

ORIGINAL ARTICLE

Clinical Trials and Investigations

Say what you mean, mean what you say: The importance of language in the treatment of obesity

Naomi Fearon¹ | Alexis Sudlow²  | Carel W. le Roux³  | Dimitri J. Pournaras² | Richard Welbourn⁴ 

¹Department of Upper Gastrointestinal and Bariatric Surgery, St. Vincent's Hospital, Dublin, Ireland

²Department of Upper Gastrointestinal and Bariatric Surgery, Southmead Hospital, Bristol, UK

³Department of Experimental Pathology, University College Dublin, Dublin, Ireland

⁴Department of Upper Gastrointestinal and Bariatric Surgery, Musgrove Park Hospital, Taunton, UK

Correspondence

Richard Welbourn, Department of Upper Gastrointestinal and Bariatric Surgery, Musgrove Park Hospital, Taunton, TA1 5DA, UK.

Email: richard.welbourn@somersetft.nhs.uk

Abstract

Objective: Obesity is a highly stigmatized disease, and despite the understanding of the processes involved, negative language reinforcing outdated views of obesity persists within the scientific literature. This is the first study, to the authors' knowledge, to determine how widespread stigmatizing language is within publications on obesity and examine its impact on patients.

Methods: Two standard terms within obesity publications were identified, and a literature search was carried out to determine their prevalence. A parallel qualitative analysis was conducted with patients with obesity to determine perceptions of these terms.

Results: Of the 3,020 papers screened, 2.4% included the term *fail*, and 16.8% contained *morbid* used in conjunction with obesity. Sixteen patients participated in the qualitative analysis. They felt that negative language, particularly *failure*, implied a personal responsibility for lack of weight loss. Clinically meaningful terminology fostered a more constructive relationship with health care providers.

Conclusions: Although most journals object to overtly stigmatizing language, using phrases or words that carry negative connotations is less clearly discouraged. It is important to recognize that language that implies a moral responsibility for weight loss or the development of obesity contradicts the well-established evidence base that obesity results from complex biological processes.

INTRODUCTION

People with severe obesity can be treated by bariatric-metabolic surgery, a clinically effective and cost-effective treatment. However, widespread bias, prejudice, and stigma held by society and clinicians characterize both the disease of obesity and bariatric-metabolic surgery (1,2). The use of overtly stigmatizing language regarding obesity is widespread in the media and the general public. Although there has been a conscious effort to improve, particularly among health care professionals treating obesity, change has been gradual at best.

Although perhaps more subtle, the ongoing use of broadly negative language that implies a personal responsibility or moral failing belies our purported understanding of obesity as a disease and further perpetuates the well-recognized biases that contribute to health care provision inequalities for patients with obesity (3,4). Studies have demonstrated that the language used when speaking to patients with obesity may present a barrier to care, resulting in the avoidance of treatment or interactions with health care professionals (5).

Although not overtly stigmatizing, some words that may carry negative connotations are used regularly within bariatric surgery literature. *Fail* or *failure* may refer to primary lack of weight loss after

Naomi Fearon, Alexis Sudlow, and Richard Welbourn have contributed equally.

surgery and secondary weight regain after reaching a nadir, and these can be pejorative terms in both situations. They may reinforce and perpetuate the perception that an individual's lack of self-control or willpower is responsible for development of obesity or lack of weight loss following an intervention. Dictionary definitions of fail as "unsuccessful" or "founder" imply a subjective and objective suggestion of poor performance (6). The implications of terms that reinforce self-blame and imply fault of the patient have been highlighted as contributing to an overall negative perception of bariatric surgery (7). Additionally, these terms may not be accurate, as the spectrum of surgical weight loss typically produces a bell-shaped curve, implying a biological rather than psychological treatment effect.

The phrases *morbid* obesity or *morbidly* obese commonly refer to patients with limiting, obesity-related disease; however, there is no consensus on how these phrases are defined or how they should be applied within the scientific literature. Outside of the context of obesity and medicine, the definition of morbid also includes "unwholesome" and "melancholy" (6). In addition, the term *obese*, used as an adjective, does not conform to the concept of employing person-first language and it serves to define individuals by their disease, which is thereby stigmatizing. The nature of chronic disease also infers that patients may be better or less controlled at a given time point. Patients with "obesity" may not necessarily meet the clinical classification if they have had successful treatment; they still suffer from the disease.

