such surgery was performed in 1985 and these days the percentage of patients undergoing bariatric surgery has been growing; ≥15,000 treatments are carried out annually.[9,10] These beneficial treatments usually result in a BMI of <35 kg/m^2 or a 50–70% reduction in the excessive weight.[11] Weight loss procedures are performed at about 20 authorized obesity centers in Saudi Arabia, and these centers have done more than 30,000 surgeries with the cost estimation of 6,600 to 10,000 dollars in 2021.[12]

Several areas, which may include physical wellness, societal anxiety, employment, intimate relationships, and self-image, have been linked to a lower quality of life (QoL) after becoming obese.[13] Individuals with greater rates of obesity,

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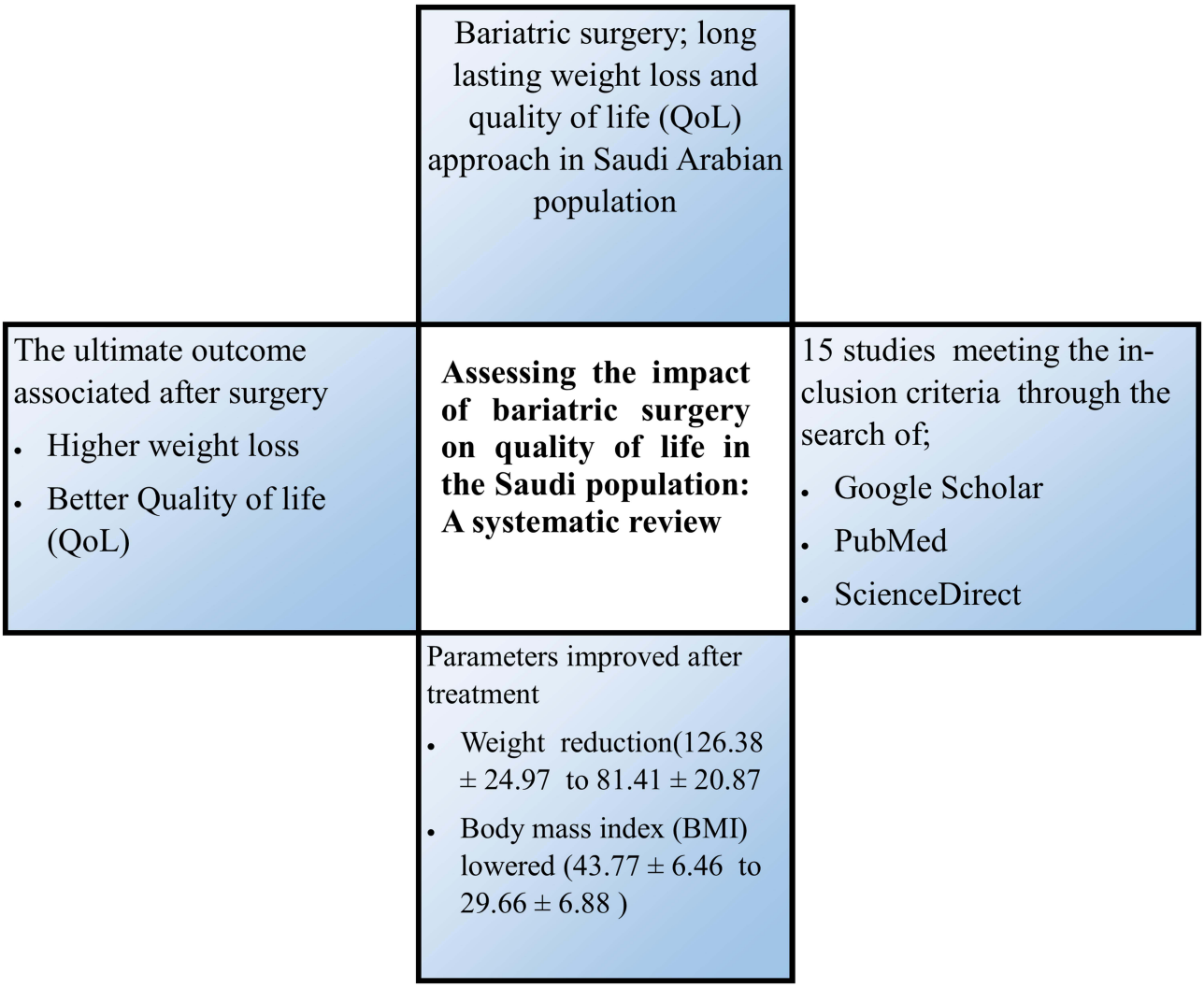
Graphical Abstract



as compared to the lower levels, expressed a disappointing physical appearance and poorer QoL.[14] Treatment options for managing obesity are lifestyle modifications, drug therapy, psychological support, and bariatric surgery.[15] Pharmacotherapy has proven to be less effective in obesity, although a balanced lifestyle approach is widely used only for short-term weight loss goals.[14] The most effective therapy for chronic and complex obesity is bariatric surgery, which involves many surgical operations and results in significant, long-lasting reductions in weight along with improvements in the number and frequency of comorbidities.[16]

