Abstract

Bariatric surgery is increasingly being declared as a potential solution to our growing obesity epidemic. However, research tends to focus on the medical benefits of the procedure and little is known about its psychological impact on factors such as body image, particularly in the long term. Considering improving one's appearance is often cited as a key motivator for patients undergoing bariatric surgery, Claire Hamlet explores whether this expectation for surgery can really be met.

Bariatric surgery and body image

Obesity, which is defined as a body mass index (BMI) of ≥30, has become one of the greatest health issues in the world. In the UK, 67% of men and 57% of women are currently classified as overweight or obese (Ng et al, 2014). It is well publicised that obesity significantly increases the risks of developing serious health conditions, such as Type 2 diabetes, cardiovascular disease and cancer, all of which can lead to premature mortality (Hedley et al, 2004). Obesity is commonly upheld as an easily reversed and individual problem by society (Sharma et all, 2011) however, there is an increasing recognition that it is more than simply poor diet and inactivity that are contributing to the rising rates. Our environment is ever more 'obesogenic', increasing obesity-promoting behaviour (e.g. the availability of fast food). In addition, issues such as weight discrimination and stigma towards those with a larger body size is pervasive. Research consistently finds that those who are overweight/obese are perceived to be unintelligent, lack self-discipline and are noncompliant with weight loss treatment (Puhl and Heuer, 2009). This stigma has found to be detrimental to weight loss attempts and can result in high levels of dissatisfaction and numerous health and psychological consequences (Marks 2014 ; Puhl and Suh, 2015).

Bariatric surgery

Bariatric surgery encompasses a group procedures performed to achieve weight loss in those with a BMI of over 40 or 35 with co-morbidities (e.g. diabetes). It is cited as the most effective treatment for short and long term weight loss in the severely obese (Douglas et al, 2015) and the publicised benefits have contributed to its popularity over the last decade (Welbourn, 2016). Bariatric surgery can result in massive weight loss in a short amount of time, particularly rapid during the first 6 months (Bond et al, 2009). Individuals usually turn to bariatric surgery as a last resort, when multiple failed attempts at weight loss have been made (Waumsley et al, 2011), however, the potential benefits need to be weighed up alongside the risks. The procedure is invasive, involving techniques such as removing parts of the stomach, placing a band around the stomach, or joining the top part of the stomach to the small intestine to make a person feel fuller quicker (NHS choices, 2017). Furthermore, despite popular belief, bariatric surgery is not a 'quick fix' and patients much be committed to long-term follow up and behaviour change (e.g. modifying eating habits), often for the rest of their lives.

Body image and obesity

Body image concerns are said to be central to patients with obesity and positively associated with increased BMI (Sarwer, 2005), which is not surprising considering modern western culture promotes the thin ideal and stigmatises those living with obesity (Schwartz and Brownell, 2004). Reasons for

seeking bariatric surgery include health, functionality and quality of life concerns (Wee et al, 2006). In addition, being dissatisfied with one's appearance have been found to be a key motivator, especially amongst women (Brantley et al, 2016; Munoz, 2007). However, body dissatisfaction is not universal in those living with obesity, with some studies finding no relationship between body image dissatisfaction and BMI in overweight women (Weinberger et al, 2016). Therefore, it is important not to assume that those classified as 'obese' are unhappy with their body and desire to lose weight.

Does weight loss improve body image?

It would be logical to assume that as weight is lost body satisfaction increases, particularly because it can move an individual closer to societies prevailing slim ideal (Jumbe, Hamlet and Meyrick, 2017). Overall, those that undergo weight loss treatment do report improved body dissatisfaction, although the amount of weight loss is not strongly correlated to this (Cash and Smolak, 2011). With the increasing popularity of bariatric surgery in the last decade, research has begun to explore its impact on body image. Overall, these studies report that constructs of body image, such as body shape preoccupation (Dixon, Dixon and O'brien, 2002; Teufel et al, 2012) and satisfaction with one's appearance (Van Hout et al, 2009) significantly improves after surgery. However, it is unclear if this is directly attributable to the weight lost or whether there are other factors at play, as most studies fail to explore this direct relationship. More importantly, these studies fail to establish the long-term impact of bariatric surgery on body image, which is problematic because rapid and large amounts of weight loss can result in excess skin, which can lead not only to functional problems (e.g. infections and difficulty exercising) but a dissatisfaction with appearance in the long term (Gilmartin, 2013).

One indicator of long term body dissatisfaction in those that lose a significant amount of weight, is the large number of patients who undergo body contouring procedures to alleviate functional and/or aesthetic concerns normally related to excess skin. These are considered reconstructive procedures and as well as addressing functional issues, they are meant to return the patient to a "normal" appearance (Sarwer, Dilks and Spitzer, 2011). Existing research suggests that body contouring can improve body image, particularly after bariatric surgery (Song et al, 2006; Pecroi et al, 2007). However, patients can have high expectations for such procedures and their body dissatisfaction can shift to a different part of the body after the procedure especially when untreated areas looked visibly disproportionate to the contoured areas (Song et al, 2006).