This study aimed to assess how frequently negative terminology was used to report bariatric surgery studies in peer-reviewed journals. A secondary aim was to evaluate the patient perspective of potentially stigmatizing language and its implications for forming constructive relationships with health care providers and engagement with weight-loss interventions.

METHODS

The study involved a quantitative and qualitative investigation of specific terminology within the scientific literature and from the patient perspective, respectively, which will be described separately.

Quantitative investigation of the use of stigmatizing language within the scientific literature

An initial Google Scholar search was done to identify terminology used within bariatric surgery articles. The words *fail* and *failure* were identified, informing our subsequent search strategy.

Inclusion criteria

"Fail"

Embase and PubMed databases were searched for the calendar year 2019 using the terms "bariatric surgery," "obesity surgery," "metabolic

Study Importance

What is already known?

- The appropriate use of language used to communicate about obesity in scientific literature, among medical professionals, and with patients is critical.
- The use of negative or stigmatizing language may play a contributory role in the recognized avoidance of treatment-seeking and poorer health care outcomes in patients with obesity.
- Despite being recognized in studies as pejorative and stigmatizing, the terms *fail*, *morbid obesity*, and *morbidly obese* frequently appear in bariatric surgery publications.

What does this study add?

- This review identified that negative language, which implied patient blame for lack of weight loss or weight regain, was common within the scientific literature.
- Patients reported that the use of stigmatizing language negatively affected their engagement with health care professionals and weight-management interventions.
- A move toward less stigmatizing, standardized terminology, which reflects our understanding of the disease process, is recommended.

How will this study the direction of research or the focus of clinical practice?

- Although most journals have developed editorial policies that encourage the use of person-first language, negative language, which perpetuates both overt and implied stigma related to obesity, continues to be used. The mechanisms contributing to the development of obesity are increasingly well characterized; however, deeply ingrained perceptions within the medical community and the public have seen the persistence of negative attitudes toward obesity. Until these incorrect views are challenged and replaced with an understanding of obesity as a disease, these biases will affect those with obesity.

surgery," "gastric bypass," "gastric band," "sleeve gastrectomy," "endoscopic bariatric," and either "fail*" (truncated stem to include "fail," "failure," or "failed") or "revision*" (to include "revision" or "revisional") in the title or text to identify relevant studies.

We estimated the overall number of papers on bariatric-metabolic surgery to provide a denominator of relevant articles by searching the same databases for the terms (bariatric surgery OR obesity surgery OR metabolic surgery OR gastric bypass OR gastric band OR sleeve gastrectomy OR endoscopic bariatric) in the text of the paper with the appropriate Boolean operator NOT and excluded "fail*," "revision*," and "conversion*." This initial NOT fail* search produced a high volume of papers that used these terms; however, bariatric surgery was not the paper's subject. The search was then limited to the

terms appearing in the title or abstract only to ensure relevance. This provided a list of studies to use as a ratio to the “fail*” search of relevant bariatric studies.

Morbid

Abstracts and titles of studies published in the calendar year 2019 were searched for the terms *morbid obesity* or *morbidity obese* in conjunction with previously defined terms relevant to bariatric surgery. Instead of *morbid* alone, these terms were used to avoid capturing the terms *comorbidity* and *morbidity* in the search.

For *morbid*, the search was limited to mentions in the title or abstract. An initial search of the word in the title or text revealed a large number of citations owing to the use of *morbid obesity* as a keyword for articles relating to bariatric surgery or obesity, without the phrase appearing in the article text deeming the search largely irrelevant.

Mentions of the terms in the references were not included. Additional records were identified from other sources. Only complete reports published in English were considered. Search records were collated into a reference manager (EndNote™, version X9, Thompson Reuters Corp., Toronto, Canada).

