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Results of the seco (spanish society of obesity surgery) survey on quality of life in patients submitted to bariatric surgery

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ABSTRACT:

Objectives: To know, through an online survey system, the opinion of the members of the Spanish Society of Obesity Surgery (SECO) about quality of life (QoL) of bariatric patients.

Material and methods: Online survey sent to members of SECO. Five questions were asked regarding the number of bariatric procedures, techniques per year, subjective opinion about the QoL perceived by the surgeon and application or not of any standardized form of QoL after surgery.

Results: The percentage of completed surveys was 36% (144/401).
50.9% of patients underwent a gastric bypass and 39% a sleeve gastrectomy. 54% of the teams did not perform assessment or follow-up of QoL. Groups with high number of interventions per year give a lower QoL score to sleeve gastrectomy ($p<0.05$).

Conclusions: The most performed procedure in Spain is gastric bypass. In 46% of the teams, no QoL assessment scale is used. In groups with a high surgical volume, significantly lower score in QoL is given to sleeve gastrectomy.

KEYWORDS:

- Quality of life (QoL)
- Bariatric surgery
- Gastric bypass
- Sleeve gastrectomy
- BAROS

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Introduction

There are many aspects derived from the morbid obesity that have caused interest among the scientific community. In the field of bariatric surgery, a high percentage of publications, deal with the evolution of weight and the associated comorbidities according to the performed surgical procedure, the characteristics of the patients, technical modifications, etc.

However, questions regarding the quality of life (QoL) of patients and the modifications thereof after bariatric surgery, have been and are treated much less frequently in the literature. As an example, in the period of 20 years between 1998 and 2017, 907 references were published with the keywords "bariatric surgery" & "weight loss", 735 with the keywords "bariatric surgery" & "diabetes" and only 226 articles with the words "bariatric surgery" & "quality of life" (Embase Quick search). This shows the lower interest in the subject of QOLin the bariatric patient compared to other aspects of this pathology.

It could be thought that the issues related to quality of life in the patient undergoing bariatric surgery are of recent appearance and that is why it has not yet come to cause great interest among the scientific community interested in obesity surgery, especially among the bariatrics surgeons. Nothing is further from reality. 27 years ago, in 1991, Hubbard and Hall (1) published the conclusions of the Consensus Conference on obesity surgery of the National Institutes of Health and included a recommendation on the assessment and monitoring of quality of life of patients undergoing bariatric surgery, although it is certainly a very generic recommendation that does not specify any tool .In 1998 Oria and Moorehead publish in Obesity Surgery (2) what is intended to be a method of evaluating the results of bariatric surgery that allows the comparison of same between different surgical techniques and equipment; they call this method "BAROS system" (acronym for Bariatric Analysis and Reporting Outcome System). The epigraphs that are quantified are weight loss and improvement of associated comorbidities, as well as a quality of life questionnaire that includes several aspects: self-esteem, physical activity, social, labor and sexual relationships. The subtotal scores obtained in each section are corrected according to the appearance or not of complications in the postoperative period or the need for reoperation, obtaining a total score that allows assigning the patient to a category of result: failure, acceptable, good, very good and excellent (Figure 1).

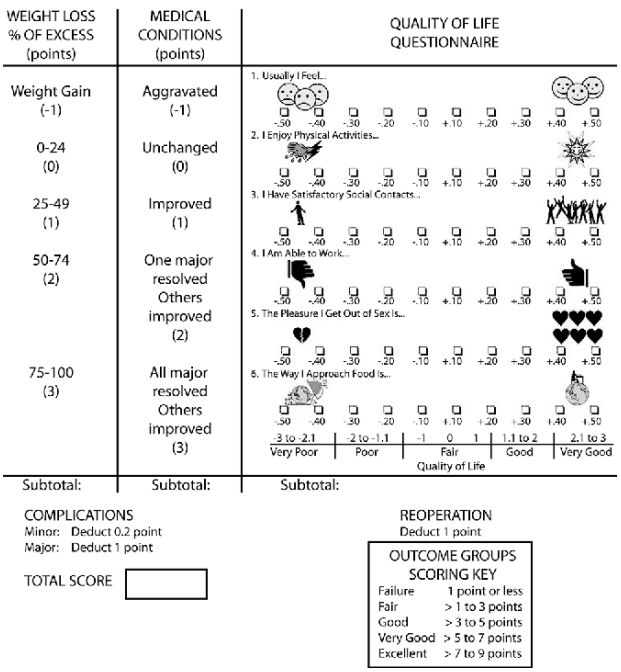

Figure 1: BAROS Test (Oria & Moorehead, 1998)