The selection of a suitable bariatric procedure depends on some patients' attributes including age, gender, preferences, surgical history, BMI, and Gastroesophageal Reflux Disease (GERD).[17] These surgical methods may vary related to the incidence of comorbidity remission, amount of decreased body fat, weight loss maintenance during a certain period, and morbidity and mortality rates.[18] Following bariatric surgery, some patients experience severe distress with their new physiques due to the overhanging skin folds on the face, arms, abdomen, and thighs.[19] Excessive weight loss results in a loose and stretched body which can cause physical and psychological health problems that might impact the QoL.[20]

Since bariatric surgery has certain pros and cons, it is crucial to assess the participants' QoL levels ie the perception of people to their objectives, values, requirements, and issues in the context of social structure.[21] The overall rise in the

proportion of obese patients undergoing this procedure shows its effectiveness in overcoming obesity and improving quality of life (QoL), primarily for the significant weight loss that can be noticed within 12 to 18 months post-surgery.[22] The outcomes related to QoL are enhanced physical and mental wellness, greater acceptance in society, modified lifestyle, and higher participation in cultural activities.[23] Consequently, patients' QoL is becoming more often established as a necessary criterion for studies on the success ratio of bariatric surgery.[24]

This review aims to provide a thorough and detailed overview of the QoL among the Saudi population following bariatric surgery. This surgery is an effective option for severe obesity and to maintain not only weight-related outcomes but also different QoL aspects. It will also facilitate and motivate patients to manage their health-related concerns encompassing physical, psychological, and social well-being by utilizing the influence of this surgery. QoL represents a critical patient-centered interpretation and is increasingly considered a key indicator of success after bariatric treatment. However, numerous clinical studies and reviews have evaluated the changes in postoperative QoL, mood stability, self-esteem, and appearance in Western countries. To date, there has been no comprehensive review specifically examining QoL in the Saudi Arabian population. Therefore, this systematic review focuses on providing comprehensive information on the best available evidence on the QoL among Saudi obese patients after bariatric treatment.

Methodology

Research Question

Data search was carried out using the Population, Intervention, Comparison, and Outcome (PICO) format as a search strategy tool in clinical practice.

P (Population): Adolescents and adults with obesity.

I (Interest area): Bariatric surgery

C (Current practice/comparison): Not applicable

O (Desired outcome): QoL

Inclusion Criteria

The relevant data include all English-written data on the QoL after bariatric procedures in Saudi Arabian obese patients published from 2012 to 2024.

Exclusion Criteria

We excluded articles beyond the time limit, including abstracts, editorials, chapters, studies from other countries, and weight loss therapy. The details of excluded articles were mentioned in the Supplementary Table S2 (Supplementary File, Page 4).

Search Strategy

The present study used the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) to identify the literature search. The complete checklist of PRISMA 2020[25] was presented in the Supplementary Table S1 (Supplementary File, Page 1). The PROSPERO registration ID for this study is CRD42024606458.

A detailed search utilizing all the possibly identified keywords and index terms was undertaken following the three electronic databases: Google Scholar, PubMed, and ScienceDirect. Figure 1 depicts the vital strategy used in the database searches.

Retrieval of Data

The papers fulfilling the inclusion criteria provided the following data: author's name, publishing year, sample size, gender, age, study design, population, interventions, and objective.