As well as excess skin, there are other potential negative impacts on appearance as a result of massive weight loss. Body image issues can arise when those that have lost weight struggle to accept their new slimmer appearance and still see the person they were before in the mirror- a phenomenon termed as "phantom fat" (Latner and Wilson, 2011). Research has found that those who have been overweight in the past do not gain the same improvements in body image from their weight loss as those who have never been overweight (Annis, Cash and Hrabosky, 2004). Suggesting that poor body image in those living with obesity, may be due to cognitive rather than physical factors (Schwartz and Brownell, 2004). In addition, anecdotal reports in the media (Lally, 2016; Lambert, 2016) suggest that massive weight loss is viewed to have a detrimental impact on the appearance of the face, particularly in terms of an 'ageing' appearance due to increased fine lines as body fat is lost. The psychosocial impact of weight loss on the appearance of face remains relatively unexplored through research. However, if the rates of patients losing large amounts of weight increases, so may the number of patients resorting to cosmetic or aesthetic procedures to 'fix' their ageing face- which is largely undesired by society.

Conclusion

It is clear that obesity remains significant public health issue, and the approach to tackling it places responsibility on the individual, rather than addressing wider societal drivers. Massive weight loss, via means such as bariatric surgery is becoming increasingly common. The exact precursors to this remains relatively unexplored, but are thought to be a combination of health, societal pressures and psychological influences, including a negative body image. Although bariatric surgery might improve body image initially, there is evidence to suggest that the excess skin can leave patients considerably dissatisfied with the appearance and function of their bodies and desiring body-contouring surgery. More research is required in this area, particularly around the long-term impact of massive weight loss on patient's body image and psychosocial wellbeing.

Key words

Obesity, bariatric surgery, body image, weight loss

Key Points

- The publicised medical benefits of bariatric surgery have contributed to an increase in its popularity over the last decade.
- Being dissatisfied with one's appearance has been found to be a key motivator for losing weight and undergoing bariatric surgery, especially amongst women.
- Research reports that bariatric surgery improves body image, but whether this is directly related to actual weight loss is unclear.
- A growing body of evidence suggests that the excess skin patients can be left with after bariatric surgery, can negatively affect body image in the long-term.

References

Annis, N.M., Cash, T.F. and Hrabosky, J.I. (2004) Body image and psychosocial differences among stable average weight, currently overweight, and formerly overweight women: the role of stigmatizing experiences. *Body image*, 1(2), pp.155-167.

Bond, D.S., Phelan, S., Leahey, T.M., Hill, J.O. and Wing, R.R. (2009) Weight loss maintenance in successful weight losers: surgical versus non-surgical methods. *International journal of obesity* (2005), 33(1), p.173.

Brantley, P.J., Waldo, K., Matthews-Ewald, M.R., Brock, R., Champagne, C.M., Church, T., Harris, M.N., McKnight, T., McKnight, M., Myers, V.H. and Ryan, D.H. (2014) Why patients seek bariatric surgery: does insurance coverage matter?. *Obesity surgery*, *24*(6), pp.961-964.

Cash, T.F. and Smolak, L. eds. (2011) *Body image: A handbook of science, practice, and prevention*. Guilford Press.

Dixon, J.B., Dixon, M.E. and O'brien, P.E. (2002) Body image: appearance orientation and evaluation in the severely obese. Changes with weight loss. *Obesity surgery*, *12*(1), pp.65-71.

Douglas, I.J., Bhaskaran, K., Batterham, R.L. and Smeeth, L. (2015) Bariatric surgery in the United Kingdom: a cohort study of weight loss and clinical outcomes in routine clinical care. *PLoS Med*, *12*(12), p.e1001925.

Gilmartin, J. (2013) Body image concerns amongst massive weight loss patients. *Journal of clinical nursing*, 22(9-10), pp.1299-1309.

Hedley, A.A., Ogden, C.L., Johnson, C.L., Carroll, M.D., Curtin, L.R. and Flegal, K.M. (2004) Prevalence of overweight and obesity among US children, adolescents, and adults, 1999-2002. Jama, 291(23), pp.2847-2850.

Jumbe, S., Hamlet, C. and Meyrick, J. (2017) Psychological aspects of bariatric surgery as a treatment for obesity. *Current Obesity Reports*, 6(1), pp.71-78.

Lally, M (2016). How to lose weight without gaining wrinkles. The Telegraph, 21 October. Available <u>http://www.telegraph.co.uk/beauty/skin/how-to-lose-weight-without-gaining-wrinkles/</u> (accessed 7 September 2017).