Data extraction

“Fail”

Using narrative methods, we extracted data on how authors used terminology relating to fail, failure, and failed and how this was associated with primary or revisional bariatric surgery outcomes. For *fail*, the definition and the subject were recorded. In addition, we extracted data on first and last author, title, date of publication, type of publication, first author’s profession (for multidisciplinary authorship), and country of origin. The premise of the paper and the number of times *fail* appeared within the article were recorded. The quality of studies was not relevant in this context and, therefore, was not assessed.

“Morbid”

An overview of relevant studies was collated. The list of included journals and the number of papers mentioning *morbid obesity* or *morbidity obese* in each journal were recorded.

Data analysis

Descriptive statistics, Fisher exact test, and odds ratios with 95% CIs were used to compare groups using GraphPad Prism version

8 statistics package (GraphPad Software, San Diego, California). $P < 0.05$ was taken to indicate statistical significance.

Qualitative analysis of patient perspectives of stigmatizing language used within the context of health care

The qualitative element of the study was undertaken by employing a semistructured interview with patients ($n = 16$) with obesity ($\text{BMI} > 35 \text{ kg/m}^2$) involved in an intensive, supervised weight-loss program. The Health Research Authority, the Medicines and Healthcare products Regulatory Authority in the UK, the Health Products Regulatory Authority in Ireland, the North West Deanery Research Ethics Committee (UK), and the St Vincent’s University Hospital European Research Ethics Committee (Ireland) approved the study. The themes explored with patients during the interviews included their perception of the importance of language used by health care providers in treating patients with obesity, their views of specific phrases including *fail* and *morbid obesity*, and the implications of language on engagement with weight-management interventions. One-to-one interviews were conducted over the phone and recorded to allow for in-depth analysis. A phenomenological approach to analysis was employed, in which the researcher aims to capture the experience of several individuals through a reflective examination of their story (8,9). The grounded theory in the interpretive thematic analysis was employed, which involved a critical review of transcripts and coding to identify common themes and responses (10).

There are no statistics-based methods for determining the adequacy of sample size within qualitative research. The number of participants is traditionally limited to allow for a focus on in-depth analysis to synthesize common themes and responses to a cohesive message (11). Qualitative research methodologists support that the inclusion of a limited number of participants facilitates more in-depth analysis of information-rich data from fewer responses (12).

RESULTS

Quantitative analysis

Searches of Google Scholar (August 5, 2020) for “bariatric surgery,” “weight loss surgery,” and “obesity surgery” indicated 5,199,000 results, whereas searches for the same phrases, including the word “failure,” indicated 3,834,000 results, suggesting this terminology is widespread. Similarly, searches for “morbid obesity” and “morbidity obese” showed 265,000 and 117,000 results.

“Fail”

A total of 664 papers were identified through database and hand search. After removing duplicates and conference abstracts ($n = 389$), as well as papers referring to organ failure ($n = 116$), 150 complete text

TABLE 1 Definitions of *fail* used in included studies

Definition	Times used (n)
EWL < 50%	22
IWL or WR not defined	12
Adjustable gastric band-related complications	11
WR not defined	8
IWL not defined	7
Weight-loss failure not defined	4
EWL < 50% and BMI > 35 kg/m ² , failure of endoscopic management of leak, failure of improvement in HbA _{1c} , intractable vomiting after VBG, IWL < 5% of TBW after 3 months or WR, less than 20% or 30% EWL, less than 5% or 10% TWL, minimal WL and intractable belching, no weight loss, recurrence of T2DM with WR, WR specified in case report	1 each

Abbreviations: EWL, excess weight loss; HbA_{1c}, hemoglobin A_{1c}; IWL, insufficient weight loss; T2DM, type 2 diabetes mellitus; TBW, total body weight; TWL, total weight loss; VBG, vertical banded gastroplasty; WR, weight regain.