Assessment of Quality and Risk

The quality of the 15 relevant articles was appraised using the Critical Appraisal Skills Program (CASP), a validated tool comprised ten items to inquire about the appropriateness of the methodology and results.[26] Another tool, the Risk of Bias in Non-randomized Studies – of Interventions (ROBINS-I), was used to assess the risk of bias due to selection criteria,

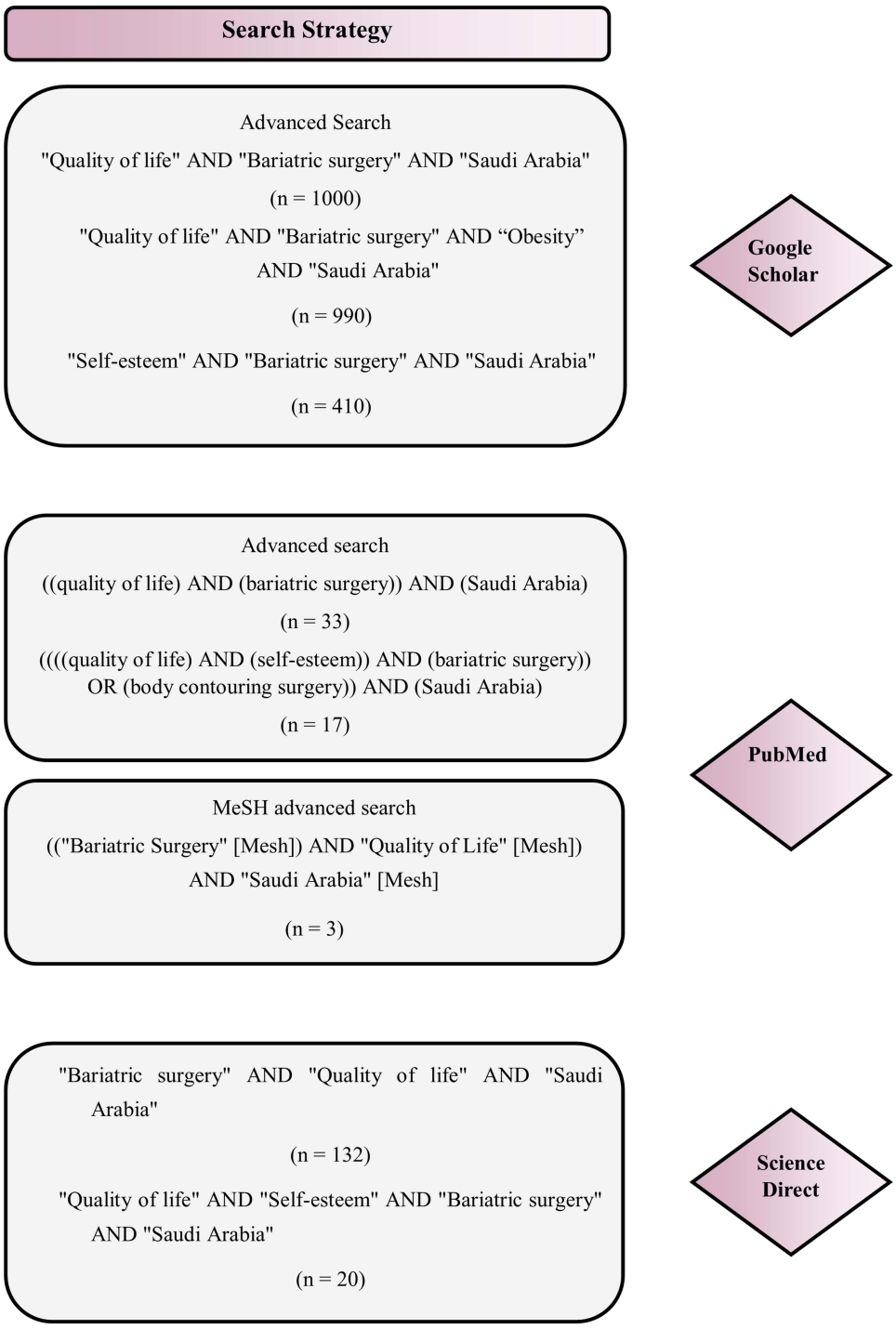


Figure 1 Search strategy.

types of interventions, deviations from planned interventions, measurement of results, insufficient data, and selective findings. The seven domains of this tool have several indicating queries with the possible answers, ie, low risk (LR), unclear risk (UR), and high risk (HR).[27]

Results

Findings of Database Searching

In the preliminary search, 1168 studies were obtained from different databases, and 148 were removed for duplication. The remaining 1,020 records were carefully screened, and then further articles irrelevant to the study's purpose were removed. After this, 40 full-text studies were investigated for selection. Finally, 15 articles were retrieved and included in this study (Figure 2).

Characteristics of the Included Trials

The demographics of the pertinent studies, ie, author's name, age, sample size, gender, design, population, intervention, and QoL, are depicted in Table 1.