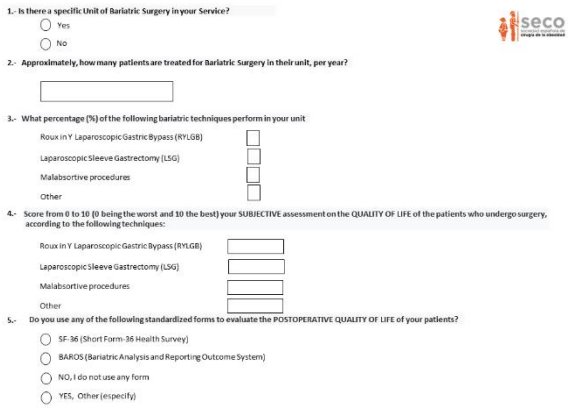

Figure 2. Questionnaire questions

Despite these attempts to consider changes in quality of life after bariatric surgery as a matter of similar importance to weight loss or improvement of comorbidities, the consensus document: "Guidelines for Laparoscopic and Open Surgical Treatment of Morbid Obesity "presented in 2000 and endorsed by the American Society for Bariatric Surgery (ASBS) and the Society of American Gastrointestinal Endoscopic Surgeons (SAGES) (3) does not include any reference to the evaluation and monitoring of quality of life in patients undergoing bariatric surgery.

In Spain, the Spanish Society for Surgery of Obesity (SECO), in the context of its 6th General Assembly held in Salamanca

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in September 2003, published a consensus document (4) which proposed the creation of a national minimum registry of data of between which the evolution of the QOL after the surgery is included. Certainly, the project progressed until the creation and dissemination of SECO national surveys and registries, but unfortunately these surveys did not request information on QOL issues after bariatric surgery.

In Europe, guidelines and consensus documents continue without mentioning the modification of the QOL after bariatric surgery. Both the Interdisciplinary European Guidelines on Surgery of Severe Obesity, published in 2008 (5), and the Interdisciplinary European Guidelines on Metabolic and Bariatric Surgery 2013 (6), both results of expert meetings of both IFSO-EC (International Federation for the Surgery of Obesity - European Chapter) and EASO (European Association for the Study of Obesity), do not include among their recommendations the follow-up or evaluation of the QOL of bariatric patients.

In 2015, the "Recommendations of the SECO for the practice of bariatric and metabolic surgery (Declaration of Vitoria-Gasteiz)" were published (7). The document insists again on the importance of "evaluating the long-term quality of life outcomes of surgery", although without specifying the tests or evaluation mechanisms advisable to perform this task.

Also, in 2015, Brethauer et al published a reference document of the ASMBS that aims to standardize criteria when communicating results in bariatric and metabolic surgery (8). Regarding the measurement of quality of life, they emphasize the importance of using validated tools and describe the most used tests, although without specifying or recommending any specific tool.

In 2017, a joint review was published in Spanish Surgery with recommendations on quality criteria in bariatric surgery (9). For the first time, the modification of the QOL as a quality indicator after surgery is specifically included and the tools to be used for the measurement and standardization of the results are recommended: the complete BAROS Test or any modification thereof, such as the Moorehead- Ardelt Quality of Life Questionnaire II (MAQoL).

In view of the lower interest that the change in VC after bariatric surgery apparently arose, compared with the usual quality criteria, such as the modification of weight parameters and the improvement of associated comorbidities, we proposed to carry out a survey in the scope of the SECO to evaluate the opinions, experience and use of QOL assessment tools among the community of surgeons and teams dedicated to bariatric surgery.

