

Narrative on Self-Cognitive Transformation and Health Behavior Reconstruction in Postoperative Bariatric Surgery in Obese Patients

Qin Sun^{Error! Reference source not found.,3}, Yuchen Lin^{Error! Reference source not found.}, Norshafarina Shari³, Atif Amin Baig⁴

¹School of Management/Key Laboratory of Digital-Intelligent Disease Surveillance and Health Governance, North Sichuan Medical College, Nanchong, China.

²Department of Enterogastric Surgery, Affiliated Hospital of North Sichuan Medical College, Nanchong, China.

³School of Graduate Studies, Postgraduate Center, Management and Science University, Shah Alam, Malaysia.

⁴International Medical School, Management and Science University, Shah Alam, Malaysia.

EDITORIAL

Keywords: Bariatric surgery;
Health behavior;
Obesity;
Self-perception;
Social identification.

Received on: August 16, 2025.
Accepted on: September 20, 2025.
Published on: November 15, 2025.
Corresponding author: Norshafarina Shari
norshafarina@msu.edu.my

Citation: Sun Q, Lin Y, Shari N, Baig AA. Narrative on self-cognitive transformation and health behavior reconstruction in postoperative bariatric surgery in obese patients. Chron Biomed Sci. 2025;2(4):63. Available from: <https://cbsciences.us/index.php/cbs/article/view/63>.

Obesity has become a global health concern and over the last decade or so, it has increased immensely in low- and middle-income countries; it is also estimated that by 2030, one out of every five women and one in every seven men will be afflicted with obesity, according to the estimates provided by the World Federation. Up to now, the obesity treatment modalities have been ever-increasing and getting better, inclusively dietary therapy, pharmacotherapy, and weight-loss and metabolic surgery; Among them, bariatric and metabolic surgery has the highest effect and is an internationally agreed treatment method for obesity and obesity-related metabolic diseases, through modification of the size or dynamic capacity of the patient stomach and/or intestines, the patient is forced to reduce his food intake or to reduce the intestinal absorption effect of nutrients [1].

The impact of bariatric surgery on self-perception

Obesity not only brings about a variety of related metabolic diseases in the patient's body but also has a significant impact on the patient's psychology. Some studies indicate that obesity can have many adverse effects on some of the structures and functions of the brain, which may lead to a decline in the patient's cognitive abilities; attention deficit and cognitive control impairment; dysmnnesia; decline in cognitive flexibility and so on. These negative cognitive impairments will have a negative impact on the formation and maintenance of patients' self-awareness [2]. This consequently leads to the patient's impairment of self-awareness.

Although bariatric surgery is mainly known for its effectiveness in weight loss and improvement of related metabolic diseases, there is evidence suggesting that it also has an impact on cognitive function. This might also be one of the reasons why the patient's self-perception

underwent a significant and positive transformation after the weight loss surgery. Previously, Alosco et al. [3] pointed out that in the short-term and long-term follow-up of patients who underwent Roux-en-Y gastric bypass (RYGB), their memory abilities were significantly better than those of the obese control group; Pearce et al. [4] also found similar results.

The impact of bariatric surgery on healthy behaviors

Weight loss surgery also has significant positive impacts on patients' health behaviors. These effects are not only reflected in reducing body weight and improving various complications, but also in multiple aspects such as psychology, lifestyle, and behavior.

After undergoing bariatric surgery, patients often experience rapid weight loss, which leads to a reduction in the negative emotions caused by obesity. Consequently, the frequency of emotional eating behavior decreases. At the same time, patients hope to continue losing weight and unconsciously restrain their eating behaviors. This helps maintain long-term weight loss.

On the other hand, bariatric surgery also has a significant positive impact on patients' exercise behaviors. Studies have shown that within one year after undergoing bariatric surgery, patients' physical activities, such as exercise and leisure activities, have significantly increased, which is also related to their greater weight loss; therefore, it is of utmost importance to provide intervention and support to patients after bariatric surgery such as conducting postoperative exercise training [5].

Application of Social Identity Theory

The social identity theory emphasizes that individuals define themselves through their sense of belonging to a social group. Patients often improve their self-perception and promote healthy behaviors by receiving positive social support and gaining group identity after bariatric surgery, and they also enhance their self-management skills [6]. Stronger self-management skills can help patients maintain long-term weight loss after bariatric surgery.

Bariatric surgery not only improves the physiological indicators of obese patients, but also has a significant impact on their psychology through the theory of social identity. It leads to remarkable positive changes in

patients' self-perception and health behaviors. The social identity theory enhances patients' self-management abilities psychologically. This has significant implications for the actual treatment of obese patients: not only should patients be treated physically, but they should also receive psychological intervention and social support.

After bariatric surgery, the self-perception and health behaviors of obese patients have shown significant positive changes, which are closely related to social recognition and social support. For the postoperative recovery and health management of patients, social recognition has a long-term impact. Based on a full understanding of the path of self-cognition transformation in obese patients after surgery, it will provide medical providers with theoretical and practical guidance in guiding patients' postoperative rehabilitation and health management, helping patients better adapt to postoperative life and have a better quality of life.

Competing interests

The authors declare no competing interests.

References

- [1]. Pahuja V, Sanghvi S. Childhood obesity in South Asian population. *Obes Pillars*. 2024;12:100148. doi: 10.1016/j.obpill.2024.100148.
- [2]. Uddin LQ. Cognitive and behavioural flexibility: neural mechanisms and clinical considerations. *Nat Rev Neurosci*. 2021;22(3):167-79. doi: 10.1038/s41583-021-00428-w.
- [3]. Alosco ML, Spitznagel MB, Strain G. Improved memory function two years after bariatric surgery. *Obesity (Silver Spring)*. 2014;22(1):32-8. doi: 10.1002/oby.20494.
- [4]. Pearce AL, Mackey E, Cherry JBC, Olson A, You X, Magge SN, et al. Effect of adolescent bariatric surgery on the brain and cognition: a pilot study. *Obesity (Silver Spring)*. 2017;25(11):1852-60. doi: 10.1002/oby.22013.
- [5]. Bellicha A, Ciangura C, Roda C, Torcivia A. Effect of exercise training after bariatric surgery: A 5-year follow-up study of a randomized controlled trial. *PLoS One*. 2022;17(7):e0271561. doi: 10.1371/journal.pone.0271561
- [6]. Liu Q, Jin Y, Wang Y. Association between self-efficacy and self-management behaviours among individuals at high risk for stroke: Social support acting as a mediator. *J Clin Nurs*. 2023;32(1-2):71-82. doi: 10.1111/jocn.16191.