Findings of Quality and Risk of Bias Assessment

A total of 15 included studies were appraised via CASP and ROBIN-I tools to evaluate the quality and bias. The CASP tool indicated that all studies were of excellent quality since they had a >8 score. According to the ROBIN-I tool, 2 and 13 articles revealed low and moderate risk of bias respectively. The findings of the critical appraisal tools were depicted in Supplementary Tables S3 and S4 (Supplementary File, Page 94 and 96).

Pre-and Post-Bariatric Surgery Health Parameters

The details of various parameters improved after surgery, like weight, BMI, hemoglobin A1C (HbA1C), cholesterol, triglyceride, and blood pressure (BP) are specified in Table 2. One clinical study reported a significant weight reduction following intervention from 110.9 ± 17.5 kg to 87.7 ± 14.3 kg.[39] The BMI was 49.62 ± 4.89 kg/m^2 and 29.28 ± 1.68 kg/m^2 in preoperative and postoperative states, respectively, among adolescents.[40] There was a substantial decrease in the mean scores of HbA1C from 8.13 ± 0.16 to 6.2 ± 1.33 after the procedure.[28] The total cholesterol values for the patients following LSG and RYGB are 4.33 ± 1.16 mmol/L and 4.36 ± 0.75 mmol/L, respectively. The triglyceride level was also notably reduced after the weight loss treatment.[34] Patients' overall QoL improved after surgery, with the mean before surgery being 53.7 ± 20 and after the procedure being 75.6 ± 14.5.[38] The average systolic and diastolic blood pressure dropped to 122.89 ± 15.3 and 85.31 ± 9.29 in postoperative from 156.89 ± 23.12 and 97.39 ± 12.41, respectively.[29]

QoL Assessment After Bariatric Surgery

The included clinical studies used scales and questionnaires to evaluate QoL after surgery. SF-36, consisting of 36 questions with grades from 0 to 100, such as the lowest and the highest scoring criteria, along with eight QoL domains, is used to assess the participant's well-being-related consequences after treatment.[21,32,37–39] Two of the studies utilized the Moorehead Ardelt questionnaire (MA-QoLQII), which consists of different questions about the demographic details of the subjects following bariatric surgery. The scoring methods used in it are like 2.1 to 3, 1.1 to 2, −1 to 1, −2 to −1.1, and −3 to −2.1, specified for very good, good, fair, poor, and very poor.[29,33] The other assessment scales are depicted in the following Table 3.

Discussion

Database Search and Study Characteristics

The current review is designed to compile the best available data on QoL among Saudi people after weight loss surgery. It also suggests that a greater percentage of decreased weight promotes better QoL. According to recent literature, the most common bariatric procedures carried out globally are laparoscopic sleeve gastrectomy (LSG), vertical sleeve gastrectomy (SVG), and Roux-en-Y-gastric bypass (RYGB). A total of 15 studies were retrieved through a database search that met the inclusion criteria. Ten of these studies were cross-sectional, two were retrospective, and three were prospective, quasi-experimental, and descriptive, respectively. The participants in these studies mostly followed the LSG and RYGB interventions. The majority included data provided by the health-related parameters, ie, weight, BMI, HbA1C, triglyceride, BP, and QoL score before and after the surgical treatment.