TABLE 2 Interventions described in the included papers using the term *fail*

Intervention	Number of studies (%)
Adjustable gastric banding	21 (30)
Sleeve gastrectomy	16 (23)
More than 1 procedure	12 (17)
Roux-en-Y gastric bypass	10 (14)
Endoscopic sleeve gastroplasty, intragastric balloon, vertical banded gastroplasty, other	2 each (11)
Gastric aspiration system, one anastomosis gastric bypass, clipping of gastric fundus, gastroplasty	1 each (5)
Total	71

records were analyzed, with 71 papers mentioning *fail* identified from 20 journals, indicating the prevalence of the word *fail* in 2.4% of publications. The majority (72%) were published in *Obesity Surgery* ($n = 37$), *Surgery for Obesity and Related Diseases* (SOARD; $n = 10$), and *Surgical Endoscopy* ($n = 4$).

Nineteen separate definitions of *fail* were identified, with some papers using more than one (Table 1). Most (15/19, 79%) included an aspect of weight loss. The most commonly used ($n = 22$) was “less than 50% excess weight loss,” with the timeframe either not specified ($n = 16$) or ranging from 1 to 6 years ($n = 6$). The majority of papers were written by surgeons ($n = 61$, 85.9%), followed by physicians ($n = 7$, 9.9%), psychologists ($n = 2$, 2.8%), and one radiologist (1.4%). There were papers from 29 countries.

Most of the papers using the term *fail* were original research ($n = 60$, 84.5%). The majority of the total papers ($n = 40$, 56.3%)

related to revisional bariatric surgery. The odds ratio of *fail* appearing in a paper on revisional bariatric surgery was 38.9 (95% CI: 22.1-70.2, $P < 0.0001$). Eighteen papers (25.4%) related to primary bariatric surgery. Three common current operations, adjustable gastric banding, sleeve gastrectomy, and Roux-en-Y gastric bypass, were the focus of 67% of the studies depicting the term *fail* (Table 2). The median number of mentions of *fail* in each paper was eight (range: 1-61). *Fail* was mentioned <10 times in 40 papers, 10 to 19 times in 20 papers, 20 to 29 times in 8 papers, and ≥ 30 times in 3 papers.

“Morbid”

We identified 1,319 papers, and after the removal of conference abstracts, duplicates, and irrelevant results, there were 508 papers with the term *morbid obesity* or *morbidly obese* in 223 different journals. The journals featuring the highest number of papers were *Obesity Surgery* ($n = 105$), *SOARD* ($n = 48$), and *Surgical Endoscopy* ($n = 17$; 33.5% of the total).

Qualitative analysis

Participant characteristics

A total of 16 patients consented to participate in the qualitative analysis of the 19 who were contacted. Of those who agreed to participate, there were 12 female patients (75%) and 4 male patients (25%). A full table of patient characteristics can be found in Table 3.

The phenomenological approach to analyzing the transcripts led to the identification of two important and recurring themes:

1. Perception of the importance of appropriate language when treating patients with obesity and its implication for interaction with health care providers.
2. Views of specific phrases: *fail* and *morbid* obesity in the context of treating patients with obesity.

Further analysis allowed for the identification of several sub-themes as they related to the major themes, which can be seen in Table 4.

TABLE 3 Patient characteristics

Median age (y)	64.5 (SD = 13.18)
Median preoperative BMI (kg/m ²)	42.5 (SD = 4.91)
Nonsurgical treatment ($n = 12$)	Diet/exercise = 56.3% ($n = 9$) Liraglutide = 18.7% ($n = 3$)
Surgical intervention ($n = 4$)	RYGB = 12.5% ($n = 2$) SG = 12.5% ($n = 2$)

Abbreviations: RYGB, Roux-en-Y gastric bypass; SG, sleeve gastrectomy.

TABLE 4 Common themes and subthemes identified from qualitative analysis

Importance of language	<ul style="list-style-type: none"> • Clinical relevance • Obesity as a disease • Judgment • Affected self-efficacy • Impact on engagement
Perception of “failure” and “morbid obesity”	<ul style="list-style-type: none"> • Judgment • Blame • Lack of further treatment • Personal responsibility for illness

Importance of language treating patients with obesity

Patients frequently expressed that they felt that language in general and the appropriate use of medical terminology was important when treating patients with obesity. There was a general consensus that the most acceptable language to use in interactions with patients with obesity were terms and phrases that were based on specific scientific or medical definitions rather than colloquial terms. It was perceived that these tended to better reflect our understanding of obesity as a disease and did not imply personal responsibility or blame.