Material and method

With the warranty and technical support of the SECO, a survey was sent by e-mail with 5 questions on the volume of surgical activity, techniques used, subjective assessment of patients' quality of life and use of tools for the objective assessment of different areas of quality of life (Figure 2). We invited people by email to participate anonymously in the online survey to the 401 surgeons included in the SECO mailing list. Three emails were sent between 10/30/2017 and 201/20/2018. The survey was available to be answered for 83 days at the end of which 144 surgeons had completed the complete questionnaire.

The descriptive study was carried out using the statistical package SPSS® for Windows version 23.0 (Chicago, Illinois, USA). Descriptive results are presented as number of cases / percentage and as an average / standard deviation. The value of p is considered statistically significant, as well as the confidence interval of the odds ratio was 95% ($p < 0.05$).

Results

Descriptive analysis

Out of the 401 emails sent, 249 recipients (62%) accessed the survey link. 144 completed the survey, representing 57.8% of those who accessed it and 36% of the total number of surgeons, who received the email with the survey. 86% of the respondents used less than 5 minutes to complete the survey (53.7% completed it in 2 minutes or less) (Figure 3).

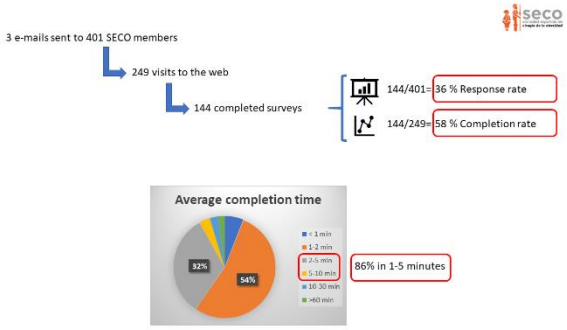

Figure 3. Survey flow

In response to the first question, 129 respondents (89.6%) stated that they had a specific unit of bariatric surgery in their center (Figure 4a).

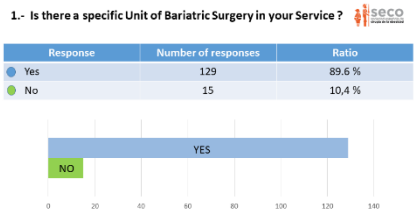

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Figure 4a. Responses to the survey

Regarding the second question, related to the number of bariatric surgeries / years performed in each center, the results showed an important dispersion: average 74.7 cases / year, with a minimum of 4 and a maximum of 300 (Standard deviation 48.3) (Figure 4b).

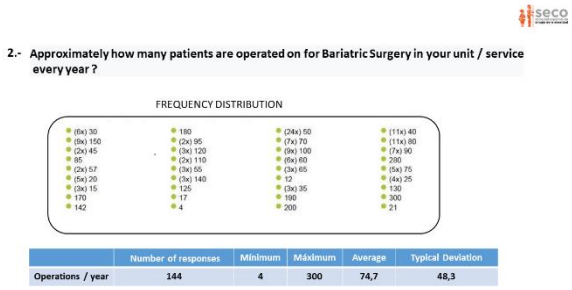

Figure 4b. Responses to the survey

The most frequently performed surgical procedure was found to be Roux-en-Y laparoscopic gastric bypass (LRYGB), in 51% of cases, compared to 39% of laparoscopic vertical gastrectomy (LSG), 6% of malabsorptive techniques and 4% other techniques, mainly gastric bypass of one anastomosis (BAGUA) (Figure 4c).

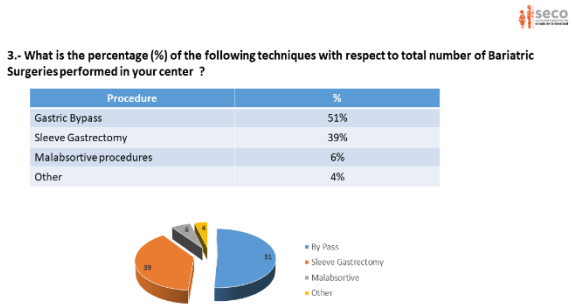

Figure 4c. Responses to the survey

When we requested the "subjective" assessment of the respondents about which of the bariatric techniques they perform, it gives a better quality of life to the patient, the highest score on a scale of 0-10 points is for the SG (8.4 points), followed by LRYGB (8.2 points) and malabsorptive techniques (6.2 points) (Figure 4d).