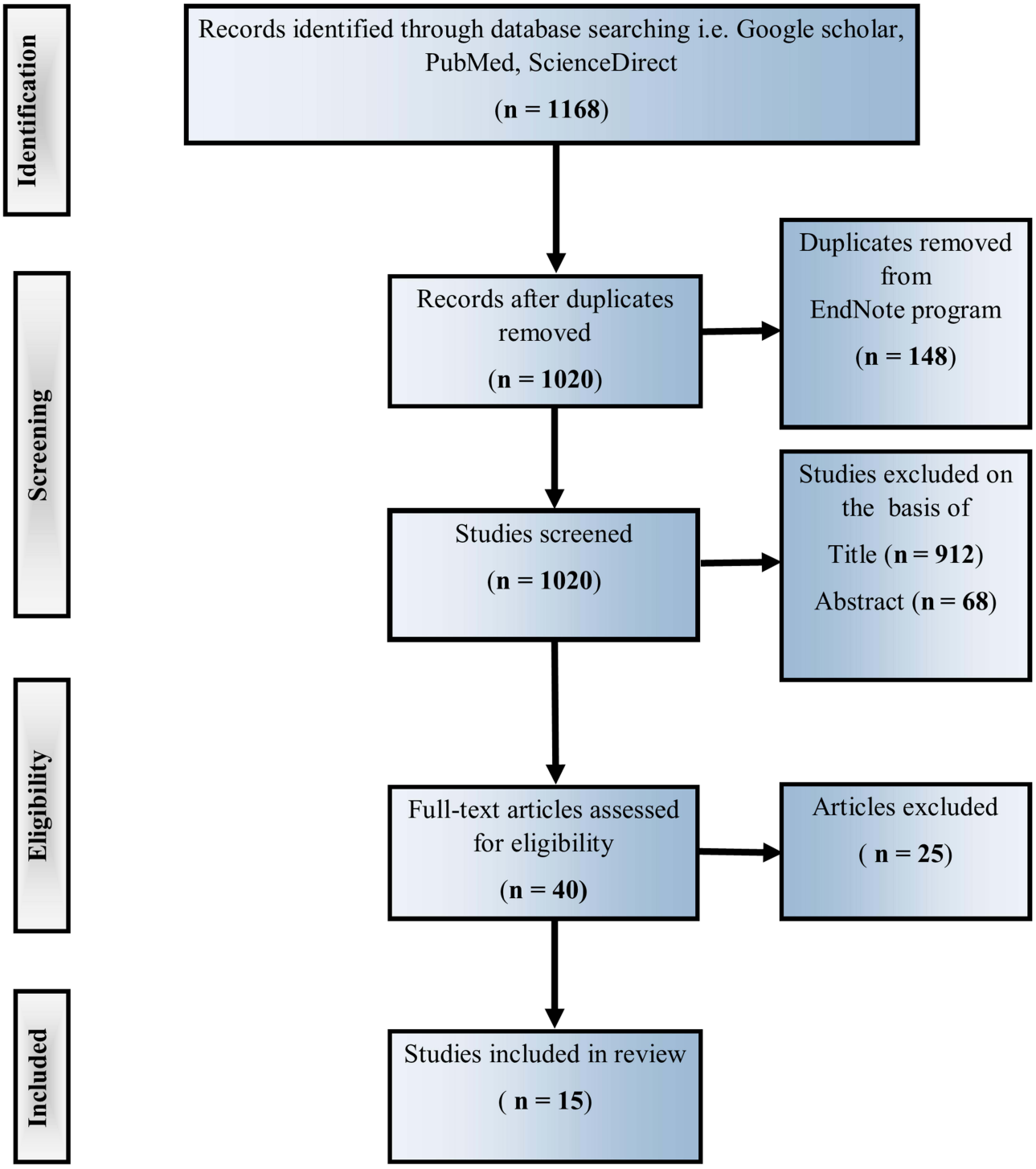


Figure 2 PRISMA flow chart.

QoL After Bariatric Surgery

Bariatric surgery leads to the betterment of long-lasting weight reduction in morbidly obese patients. It may suggest that weight loss is significantly linked to higher QoL.[39] LSG is the widely used intervention in adolescents due to its safety, efficacy, and high improvement of QoL. In adolescents with extreme obesity, weight loss was a key indicator of a major rise in all domains of QoL. Improved BMI and weight also contribute to the aesthetics among teenagers.[40] One of the health-related outcomes, such as HbA1C, was also linked to the patient's satisfaction after LSG because there was