Perception of the use of stigmatizing language

The majority of patients interviewed reported that they had experienced health care providers, specifically doctors and surgeons, who did not have a specialist interest in treating patients with obesity, using stigmatizing language. Although some patients had felt the ability to voice their objections to such language, many had felt unable to do so but reported avoiding further interactions, if at all possible, with that health care practitioner, even when this would compromise their ability to obtain required treatments.

The following are response examples (names anonymized).

Because of the way my doctor talked about obesity, I avoided going as much as possible, and as a result, it took nearly 20 years to be diagnosed with endometriosis, in part because I just wouldn't go. –Susan

I saw an orthopedic surgeon who told me he wouldn't even consider 'touching' someone with so much fat. I was so taken aback, I didn't say anything, but I burst into tears as soon as I left and never went back to see him. –Rachael

Conversely, in encounters with health care practitioners in which there was a deliberate use of nonstigmatizing language, which was most cited to occur within practices specializing in the treatment of obesity, patients reported they felt encouraged to

discuss their health care needs and experienced an increased willingness to participate in weight-management interventions. They felt the use of patient-first language and avoiding phrases suggestive of personal or moral responsibility for the development of obesity, weight loss, or weight-loss maintenance encouraged a more balanced relationship, which facilitated a sense of self-efficacy and ability to engage.

Because of the way they spoke, for the first time, I actually felt respected when I went to the obesity clinic. You actually felt they were there to help you rather than just judging. –Mary

Perception of the terms “failure” and “morbid obesity”

When exploring patient perceptions with regard to the term *failure*, there was a near-universal consensus that, when applied in the context of obesity or, more specifically, failure to lose weight, this implied a personal failing rather than the intervention, i.e., diet or surgery had been unsuccessful in producing weight loss. Patients felt that the use of the word *fail* by medical practitioners served to reinforce their own firmly held beliefs that a failure to maintain weight loss was the result of a lack of willpower rather than a physiological response associated with the underlying disease process.

When someone says 'failure' with regards to weight loss, they mean the person. As far as the doctors are concerned, these diets should work for everybody. –Louise

With regard to the phrase *morbid obesity*, although views were polarized, perceptions of it being a stigmatizing term were generally guided by whether the patients believed it was a term with a meaningful, medical definition. Patients who believed that *morbid obesity* was a phrase associated with clear diagnostic or prognostic criteria generally viewed the term as neutral, being used to define the degree to which a patient was physically impacted by obesity.

I know it is a clinical term, and it means that there's a risk to your life, so I don't think it's necessarily negative. It doesn't annoy me because it is just a descriptive term. –Margaret

Well that's just a technical term which relates to your BMI, so I can't really say I have a problem with it. It's a medical description. –Brian

Those who recognized that it did not directly correlate to any standardized medical definition were largely seen as a highly stigmatizing phrase that served no purpose regarding the diagnosis or treatment of obesity. Moreover, some felt it implied a nonscientific assessment of a patient who was likely to soon die

as a result of obesity or that no effective treatment could be offered.

For me, when you say 'morbid obesity' that means that you're about to die. You're at the end, and there's nothing more you can do. –Rita

It's a chilling statement really. In my mind's eye, I see someone who is hugely obese, barely able to even function and will die because of it. –Henry

DISCUSSION

This is the first study, to our knowledge, to assess how negative terminology is used within scientific literature when describing outcomes of bariatric surgery while exploring the impact it has on patients and their interactions with health care professionals. The results can be extrapolated to broadly describe the importance of using clinically relevant, nonjudgmental language reflecting an understanding of obesity as a disease when communicating within scientific forums and with patients.

It is widely recognized that obesity is a highly stigmatized disease, and health care providers are exposed to the same stigmatizing beliefs as the general public, which may influence the care provided to patients (13,14). Studies have demonstrated that deeply ingrained cultural stigma has resulted in widespread bias within the medical profession, a problem compounded by a widespread lack of knowledge of the causes and implications of obesity (15). Strong implicit antiobesity bias has been shown in attendees of an international conference on obesity (16). Practitioners with a specialist interest in obesity have demonstrated widespread negative biases against obesity and associated the stereotypes of laziness, stupidity, and worthlessness with individuals with obesity (17). Implicit biases affect the clinician's perception of patients, which may also subsequently impact the clinical decision-making process (18,19).