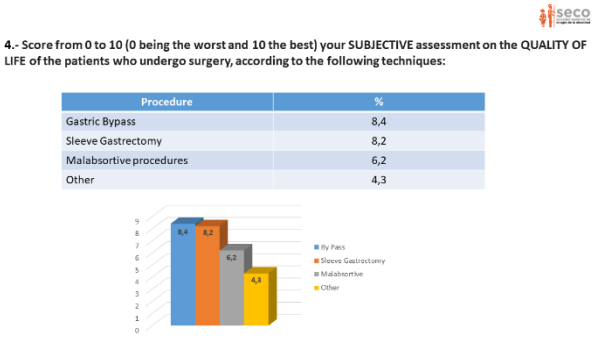

Figure 4d. Responses to the survey

54% of respondents do not use any tool to measure and monitor the quality of life of their patients; among those that do use them, the most frequently used is the BAROS scale (Figure 4e), followed by the Short Form Health Survey 36 (SF-36) questionnaire and in some cases some surgeons refer to the assessment made by a psychologist.

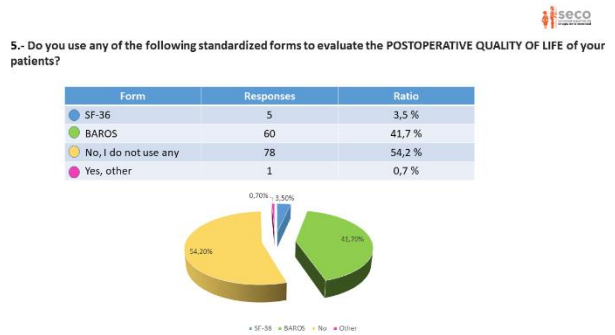

Figure 4e. Responses to the survey

Statistical analysis

When we compare the number of surgeries/year among those centers that have Bariatric Surgery units, we find - as it seems obvious - that the average of surgeries performed in centers with specific Unit is significantly higher (78.22 ± 49.34 vs 45 ± 22.99 cases / year, p = 0.003). However, there is no significant difference in the type of procedure used, being in both cases the LRYGB. There seems to be a trend, although not significant, to the realization of a greater number of SG in the centers without Bariatric Surgery Unit (Table 1a).

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	< 50 cases/year (n=38)	> 50 cases /year (n=106)	p
Number of surgeries/ years	29,3 ± 10,5	91,0 ± 46,1	< 0,001
LRYGB (%)	41,3± 32,9	54,6 ± 29,3	0,035 *
LSG (%)	46,3 ± 29,0	36,6 ± 25,3	0,082
Malabsorptive Technique (%)	7,9 ± 18,7	5,8 ± 15,2	0,61
Other techniques (%)	4,5 ± 13,8	4,0 ± 13,1	0,65

*: Significative (p<0,05)

Table 1a. Descriptive statistics.

When we compare the most common technique between centers with low surgical volume (<50 cases per year) and those that perform between 50 and 100 annual bariatric interventions (which we could consider medium volume), we observe how there is an inversion of the trend between the BGLYR and the GVL: in the centers of low volume the SG is the most frequent procedure and, in contrast, in units of medium volume is the BGLYR with a statistically significant difference (41.3 ± 32.9 vs 54.6 ± 29.3, p = 0.035) (Table 1b).

	< 100 cases/year (n=109)	> 100 cases/year (n=35)	p
Number of surgeries / years	53,1 ± 22,1	141,9 ± 46,1	< 0,001
LRYGB (%)	52,2 ± 32,3	46,8 ± 25,5	0,184
LSG (%)	40,3 ± 29,0	35,5 ± 17,5	0,76
Malabsorptive Technique (%)	4,3 ± 12,3	12,5 ± 23,9	0,004 *
Other techniques (%)	3,6± 12,2	5,4± 16,2	0,062

*: Significative (p<0,05)

Table 1b. Descriptive statistics.

If we make this same comparison between centers of medium volume and groups with more than 100 surgeries / year (high volume) we observe that there is no significant difference for both techniques, but the very significant increase of malabsorptive procedures (4.3 ± 12.3 vs 12.5 ± 23.9, p = 0.004) (Table 1c).

