


## Health care for the obese person in the Intensive Care Unit (ICU)

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### Jéssica Batista dos Santos

Graduated in nursing and post-graduating in Urgency and Emergency Nursing and Intensive Care Nursing from FACESF (2023).

LATTES: <http://lattes.cnpq.br/1604497091158463>

ORCID: 0000-0001-8436-4466

E-mail: [jessicabatista12373@gmail.com](mailto:jessicabatista12373@gmail.com)

### Vandelene Mota Andrade

Federal University of Ceará / Bachelor in Nursing / Postgraduate student in Worker's Health – UFC

ORCID: 0000-0003-3032-2417)

E-mail: [vanderlenefanor@gmail.com](mailto:vanderlenefanor@gmail.com)

### Cristiano Pereira Sagrillo

Undergraduate student in Nursing - 9th period - Uniandrade College

Campos de Andrade University Center / Curitiba - Paraná

E-mail: [cristianopsagrillo@gmail.com](mailto:cristianopsagrillo@gmail.com)

### Daniella da Silva Braga

Bachelor in Nutrition

Instituto Federal de Ciência, Educação e Tecnologia do Sudeste de Minas Gerais - Campus Barbacena

lattes: <http://lattes.cnpq.br/3367988606932426>

ORCID: 0000-0003-1976-2200.)

E-mail: [daniellabraga2@gmail.com](mailto:daniellabraga2@gmail.com)

### Melina Even Silva da Costa

Bacharel Em Enfermagem - Cariri Regional University

ORCID: 0000-0001-6742-4420

E-mail: [melina.costa@urca.br](mailto:melina.costa@urca.br)

### Gabriel Henrique Ellwanger Freire

Medical Student at the University of Rio Grande (FURG) Rio Grande do Sul)

<https://lattes.cnpq.br/2039430630245391>

ORCID: 0000-0001-7097-6955

E-mail: [gabriel.freire.medicina@gmail.com](mailto:gabriel.freire.medicina@gmail.com)

### Caroline Ruas Gonçalves

Medical Student - 8th period - Faculty: UNIFIPMoc University Center

ORCID: 0000-0003-1425-3634

[/http://lattes.cnpq.br/8726876203117190](http://lattes.cnpq.br/8726876203117190)

E-mail: [carolruas16@gmail.com](mailto:carolruas16@gmail.com)

### Carlos Eduardo de Araujo Lopes

Physiotherapist -Faculty : Anhanguera São Luís

ORCID: 0000-0002-0395-0322

E-mail: [carloveduardoaraujolopes@12gmail.com](mailto:carloveduardoaraujolopes@12gmail.com)

### Natalia Rodrigues da Silva

Bachelor in nursing - UniEducacional (FACULDADE ADELMAR ROSADO) Post graduate student in Urgency and emergency and intensive care unit

ORCID: 0000-0002-3498-9158

E-mail: [eunataliarodrigues5@gmail.com](mailto:eunataliarodrigues5@gmail.com)

### Gilberto Cesar Macedo Cabeça Filho

Physiotherapist student - Maurício de Nassau University Center /

ORCID: 0000-0002-3646-5243

E-mail: [gilcmcfilho@outlook.com](mailto:gilcmcfilho@outlook.com)

### ABSTRACT

Research Question: What is the Health care for obese people in the Intensive Care Unit (ICU)?

General and specific objective respectively: To analyze what are the causes and consequences of obesity; To investigate what are the public policies to combat obesity; To identify in the literature which are the health care to be applied in the care of the obese person.

Hypothesis: Health care directed to the treatment of obese people in the Intensive Care Unit contributes to the improvement of their clinical condition.

Type of study: Narrative review.