The use of stigmatizing language reflects and influences clinician attitudes toward patients (20,21). Biased language in written clinical communication can directly influence the attitudes of subsequent physicians reading the notes (22). A large qualitative study of patient notes has demonstrated frequent use of stigmatizing language conveying and potentially transmitting underlying biases (23). In addition to affecting clinician behaviors, stigma is recognized to have important implications for patients. Studies looking at related and highly stigmatized conditions such as eating disorders have demonstrated that stigma directly influences patients' decisions to seek help as well as their quality of life, which are both related to long-term outcomes and recovery (24). These findings are supported by the qualitative analysis with patients in this study consistently reporting that the use of stigmatizing language by clinicians affected their ability to form a constructive relationship and engage in weight-loss intervention. In some circumstances, very negative experiences led to the avoidance of future interactions

with health care providers at the expense of receiving treatment. Conversely, the use of clinically relevant and precise language was perceived as an important means of facilitating a more positive relationship with clinicians, which may be particularly important when "second line" treatments are required, for example, revisional surgery or pharmacotherapy (25,26).

Harmful language and terminology are not widely seen in other areas of medicine, such as in the treatment of cancer, in which variable treatment outcomes are accepted to be largely determined by the type and severity of disease in conjunction with individual variability of physiology and comorbidity (7).

The term *fail* is widely applied in the context of weight-loss interventions, often implying individual rather than treatment inefficacy. Suggested alternate, appropriate, terms for the word fail include "lack of primary" weight loss, "ineffective" or "insufficient" treatment or weight loss, or "partial primary response," "secondary weight regain," and "recurrent obesity." The term *technical deficiency* may encompass complications such as pouch/sleeve dilatation, marginal ulcer formation, nutritional deficiency, or development of an internal hernia. An internationally accepted agreement on precise and uniform reporting outcomes is needed, taking patient views into account.

A strength of the study is the novel nature of the work combining a quantitative element to define the scope of the problem with qualitative work to demonstrate its deleterious effects. Non-English publications were excluded, and the results include mainly bariatric surgery publications; however, the qualitative analysis indicates applicability to the wider medical profession. An estimate of the total number of surgical publications on bariatric-metabolic surgery was used to calculate prevalence, and the true number may be higher. Finally, the Google Scholar results may be overestimated, as the search did not distinguish how these words were used or exclude potential duplicates.


Challenging the widespread stigma, which negatively affects patients with obesity and the delivery of effective treatment, requires recognition and acknowledgement of its sources as well as the identification of strategies to reduce its effects. Studies have demonstrated the provision of a biological explanation for disease processes such as eating disorders is effective in reducing disease-related stigma (27). Although obesity is now recognized as a disease and the biological complexities underlying its development have been increasingly well characterized, it is important to recognize how the use of stigmatizing language can quickly undermine this message, shifting the focus from physiological mechanisms to personal blame.

Negative language is used frequently within scientific literature regarding obesity. Vague terms, including the word fail, are used rather than clearly defined medical terminology. Characterizing the extent of potentially damaging language and understanding how this affects interactions with patients provide an important starting point for bariatric-metabolic surgery teams to enable positive change. Clinicians involved in research on the treatment of obesity are uniquely positioned to take the lead, starting with the adoption of nonstigmatizing, clinically descriptive phrases and the

use of person-first language in publications. Inherent systemic barriers such as the phrase *morbid obesity* being included as a Medical Subject Heading of the National Library of Medicine and used by search engines in keywords to identify a publication need to be overcome.

The adoption of editorial policies discouraging the use of ambiguous, nonscientific phrases such as the words fail or morbid obesity would reinforce the need to communicate with clarity and in a way that does not perpetuate the role of the medical profession in stigmatizing obesity.