Lambert, V. (2016) Why does substantial weight loss so often mean instant ageing? The Telegraph, 22 June 2016. Available: <u>http://www.telegraph.co.uk/health-fitness/nutrition/why-does-substantial-weight-loss-so-often-mean-instant-ageing/</u> (accessed 7 September 2017).

Latner, J. and Wilson, R. (2011) Obesity and Body Image in Adulthood. In: Cash, T. and Smolak, L. (eds.) *Body image: a handbook of science, practice, and prevention*. New York: The Guilford Press pp.199-187.

Marks, D.F. (2015) Homeostatic theory of obesity. *Health psychology open, 2*(1), p.2055102915590692.

Munoz, D.J., Lal, M., Chen, E.Y., Mansour, M., Fischer, S., Roehrig, M., Sanchez-Johnsen, L., Dymek-Valenitine, M., Alverdy, J. and Le Grange, D. (2007) Why patients seek bariatric surgery: a qualitative and quantitative analysis of patient motivation. *Obesity surgery*, *17*(11), pp.1487-1491.

NHS choices (2017) Weight loss surgery. Available from: <u>http://www.nhs.uk/Conditions/weight-loss-</u> surgery/Pages/Introduction.aspx. Accessed 8 September 2017.

Ng, M., Fleming, T., Robinson, M., Thomson, B., Graetz, N., Margono, C., Mullany, E.C., Biryukov, S., Abbafati, C., Abera, S.F. and Abraham, J.P. (2014) Global, regional, and national prevalence of overweight and obesity in children and adults during 1980–2013: a systematic analysis for the Global Burden of Disease Study 2013. The Lancet, 384(9945), pp.766-781.

Pecori, L., Cervetti, G.G.S., Marinari, G.M., Migliori, F. and Adami, G.F. (2007) Attitudes of morbidly obese patients to weight loss and body image following bariatric surgery and body contouring. *Obesity surgery*, *17*(1), pp.68-73.

Puhl, R.M. and Heuer, C.A. (2009) Weight bias: a review and update. *Obesity (Silver Spring)*, 17(5), pp.941-964.

Puhl, R. and Suh, Y. (2015) Health consequences of weight stigma: implications for obesity prevention and treatment. Current obesity reports, 4(2), pp.182-190.

Sarwer, D.B., Thompson, J.K. and Cash, T.F. (2005) Body image and obesity in adulthood. *Psychiatric Clinics*, *28*(1), pp.69-87.

Sarwer, D.B., Dilks, R.J. and Spitzer, J.C. (2011) Weight loss and changes in body image. In: Cash, T. and Smolak, L. (eds.) *Body image: a handbook of science, practice, and prevention*. New York: The Guilford Press pp.369-377.

Sharma, S., Wharton, S., Forhan, M. and Kuk, J.L. (2011) Influence of weight discrimination on weight loss goals and self-selected weight loss interventions. Clinical obesity, 1(4-6), pp.153-160.

Schwartz, M.B. and Brownell, K.D. (2004) Obesity and body image. Body image, 1(1), pp.43-56.

Song, A.Y., Rubin, J.P., Thomas, V., Dudas, J.R., Marra, K.G. and Fernstrom, M.H. (2006) Body image and quality of life in post massive weight loss body contouring patients. *Obesity*, *14*(9), pp.1626-1636.

Teufel, M., Rieber, N., Meile, T., Giel, K.E., Sauer, H., Hünnemeyer, K., Enck, P. and Zipfel, S. (2012) Body image after sleeve gastrectomy: reduced dissatisfaction and increased dynamics. *Obesity surgery*, *22*(8), pp.1232-1237.

van Hout, G.C., Hagendoren, C.A., Verschure, S.K. and van Heck, G.L. (2009) Psychosocial predictors of success after vertical banded gastroplasty. *Obesity surgery*, *19*(6), pp.701-707.

Waumsley, J., Atter, N., Boyle, S. and Buckroyd, J. (2011) Obesity in the UK: A psychological

perspective. Obesity Working Group, pp.1-84.

Wee, C.C., Jones, D.B., Davis, R.B., Bourland, A.C. and Hamel, M.B. (2006) Understanding patients' value of weight loss and expectations for bariatric surgery. *Obesity surgery*, *16*(4), pp.496-500.

Weinberger, N.A., Kersting, A., Riedel-Heller, S.G. and Luck-Sikorski, C. (2016) Body Dissatisfaction in Individuals with Obesity Compared to Normal-Weight Individuals: A Systematic Review and Meta-Analysis. *Obesity facts*, *9*(6), pp.424-441.

Welbourn, R., le Roux, C.W., Owen-Smith, A., Wordsworth, S. and Blazeby, J.M. (2016) Why the NHS should do more bariatric surgery; how much should we do?. BMJ, 353, p.i1472.