**Keywords:** Obesity. Health care. Nursing care.

## 1 INTRODUCTION

This study focuses on discussing the health care of patients with obesity treated in Intensive Care Units (ICU). Obesity is a disease that can be understood as the accumulation of excess fat in specific regions of the body, such as the abdominal area, which damages the individual's health. This comorbidity is responsible for about 2.8 million deaths per year worldwide, and is also responsible for the appearance of other diseases such as cardiovascular diseases, ischemic strokes, type 2 diabetes mellitus, and some types of cancer.(1,2)

Of this percentage of deaths,  $\frac{2}{3}$  are due to obesity. However, for some scholars, obesity cannot be considered a disease since it does not present symptoms and is detected by examining the anthropometric body value. In this conception obesity is only a bridge to the acquisition of chronic diseases, such as hypertension. The anthropometric value consists of the evaluation of a person's body mass, measured in kilograms, divided by the square of the individual's height, in meters, as the Body Mass Index (BMI).(1,3)

In Brazil, despite being a developing country, overweight and obesity affect thousands of people of both sexes and various age groups, from children to adolescents and adults. In relation to males, in the adult phase, the population is affected by obesity at around 62.5%, and women at approximately 64.9%, in the last decade, that for them the weight gain is also related to the gestational period in a way that contributes to overweight or obesity. Regarding children between 5 and 9 years old, these rates are also high, reaching 51.4% for boys and 43.8% for girls, which can be justified by the obesity of parents through what we call intergenerational transmission, linked to bad eating habits, lack of physical exercises, and genetics (2,4,5).

In addition to poor eating habits, we can also link obesity, both in children and adults, to the socioeconomic characteristics of families that do not have a balanced diet, with consumption of fruits, vegetables, and proteins, due to family income and the region where they live. Studies show that in developed countries where the consumption of processed foods is high, the prevalence of obesity and overweight is higher, showing that the spatial aspect contributes to weight gain (6,7).

Since the location where an overweight or obese individual lives may contribute to body fat gain, it is important to study the particularities of each spatial region in order to create public policies to combat obesity, which is considered a public health problem. One of these regional particularities is the existence of open public spaces for the practice of physical activity for the population, such as soccer fields or open-air gyms. The existence of open markets that have a greater variety of fruits and vegetables at an affordable price for low-income families. Thus, after gathering this information it will be possible to create public policies directed to the regional needs in which people with obesity live. (7)

One of these public policies is the Health Academy Program (PAS), created by the Health Surveillance Secretariat (SVS) of the Ministry of Health (MS) in 2005, consisting of health promotion practices, such as physical and cultural activity and leisure. The PAS aims to "contribute to the promotion of the population's health, from the implementation of poles with infrastructure, equipment, and staff

qualified for the guidance of body practices and physical activity and leisure and healthy lifestyles. This concern is due to the fact that 60% of adults, according to a survey conducted by the SVS, do not perform the amount of physical activity necessary to maintain good health for their life stage. (8,9)

As a way to combat this disease, the Ministry of Health created in 2011, the Strategic Action Plan for Confronting Noncommunicable Chronic Diseases in Brazil. This plan aims to promote the creation and application of public policies [...] "effective and integrated, aimed at reducing the prevalence of obesity, with emphasis on physical activity, healthy eating, combating smoking and alcohol use. ". Another public policy, developed by the Ministry of Health, the National Food and Nutrition Policy (PNAN) was created in 1999 to develop guidelines for the promotion of obesity prevention and treatment actions by the Unified Health System (SUS) to be offered in the health care networks for people with chronic diseases. (10-12)

Another type of public policy is aimed at improving healthy eating as a way to fight obesity and especially to prevent it, and thus contribute to the reduction of public spending on care, treatment, and the creation of programs to fight this disease. The ingestion of food is associated, besides the physiological needs of the body, with religion, economy, social class, region, and technology, since the current lifestyle demands more and more speed from the individual in everything he does, and it is no different in eating. Hence the rampant increase in the intake of processed foods, with high sodium and fat content, a scenario that the MH tries to change with public policies such as the Promotion of Adequate and Healthy Food (PAAS), which are part of the scope of the National Health Promotion Policies (PNPS). (13,14)

In addition, we have the public policy, the Zero Hunger Program, created in order to reduce childhood obesity, by ingesting foods rich in energy and poor in nutrients necessary for growth, as for the hunger present in thousands of Brazilian homes, even those beneficiaries of the Family Grant Program. Besides these programs, we also have the School Health Program - PSE, which acts directly in schools as a way to educate children to have and consume foods rich in nutrients and thus avoid overweight and obesity. (15,16)

Considering the above, it is relevant to answer the research question: What are the health care for the care of obese people in the Intensive Care Unit? Furthermore, we follow the following hypothesis that: The health care directed to the treatment of obese person in the Intensive Care Unit contributes to the improvement of their clinical picture.(17)

The relevance of this research is due to the importance of showing, not only to the academic and health population, but also to the general population, the need to acquire new knowledge about health care directed to the person with obesity in Intensive Care Units. In addition, the work also has relevance since it presents information about the causes and consequences of obesity in order to raise awareness of the population to have a healthier life.