CONCLUSION

In many cases, the ongoing use of negative language within scientific literature reinforces outdated views that obesity is the result of personal choice and undermines the research being presented. The science is clear: obesity is a disease. As clinicians treating obesity, it is imperative to ensure the language used to communicate that message is equally clear. Moreover, it is critical to recognize the importance that language plays in shaping relationships with patients and transmitting stigmatizing beliefs, reinforcing deeply ingrained inherent biases and affecting patient care. 

CONFLICT OF INTEREST

Carel W. le Roux reports grants from the Irish Research Council, Science Foundation Ireland, Anabio, and the Health Research Board. He serves on advisory boards of Novo Nordisk A/S, Herbalife Nutrition Ltd., GI Dynamics, Eli Lilly and Company, Johnson & Johnson, Sanofi S.A., AstraZeneca plc, Janssen Pharmaceuticals, Bristol-Myers Squibb, Gila, and Boehringer Ingelheim. Carel W. le Roux is a member of the Irish Society for Nutrition and Metabolism outside the area of work commented on here. He has been the chief medical officer and director of the Medical Device Division of Keyron since January 2011. Both of these are unremunerated positions. Carel W. le Roux was gifted stock holdings in September 2021 and divested all stock holdings in Keyron in September 2021. He continues to provide scientific advice to Keyron for no remuneration. Dimitri J. Pournaras reports receiving honoraria from Johnson & Johnson and Novo Nordisk A/S. He holds an unremunerated post on the advisory board for Keyron and on the board of directors for Metadeq and GHP scientific. Naomi Fearon, Alexis Sudlow, and Richard Welbourn declared no conflict of interest.

AUTHOR CONTRIBUTIONS

The quantitative study was conceived by Richard Welbourn, Dimitri J. Pournaras, and Carel W. le Roux. The data collection, data analysis, and data interpretation were carried out by Naomi Fearon and Richard Welbourn. Alexis Sudlow, Carel W. le Roux, and Dimitri J. Pournaras conceived of the qualitative research study. The data collection was carried out by Alexis Sudlow. Analysis and interpretation of qualitative data was carried out by Alexis Sudlow, Carel W. le Roux, and Dimitri J. Pournaras. All authors were involved in writing

the paper and had final approval of the submitted and published versions.