	< 100 cases /year (n=109)	> 100 cases/year (n=35)	p
Number of surgeries / years	53,19 ± 22,16	141,91 ± 46,11	< 0,001
LRYGB (%)	52,2 ± 32,3	46,8 ± 25,5	0,184
LSG (%)	40,3 ± 29,0	35,5 ± 17,5	0,76
Malabsorptive Technique (%)	4,3 ± 12,3	12,5 ± 23,9	0,004 *
Other techniques (%)	3,6± 12,2	5,4± 16,2	0,062

*: Significative (p<0,05)

Table 1. Descriptive statistics.

As we have already mentioned in the descriptive analysis, more than half of the bariatric surgeons surveyed (54.2%) do not use any tool or scale in their usual practice or in the follow-up of their patients to measure the change in the quality of their life of the patients operated on (Figure 4e).

We also did not observe a correlation between the volume of bariatric surgery performed and the use of quality of life questionnaires or the type of questionnaire used (Table 2).

NUMBER OF SURGERIES	QUESTIONNAIRE USE		TOTAL
	NO	SI	
<150 cases/ year	69	60	129
>150 cases/ year	9	6	15
TOTAL	78	66	144
p 0,63. OR= 0,76 (0,26-2,28)			
	TYPE OF QUESTIONNAIRE		
	BAROS	SF-36	
<150 cases/year	54	5	59
>150 cases/ year	6	0	6
TOTAL	60	5	65
p 0,31. OR= 1,3 (0,1-4,35)			

Table 2. Use / Type of quality of life questionnaire according to annual surgical volume.

In view of the scarce use of standards of quality of life in bariatric patients, it seems that the "subjective" assessment of surgeons becomes more important. As it has been mentioned, analyzing the overall results, the impression of the surgeons is that of the techniques they perform, it is the SG that gives a better quality of life to their patients (Figure 4d).When we break down the answers and correlate the QOLscore with the volume of annual cases (and consequently with the accumulated experience of a greater number of cases) the results are striking. If we create three comparison groups according to the number of annual bariatric surgeries: Group 1 (<50 -> 50 cases / year); Group 2 (<100 -> 100 cases / year) and Group 3 (<150 -> 150 cases / year) and in each of them we value the QOLscore given to each technique we find the following (Table 3):

There are no statistically significant differences in the score between units that perform less than 50 surgeries with those with more than 50 surgeries per year (Table 3a)

Subjective Assessment (0- 10)	< 50 cases/ year	> 50 cases/ year	p
LRYGB (points)	7,8 ± 0,9	8,5± 8,1	0,56
LSG (points)	7,9 ± 1,0	8,4 ± 7,1	0,56
Malabsorptive technique (points)	5,2 ± 2,8	6,5 ± 9,1	0,51
Other techniques (points)	7,1 ± 1,4	5,8 ± 2,3	0,106

Table 3a. Subjective score of Quality of Life of the different surgical techniques depending on the surgical volume.

When the volume increases to more than 100 cases per year, the SG score is significantly higher than in the smaller volume groups (7.96 ± 1.03 vs. 9.26 ± 1.41, p = 0.014) (Table 3b). There are no differences in the score for the other studied techniques.

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Subjective Assessment (0-10)	< 100 cases/year	> 100 cases / year	p
LRYGB (points)	7,9 ± 1,1	9,9 ± 14,0	0,49
LSG (points)	7,9 ± 1,0	9,2 ± 1,4	0,014 *
Malabsorptive technique (points)	5,3 ± 2,7	8,7 ± 1,7	0,221
Other techniques (points)	6,5 ± 1,7	4,7 ± 3,1	0,076

*: Significative (p<0,05)

Table 3b. Subjective score of Quality of Life of the different surgical techniques depending on the surgical volume.

However, when we compare the QOLassessment between those centers with very high surgical volume (more than 150 procedures per year) with the rest of the groups, the score given to the SG is significantly lower in these centers (than for its annual volume). they could be considered as reference). (Table 3c).

- Subjective Assessment - (0-10)	< 150 cases/year	> 150 cases/year	p
LRYGB (points)	8,5 ± 7,4	7,0 ± 2,2	0,078
LSG (points)	8,4 ± 6,4	6,8 ± 2,0	0,042 *
Malabsorptive technique (points)	6,4 ± 8,5	5,1 ± 3,1	0,82
Other techniques (points)	6,4 ± 1,8	4,1 ± 3,6	0,070

Table 3c. Subjective score of Quality of Life of the different surgical techniques depending on the surgical volume.