Table 1 Characteristics of Included Studies

Sr. #	Reference	Sample Size	Gender	Age (Year)	Design	Population	Intervention	Objective
1	Samia M. T. Osman et al (2018)[28]	100	55 M & 45 F	18 and above	Descriptive	Obese adult pts.	LSG	QoL
2	Abdulaziz A. Arishi et al (2023)[29]	346	101 M & 245 F	18 and 60 (30.97 ± 8.49)[a]	Cross-sectional quantitative	Obese with T2DM	SVG, RYGB	QoL
				35 ± 9.55[b]				
3	Omar Fouda Neel et al (2024)[30]	227	59 M & 168	31–50	Single-center cross-sectional	Obese patients	115 underwent GSS, RYGB & other	QoL
							112 underwent BCS	
4	Abdullah Dalboh et al (2021)[31]	326	195 M & 131 F	39.43 ± 11.17	Retrospective	Obese	LSG	QoL
5	Maram Ibrahim Alowaid (2022)[32]	164	54 M & 110 F	37.45 ± 9.88	Quantitative, descriptive, correlational	Obese	LSG	QoL
6	Abdullah A. Alotaibi et al (2022)[33]	400	160 M & 240 F	16–65	Cross-sectional	Obese	Sleeve surgery and other BS	QoL
7	Lina I. Alnajjar et al (2023)[34]	232	103 M & 129 F	18 and 65 (44.3 ± 10.3)[a]	Cross-sectional	Obese with T2DM	LSG, RYGB	QoL
8	Reem Abdulrazaq Babqi et al (2021)[35]	806	328 M & 478 F	< 30 and > 60	Cross-sectional	Obese	RYGB	QoL
9	Amjad M. Jawhari et al (2022[22]	147	77 M & 70 F	18–65 (38.8 ± 9.03)[a]	Cross-sectional, observational, survey-based	Obese	LSG	QoL
10	Nouf Abdulaziz Alkalbi et al (2023)[21]	383	N/A	18– ≥ 55	Cross-sectional	Pts. underwent BS	LSG	QoL
11	Khalid Lafi Alharbi et al (2018)[36]	298	97 M & 111 F	30–40	Cross-sectional	Obese	LSG	QoL
12	Abeer Salman Alzaben et al (2024)[37]	140	69 M & 71 F	20– ≥ 40 (33.9 ± 9.5)[a]	Cross-sectional, comparative	Obese, post LSG	LSG	QoL
13	Khaled Alghamdi et al (2021)[38]	887	390 M & 497 F	15 – >40	Cross-sectional	Obese	LSG, RYGB	QoL
14	Moath S. Aljohani et al (2017)[39]	91	19 M & 71 F	<30 – ≥50	Quasi-experimental	Obese adult pts.	LSG	QoL
15	Saleh M. Aldaqal (2012)[40]	32 (Group 1)	10 M & 22 F	15.19 ± 1.2 (13–17)[c]	Prospective cohort	Adolescents with extreme obesity	LSG	QoL
		32 (Group 2		15.59 ± 1.3 (14–17)[c]		Healthy non-obese adolescents		

Notes: [a]: Mean ± standard deviation (SD), [b]: Post-operative group, [c]: Range, &: And.

Abbreviations: M, Male; F, Female; Pts, Patients; LSG, Laparoscopic sleeve gastrectomy; QoL, Quality of life; T2DM, Type 2 Diabetes Mellitus; SVG, Sleeve vertical gastrectomy; RYGB, Roux-en-Y gastric bypass; BS, Bariatric surgery; GSS, Gastric sleeve surgery; BCS, Body contouring surgery.

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Table 2 Pre- and Post-Bariatric Surgery Health Parameters

Sr. No.	Weight (kg)		BMI (kg/m^2)		HbA1C		Cholesterol		Tri Glyceride		Blood Pressure		QoL Score	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1[40]	N/R		49.62 ± 4.89	29.28 ± 1.68	N/R		N/R		N/R		N/R		63.81 ± 4.22 [a]	76.18 ± 3.22[a]
													62.69 ± 3.46 [b]	76.21 ± 3.37[b]
2[39]	110.9 ± 17.5	87.7 ± 14.3	N/R		N/R		N/R		N/R		N/R		58.0 ± 16.7	77.7 ± 15.3
3[28]	126.38 ± 24.97	81.41 ± 20.87	45.78 ± 7.73	30.56 ± 7.53	8.13 ± 0.1698	6.2 ± 1.33	293.3 ± 2.7	195.1 ± 0.32	193.30 ± 2.3	130.4 ± 2.5	150.5 ± 685.1	116.5 ± 4.7	N/R	
4[29]	N/R		43.77 ± 6.46	29.66 ± 6.88	9.08 ± 2.5	5.74 ± 1.41	N/R		N/R		97.39 ± 12.41[c]	85.31 ± 9.29[c]	N/R	
											156.89 ± 23.12[d]	122.89 ± 15.3[d]		
5[30]	N/R	118[e]	N/R		N/R		N/R		N/R		N/R		N/R	
		80[f]												
		29[g]												
6[31]	119.2 ± 19.7	74.5 ± 11.4	43.8 ± 5.4	27.6 ± 4.4	N/R		N/R		N/R		N/R		N/R	
7[32]	N/R		32.9 ± 6.8	N/R	N/R		N/R		N/R		N/R		N/R	70.24
8[33]	N/R		<18 = 0 pts.	0	N/R		N/R		N/R		N/R		−0.13± 2 (−3 to 3)[i]	
			18 and 25 = 40 pts.	40										
	113.9 ± 18.7 (84–146)[h]	84.8 ± 18.3 (58–138)[h]	26 and 30 = 0 pts.	80										
	N/R		>30 = 260 pts.	60										
			IDK = 100 pts.	IDK = 220 pts.										
9[34]	121.04 ± 21.49[j]	76.55 ± 14.43[j]	45.24 ± 6.76[j]	N/R	8.25 ± 1.70[j]	5.94 ± 1.11[j]	4.36 ± 1.27[j]	4.34 ± 1.12[j]	1.64 ± 0.90[j]	1.28 ± 0.72[j]	N/R		N/R	
	121. ± 21.07[k]	100.87 ± 31.46[k]	44.74 ± 5.26[k]	33.51 ± 17.08[k]	8.26 ± 1.67[k]	5.90 ± 1.12[k]	4.38 ± 1.29[k]	4.33 ± 1.16[k]	1.68 ± 0.94[k]	1.28 ± 0.75[k]				
	119.46 ± 33.20[L]	80.11 ± 16.04[L]	44.41 ± 7.65[L]	20.10 ± 15.05[L]	8.92 ± 2.03[L]	6.21 ± 1.02[L]	4.45 ± 0.86[L]	4.36 ± 0.75[L]	1.71 ± 0.61[L]	1.23 ± 0.40[L]				