ORCID

Alexis Sudlow  <https://orcid.org/0000-0002-9040-0803>

Carel W. le Roux  <https://orcid.org/0000-0001-5521-5445>

Richard Welbourn  <https://orcid.org/0000-0002-8228-526X>

REFERENCES

1. Sjöström L, Lindroos AK, Peltonen M, et al. Lifestyle, diabetes, and cardiovascular risk factors 10 years after bariatric surgery. *N Engl J Med*. 2004;351:683-2693.
2. Kyle TK, Dhurandhar EJ, Allison DB. Regarding obesity as a disease: evolving policies and their implications. *Endocrinol Metab Clin North Am*. 2016;45:511-520.
3. Welbourn R, le Roux CW, Owen-Smith A, Wordsworth S, Blazeby JM. Why the NHS should do more bariatric surgery; how much should we do? *BMJ*. 2016;353:i1472. doi:10.1136/bmj.i1472
4. Albury C, Strain WD, Brocq SL, Logue J, Lloyd C, Tahrani A. Language Matters Working Group. The importance of language in engagement between health-care professionals and people living with obesity: a joint consensus statement. *Lancet Diabetes Endocrinol*. 2020;8:447-455.
5. Tomiyama AJ, Carr D, Granberg EM, et al. How and why weight stigma drives the obesity 'epidemic' and harms health. *BMC Med*. 2018;16:123. doi:10.1186/s12916-018-1116-5
6. Oxford English Dictionary. *Oxford English Dictionary*. Oxford University Press; 2012.
7. Willyard C. Cancer therapy: an evolved approach. *Nature*. 2016;532:166-168.
8. Moustakas C. *Phenomenological Research Methods*. Sage Publications; 1994.
9. Creswell JW. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. 4th ed. Sage Publications; 2014.
10. Heath H, Cowley S. Developing a grounded theory approach: a comparison of Glaser and Strauss. *Int J Nurs Stud*. 2004;41:141-150.
11. Vasileiou K, Barnett J, Thorpe S, Young T. Characterising and justifying sample size sufficiency in interview-based studies: systematic analysis of qualitative health research over a 15-year period. *BMC Med Res Methodol*. 2018;18:148. doi:10.1186/s12874-018-0594-7
12. Morse JM. Determining sample size. *Qual Health Res*. 2000;10:3-5.
13. Maroney D, Golub S. Nurses' attitudes toward obese persons and certain ethnic groups. *Percept Mot Skills*. 1992;75:387-391.
14. Price JH, Desmond SM, Krol RA, Snyder FF, O'Connell JK. Family practice physicians' beliefs, attitudes, and practices regarding obesity. *Am J Prev Med*. 1987;3:339-345.
15. Fabricatore AN, Wadden TA, Foster GD. Bias in health care settings. In: Brownell KD, Puhl RM, Schwartz MB, Rudd L, eds. *Weight Bias: Nature, Consequences, and Remedies*. Guilford Publications; 2005; 29-41.
16. Schwartz MB, Chambliss HO, Brownell KD, Blair SN, Billington C. Weight bias among health professionals specializing in obesity. *Obes Res*. 2003;11:1033-1039.
17. Teachman BA, Brownell KD. Implicit anti-fat bias among health professionals: is anyone immune? *Int J Obes Relat Metab Disord*. 2001; 25:1525-1531.
18. Green AR, Carney DR, Pallin DJ, et al. Implicit bias among physicians and its prediction of thrombolysis decisions for black and white patients. *J Gen Intern Med*. 2007;22:1231-1238.
19. Borkhoff CM, Hawker GA, Kreder HJ, Glazier RH, Mahomed NN, Wright JG. The effect of patients' sex on physicians' recommendations for total knee arthroplasty. *CMAJ*. 2008;178:681-687.

20. Kelly JF, Westerhoff CM. Does it matter how we refer to individuals with substance-related conditions? A randomized study of two commonly used terms. *Int J Drug Policy*. 2010;21:202-207.
21. Glassberg J, Tanabe P, Richardson L, Debaun M. Among emergency physicians, use of the term "Sickler" is associated with negative attitudes toward people with sickle cell disease. *Am J Hematol*. 2013;88:532-533.
22. Goddu AP, O'Connor KJ, Lanzkron S, et al. Do words matter? Stigmatizing language and the transmission of bias in the medical record. *J Gen Intern Med*. 2018;33:685-691.
23. Park J, Saha S, Chee B, Taylor J, Beach MC. Physician use of stigmatizing language in patient medical records. *JAMA Netw Open*. 2021;4:e2117052. doi:10.1001/jamanetworkopen.2021.17052
24. Foran AM, O'Donnell AT, Muldoon OT. Stigma of eating disorders and recovery-related outcomes: a systematic review. *Eur Eat Disord Rev*. 2020;28:385-397.
25. Miras AD, Pérez-Pevida B, Aldhwayan M, et al. Adjunctive liraglutide treatment in patients with persistent or recurrent type 2 diabetes after metabolic surgery (GRAVITAS): a randomised, double-blind, placebo-controlled trial. *Lancet Diabetes Endocrinol*. 2019;7:549-559.
26. El Ansari W, Elhag W. Weight regain and insufficient weight loss after bariatric surgery: definitions, prevalence, mechanisms, predictors, prevention and management strategies, and knowledge gaps—a scoping review. *Obes Surg*. 2021;31:1755-1766.
27. Doley JR, Hart LM, Stukas AA, Petrovic K, Bouguettaya A, Paxton SJ. Interventions to reduce the stigma of eating disorders: a systematic review and meta-analysis. *Int J Eat Disord*. 2017;50:210-230.

How to cite this article: Fearon N, Sudlow A, le Roux CW, Pournaras DJ, Welbourn R. Say what you mean, mean what you say: The importance of language in the treatment of obesity. *Obesity (Silver Spring)*. 2022;30(6):1189-1196. doi:10.1002/oby.23446