


## Oral health condition and chewing pattern of adult patients treated at the bariatric service of the Clinical Hospital of the Federal University of Pernambuco

 <https://doi.org/10.56238/sevened2024.007-070>

**Maria das Graças Duarte, Flávio Kreimer, Leonardo Cavalcanti Bezerra dos Santos, Maria da Conceição de Barros Correia, Zilma Ribeiro do Nascimento, Kátia Maria Gonçalves Marques, Niedje Siqueira de Lima and Luciana de Barros Correia Fontes**

### ABSTRACT

**Introduction:** Obesity represents a serious public health problem worldwide, as it is associated with comorbidities and a reduction in the quality of life of individuals with this condition. The increase in the incidence of this multifactorial disease has led to a growing demand for services with surgical interventions, even minimally invasive, generally known as bariatric surgery or gastroplasty. These procedures are more directed to patients who have not achieved success in clinical treatment for a minimum period of two years, according to clinical protocols and with a Body Mass Index greater than 35 kg/m<sup>2</sup>. **Objective:** To report the experiences of interdisciplinary evaluations and interventions, by Speech-Language Pathology and Audiology and Dentistry, regarding the chewing pattern of adult patients assisted at the Bariatric Service of the Hospital das Clínicas, in the city of Recife. **Proposing Institution or Service:** Federal University of Pernambuco. **Target audience:** 20 adult patients, in the preoperative period for Bariatric Surgery, of both sexes and aged between 18 and 59 years. **Individual or collective actions:** The activities directed to this group of patients are established by kits, which involve the various specialties involved in the care of this specific group and for which Speech Therapy was inserted, requesting the participation of Dentistry. There is a joint analysis, both for the preoperative opinion and for the search for strategies to solve the treatment needs or conditions with negative repercussions for the performance of the masticatory function. These experiences took place between March 2022 and April 2023. **Results obtained:** In addition to the technical opinions, there was dental treatment of needs related to minor oral surgery, periodontal disease and the need for restorative or endodontic treatment; The greatest challenge is the oral rehabilitation of these individuals, due to the absence of many dental elements or units.

**Keywords:** Morbid obesity, Bariatric surgery, Adult health, Mastication, Oral health.



## INTRODUCTION

Obesity has been a serious public health problem worldwide, especially in recent decades, with a negative impact on the quality of life of those affected. It is estimated that more than one-third of the world's adult population will be overweight by 2030.

Considered by the World Health Organization (WHO) as a chronic disease, obesity is generally associated with other chronic diseases and comorbidities, which include reduced cognitive abilities. Body Mass Index (BMI) represents a basis for the clinical diagnosis of this condition and the severity or risk of death is more associated with a BMI equal to or greater than 40kg/m<sup>2</sup>, with high inflammatory biochemical markers such as C-reactive protein (CRP), gamma-glutamyl transferase (GGT), alanine transferase (ALT) and ferritin <sup>1</sup>.

In coping with this condition, the search for bariatric surgery has grown significantly over the years as an effective and popular method for weight reduction, particularly in individuals with severe obesity, regardless of the presence and severity of comorbidities. This is done by targeting patients who have not achieved success in clinical treatment for a minimum period of two years, according to clinical intervention protocols <sup>2</sup>.

In order to obtain a greater chance of success in these interventions, multidisciplinary care in the pre- and postoperative periods is essential. In this context, especially directed to lifestyle and diet modifications. In order to achieve more adequate nutrition, the performance of the masticatory function becomes essential <sup>3</sup>.

The medical service in bariatric surgery of the Hospital das Clínicas of the Federal University of Pernambuco (UFPE), began its activities in 1997, was the first official residency in bariatric surgery in Brazil and represents a reference center for the treatment of this problem and Metabolic Syndrome in the north and northeast of the country. In the approach to individuals with obesity and indication for surgical intervention, there is a multidisciplinary team that includes physicians, nurses, psychologists, nutritionists, speech therapists (and referred dentists), physical educators and social workers, among other professionals, who work on transdisciplinarity, based *on pre-surgical kits*.

The objective of this study is to report the experiences of interdisciplinary evaluations and interventions, by Speech-Language Pathology and Audiology and Dentistry, regarding the chewing pattern of adult patients assisted at the service in question.

## EXPERIENCE REPORT

Among the *kits* with the multidisciplinary team of the HC Bariatric Service (Ebserh) of UFPE, in the first there is the participation of Speech Therapy, for the evaluation of functional performance, especially mastication function. In this context, there is interdisciplinary action with a team of dental professionals. Professionals who evaluate hospitalized patients (within the scope of the HC outpatient



clinics), before the surgical intervention or in the preoperative period, based on the indication of the speech therapist, especially in the face of changes in the chewing function or in the performance of oral functions; with a view to finding solutions to the demands presented.

Here is a description of the evaluation of 20 adult individuals of both sexes, evaluated at the HC or at the Department of Clinical and Preventive Dentistry of UFPE, from March 2022 to April 2023.