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10[22]	N/R	<50% = 117	30 – 34.9 = 9	< 18.5 = 2	N/R	N/R	N/R	N/R	N/R	
		50 – 74.9% = 30	35 – 39.9 = 27	18.5–24.9 = 58						
		75% or more = N/R	N/R	25 – 29.9 = 49						
		N/R		30 – 34.9 = 34						
			≥ 40 = 111	≥ 40 = N/R						
11[35]	N/R		N/R		N/R	N/R	N/R	N/R	50.16 ± 14.19	53.44 ± 13.57
12[21]	N/R		N/R		N/R	N/R	N/R	N/R	N/R	78.7 ± 19
13[36]	127 ± 27	N/R	46.6 ± 8.7	N/R	N/R	N/R	N/R	N/R	N/R	
14[37]	117.17 ± 17.02	96.53 ± 19.9	43.2 ± 4.4	36.1 ± 7.3	N/R	N/R	N/R	N/R	N/R	
15[38]	N/R		N/R		N/R	N/R	N/R	N/R	53.7 ± 20	75.6 ± 14.5

Notes: [a]: self, [b]: Parent, [c]: Mean diastolic blood pressure, [d]: Mean systolic blood pressure, [e]: After 1 year or less, [f]: After 2 years, [g]: After more than 2 years, [h]: Range, Pts.: Patients, IDK = I do not know, [i]: QoL score range from fair to good, [j]: Total, [k]: Laparoscopic sleeve gastrectomy (LSG), [l]: Roux-en-Y gastric bypass (RYGB).

Abbreviations: Ref, References; Kg, Kilogram; BS, Bariatric surgery; BMI, Body mass index; HbA1C, Glycated hemoglobin; QoL, Quality of life; N/R, Not reported.

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Table 3 Quality of Life (QoL) Assessment After Bariatric Surgery

Sr. No.	Reference	QoL Measuring Scales
1	Samia M. T. Osman et al (2018)[28]	IWQOL-Lite
2	Abdulaziz A. Arishi et al (2023)[29]	MA questionnaire of BAROS protocol
3	Omar Fouda Neel et al (2024)[30]	PHQ-9
		GAD-7
4	Abdullah Dalboh et al (2021)[31]	GERD-HRQoL
5	Maram Ibrahim Alowaid (2022)[32]	SF-36 standardized research instrument
6	Abdullah A. Alotaibi et al (2022)[33]	MA QoLQII scoring key.
7	Lina I. Alnajjar et al (2023)[34]	WHOQOL-BRFF
8	Amjad M. Jawhari et al (2022)[22]	BQL
		GERD-HRQoL
9	Reem Abdulrazaq Babqi et al (2021)[35]	SF-36 questionnaire
10	Nouf Abdulaziz Alkalbi et al (2023)[21]	SF-36 survey
11	Khalid Lafi Alharbi et al (2018)[36]	Mos core 36-item survey
12	Abeer Salman Alzaben et al (2024)[37]	SF-36 QoL
13	Khaled Alghamdi et al (2021)[38]	SF-36 Arabic version
14	Moath S. Aljohani et al (2017)[39]	SF-36
15	Saleh M. Aldaqal (2012)[40]	Pediatric QoL Inventory version 4.0 (self and parent report)
		Rosenberg self-esteem scale