*: Significative (p <0.05)

Discussion

Several studies have shown that bariatric surgery achieves an improvement in quality of life (10-12). Despite this evidence, the evaluation of this improvement is not usually part of the parameters that are usually measured during the follow-up of bariatric patients submitted to surgery. Beyond the loss of weight and the improvement of comorbidities, patients show after bariatric surgery, a favorable evolution of aspects such as self-esteem, their social, work and sexual performance (13).

To assess the degree of importance that the bariatric surgeons of the SECO grant to the quality of life of their patients, we decided to launch a survey that would allow us to know the current status of this aspect of obesity surgery in our scientific society.

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The first result of the survey that draws attention is the predominance of gastric bypass (LRYGB) over the rest of bariatric procedures. This data, already known and reflected in the surveys of bariatric activity of the SECO (14), differs from the results published for the rest of Europe and the United States, where the majority procedure is vertical gastrectomy (LSG). The data collected in Spain are similar to those obtained in Latin American countries, where bypass is still the most common procedure (15).

There is a correlation between the annual volume of interventions and the progression in the techniques performed. Centers of low surgical volume tend to perform a greater number of LSG. As the bariatric activity and the experience of the groups increase, there seems to be a "shift" towards the realization of mixed procedures such as LRYGB and the malabsorptive techniques, apparently more demanding from the technical point of view. Despite the great efforts of societies and bariatric surgeons of reference, there is currently no "guide" for the selection of the best bariatric procedure for each patient with morbid obesity. The SG seems to be more attractive due to its lower technical complexity, its versatility, lower rate of complications (16) and the promising results in terms of long-term weight loss (17).

More than half of the respondents do not use any standardized scale to objectively assess the evolution in the quality of life of their patients after surgery. Therefore, the question that was included in the survey refers to the "subjective" estimation of the bariatric surgeon based on the follow-up of his patients. We are used to attending and / or participating in debates about what is the most appropriate bariatric technique in one or another patient with morbid obesity; These debates focus the objective on the greater or lesser weight loss, the rate of resolution of diabetes, hypertension, dyslipidemia, etc., but little is said about the opinion of patients about their quality of postoperative life and it seems that this aspect has little weight when deciding the surgical technique.

One of the first questions that we are asked when assessing the changes in quality of life in these patients is: what variables do we measure? Is there a parameter that should have more weight than another in the final score? What is the most appropriate tool? The BAROS test emerged as a specific quality of life measurement tool for bariatric patients (2). From the original structure, this tool underwent modifications made by the same group (Moorehead and Oria) until 5 years after the publication of the call Moorehead-Ardelt Quality of Life Questionnaire II (MAQoL) (18)

This questionnaire has good correlation with other quality of life measurement tools such as the Short-Form Health Survey (SF-36), the Beck Depression Inventory II and the Stunkard and Messick Eating Inventory (19-21) and seems to have been established as the standard instrument for measuring quality of life in the population of patients with morbid obesity and is recommended by the Spanish Association of Surgeons and the SECO (9).A recently published study (22) comparing the modification of the quality of life after different bariatric techniques (mainly LRYGB and LSG), has shown differences in some specific aspect, such as physical function, that without being

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transcendental in the selection of the technique, it proves that the different procedures show different results in terms of CV. Currently, a similar study is underway in our unit, whose preliminary results already reported (23) seem to be directed in the same direction. Also, ongoing clinical trials (24, 25) to compare different bariatric techniques have among their secondary objectives the study of changes in quality of life after surgery.

Conclusions

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The generalization in the use of QOL questionnaires in bariatric patients could be an important tool in the treatment and follow-up of these patients. It is unlikely that it could serve to change the indication of one or another technique, but it could undoubtedly contribute to a better understanding of less technical and less known aspects of our patients, which may have an impact on better overall care for patients with morbid obesity.

It would be advisable to include these tools in the daily clinical practice of the bariatric surgeons of our scientific society, as advised by the latest clinical guidelines and consensus documents.

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