Based on the speech-language pathology evaluation, adult patients, aged between 18 and 59 years, were referred. Most of them were 30 years of age or older. Most of them had tooth loss and a history of some discomfort or pain related to the oral region.

These individuals received guidance on how to proceed with chewing and the importance of this function throughout the process of changing habits.

Speech-language pathology intervention leads to an improvement in food acceptance, cereal and meat intake, and chewing and swallowing capacity<sup>4</sup>. However, there is a need for the binomial "form and function" in balance. There are studies on the impact of oral hypofunction on the general health conditions of the individual<sup>5,6</sup>. However, there are gaps in information on the topic. There is a consensus regarding a worse masticatory performance and a lower intake of several micronutrients, such as vitamin A,  $\beta$ -carotene and folic acids, especially in individuals over 60 years of age, with dry mouth and tooth loss. It is emphasized that the age group mentioned is higher than the age of the patients evaluated for this experience described.

Also noteworthy is the representativeness of the oral region with regard to deleterious habits and the high prevalence of Obstructive Apnea Syndrome (OSAS) in overweight or obese individuals, with the impact on occlusion and more accentuated tooth wear<sup>7,8</sup>.

Most of the individuals evaluated were female, were in follow-up with professionals from Medicine, Physical Education, Nutrition, Psychology, Social Work and Speech Therapy, regarding the preoperative period for bariatric surgery. These have co-morbidities: Systemic Arterial Hypertension (SAH) and Diabetes or pre-diabetes.

With regard to oral health conditions, tooth loss (average of five units lost), gingival bleeding when brushing, presence of dental calculus, toothache related to fractured restorations or teeth indicated for endodontic treatment (root canal) or extraction (residual roots) and malocclusions (mainly anterior open bite and posterior and anterior crossbite). Sleep disturbances and bruxism were reported by almost 50.0% (10) of the patients evaluated. Tooth mobility and tooth wear occurred in more than 30.0% (7) of the individuals examined.

All those evaluated were referred for treatment, according to the demands presented. A major challenge is still the logistics of care, both due to the mobility in the compromised walk of many, to



reconcile the days of consultations and, mainly, regarding the issue of oral rehabilitation (with prostheses).

## **FINAL THOUGHTS**

The oral health condition for the masticatory performance of individuals in the preoperative period for bariatric surgery needs to be better treated, managed and monitored; particularly the feasibility of oral rehabilitation. In the midst of many challenges, there is an increasingly strengthened interdisciplinarity between Speech-Language Pathology and Audiology and Dentistry, as well as the commitment of an entire team of excellence in care, which works together towards the same goal: the real gain in the quality of life of the individuals in question, considering the multiple dimensions of the human being.



## REFERENCES

1. Meghelli, B. M., Joaquim, A. G., Bertoncini-Silva, C., Ribeiro, G. N. A., Salgado-Júnior, W., & Suen, V. M. M. (2002). Effect of bariatric surgery on neurocognitive function after 6 months of follow-up: a pilot study. *\*Nutr Hosp\**, 39(2), 305-312.
2. Eisenberg, D., Shikora, S. A., Arts, E., Aminian, A., Angrisani, L., Cohen, R. V., et al. (2023). 2022 American Society of Metabolic and Bariatric Surgery (ASMBS) and International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO) indications for metabolic and bariatric surgery. *\*Obes Surg\**, 33(1), 3-14.
3. Tabesh, M. R., Maleklou, F., Ejtehadi, F., & Alizadeh, Z. (2019). Nutrition, physical activity, and prescription of supplements in pre- and post-bariatric surgery patients: a practical guideline. *\*Obes Surg\**, 29(10), 3385-3400.
4. Rossi, D. C., Soares, A. N., Silva, K. R. S., Britto, A. T. B. O., & Bosco, A. A. (2019). Improvement in food tolerance resulting from Roux-En-Y Gastric Bypass after speech therapy intervention in chewing. *\*Obes Surg\**, 29(10), 3195-3201.
5. Limpuangthip, N., & Komin, O. (2023). Association between oral hypofunction and general health: a systematic review. *\*BMC Oral Health\**, 23(1), 591.
6. Karawekpanyawong, R., Nohno, K., Kubota, Y., & Ogawa, H. (2023). Oral health and nutritional intake in Community-Dwelling 90-Year-old Japanese people: a cross-sectional study. *\*Gerodontology\**, 40(1), 100-111.
7. Katyyanan, A., Yadav, V., Mishra, P., Mishra, A., Saxena, M., Kant, S., et al. (2019). Computer algorithms in assessment of obstructive sleep apnea syndrome and its application in estimating prevalence of sleep-related disorders in population. *\*Indian J Otolaryngol Head Neck Surg\**, 71(3), 352-359.
8. Koka, V., De Vito, A., Roisman, G., Petijean, M., Pignatelli, G. R. F., & Padovani, D., et al. (2021). Orofacial myofunctional therapy in obstructive sleep apnea syndrome: a pathophysiological perspective. *\*Medicina (Kaunas)\**, 57(4), 323.