Abbreviations: IWQOL-Lite, Impact of weight on quality of life- Lite; MA, Moorehead Ardelt; BAROS, Bariatric analysis reporting outcome system; PHQ-9, Patient Health Questionnaire-9; GAD-7, Generalized anxiety disorder-7; SF-36, Short form-36 questions; GERD-HRQoL, Gastroesophageal Reflux Disease Health-related Quality of life surveys; MA QoLQII, Moorehead Ardelt quality of life questionnaire II; WHOQOL-BRFF, World Health Organization quality of life brief version; BQL, Bariatric quality of life; QoL, Quality of life; Mos, Medical Outcomes Study.

a crucial link between healthy weight and good QoL. Reducing weight made walking easier by lowering the disability that comes with it and enabling the return to regular physical exertion.[28]

Long-Term Outcomes

The available evidence suggested that a greater rate of mortality and morbidity was linked to the 28.7% prevalence of obesity in Saudi Arabia. Women (56%) are more likely than men (44%) to be interested in this surgical procedure due to the fact that they place greater importance on appearance and the pressure of society to live up to the so-called beauty standards. In the Saudi population, a trend was observed where cholesterol, triglycerides, BMI, total body weight exhibited considerable changes, substantially after approximately one year of the bariatric procedure. Additionally, people in middle age (> 40 years) were linked to higher standards of QoL after surgery. A substantial improvement in QoL occurred in the beginning within the initial months following LSG and RYGB and continued for up to 10 years.[34,38] The studies indicated that LSG lowers BP by 82%, suggesting that low BP results in less body fat and cholesterol accumulation in the coronary artery.

Assessment of QoL Parameters

This review also reports on the assessment of QoL in pertinent studies through many questionnaires and scales. SF-36 and MA-QoLQII are mostly used to assess the QoL after weight loss. There were higher postoperative escalates in six

out of eight domains of SF-36 following LSG. Based on the results of this questionnaire, the general QoL increased abruptly, which was according with the outcomes of this current study. After the surgery, various studies proved that 75% of the patients reported a very excellent QoL. Although the mean QoL scores for both genders considerably increased in the post-intervention group, males had a higher QoL than females before and after surgery.[21,32,37–39] Following the MA-QoLQII scoring system, improved QoL was reported, ie, 20%, 15%, and 35% of the population exhibited a very good, good, and fair QoL. Weight loss is frequently accompanied by self-confidence and physical appearance developments, which may enhance social functioning and QoL. Therefore, weight loss suggests more positive mental and physical well-being by minimizing the stress levels associated with physique.[29,33]

Strength of Study

The strength of this study lies in its thorough evaluation of all the published articles until November 2024. There is a lower risk of missing data because 15 articles were extracted from three distinct databases for this review.

Limitations

Several limitations of this review should be taken into account while determining the best possible results. Although comprehensive database research was conducted, the studies focusing on the QoL evaluation among obese patients in Saudi Arabia were limited. The data related to the health-related parameters for pre- and post-surgery were not sufficient. There was no specified data regarding age and gender, such as how they may affect the QoL results. One of the other limitations was that this study did not find the long-term consequences, such as a 5-year follow-up of reduced weight on the QoL in morbidly obese conditions, and only one study in adolescents was obtained. The relevant articles were heterogeneous in study design, ie, mostly were cross-sectional, which limits the ability to draw long-term inferences. The QoL assessment tools used across studies made the direct comparisons challenging due to varying scoring systems. In addition, further research studies focused on well-designed prospective cohorts utilizing the standardized QoL tools (SF-36, IWQOL-Lite, and MA-QoLQII, etc.) with long-term improvements and the comparison analysis of the effectiveness of various types of bariatric treatment are required in Saudi Arabia.

Conclusion

This review shows significant and valid data about the management of obesity subsequent to bariatric surgery. In Saudi Arabia, considerable changes in weight, cholesterol, BMI, and triglyceride correlated with better QoL occurred after almost one year of bariatric procedure. The QoL improved over an extended period after LSG and RYGB surgeries. However, the type of surgery selected, along with the patient's experiences and expectations, are some of the variables that may affect the QoL outcomes.

Data Sharing Statement

Data is available within the article and its Supplementary Materials.

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Author Contributions

Hussain Alqhtani: Conceptualization, Methodology, Formal analysis, Investigation, Writing – Original Draft, Writing – Review & Editing. All authors gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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Disclosure

This study was conducted without any financial or commercial ties that could be perceived as a conflict of interest, according to the author.

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