Moreover, the work has as general and specific objectives, respectively: Analyze what are the causes and consequences of obesity; Investigate what are the public policies to combat obesity; Identify in the literature what are the health care to be applied in the care of the obese person.

## **2 METHODS**

This is a narrative literature review that consists of a general reading and critical analysis of research publications by scholars in each area of knowledge. This type of methodology, as well as the others, enables the continuing education of students, professionals in education and other areas, since it allows these readers to update their knowledge and build new knowledge based on the researched works. Thus, the narrative literature review of this study was based on scientific articles, monographs, dissertations, and books that address the theme of the research studied. (18,19)

## **3 RESULTS AND DISCUSSIONS**

### **3.1 OBESITY: CAUSES AND CONSEQUENCES.**

Obesity has been with us for a long time, and for some societies, weight gain represents health, beauty, and fertility and is almost a prerequisite for marriage. However, in most societies of the East, such as Brazil, overweight and obesity are synonymous with disease, ugliness, and neglect that can cause, besides physical damage, emotional damage due to the prejudice that obese people suffer. In this context, the obese woman suffers more than the man, since the standards of beauty, established by our society, worship the woman with a well-defined body in order to cause women who do not meet this standard an obstacle to be accepted in a job selection, for example. (20)

Thus, we can understand that obesity brings not only health risks but also compromises the social, personal, and professional life of an individual, bringing other diseases such as depression due to the rejections suffered. It also has as consequences the appearance of chronic diseases, such as hypertension, cardiovascular dysfunctions, ischemic strokes, type 2 diabetes mellitus, and some types of cancer, such as colorectal and kidney diseases. Moreover, the obese person can also develop several emotional disorders, besides depression as mentioned before, such as anxiety disorders and altered body image conception. We can also list social isolation and low self-esteem as consequences of obesity. (20-22)

The causes that originate obesity are mostly also caused by the way of life of this society, which has been modified over the decades through technological development and the increased purchasing power of people who started consuming processed foods and not practicing physical activities. Therefore, the causes of obesity are inadequate food, consisting of fried foods, fat, sodium, sedentary lifestyle, family genetics, socioeconomic levels, psychological factors such as stress, demographic factors, level of education, early weaning, having obese parents, alcohol consumption, and smoking (21,23).

Obesity, along with these other diseases, affects the individual's health, making it increasingly necessary for the individual to go to health units to seek care to normalize glycemic rates or hypertension, for example. These trips to health care units cause expenses to the public coffers and fill beds in Intensive Care Units to treat not the individual's obesity condition anymore, but to treat the other diseases resulting from obesity. "In 2011, SUS hospital and outpatient spending on obesity reached \$269.6 million, of which almost 24% was attributable to morbid obesity. Already in 2012, research indicates that the reduction of 1% of diseases due to obesity among adolescents aged 16 and 17 years reduced R\$ 586.3 million with future treatment." (24-26)

The increase in public spending on treatments for patients with chronic diseases due to obesity can also be configured as a consequence of this comorbidity, since the Ministry of Health needs to provide public policies to address this disease. However, these economic consequences do not correspond only to the costs with medical treatment and the creation of public policies to face obesity, [...] "but also include indirect or social costs, such as: decreased quality of life, problems of social adjustment, loss of productivity, disability with early retirement, and death. ". (27,28)

### 3.2 HEALTH CARE IN THE CARE OF PATIENTS WITH OBESITY

Because it is a public health problem, obesity deserves attention and health care for its treatment, in which chronic diseases will be treated as a result and orthopedic problems, such as in the knee, due to overweight, but also care to prevent it. This health care is developed in Basic Health Units (BHU) as a way to properly monitor the progress of obesity and especially the other diseases that accompany it. Thus, "The primary health care (PHC) approach to obesity should include (but not be limited to) health promotion, food and nutrition surveillance, health education, and medical and interdisciplinary care. ". (30,31)

Nutritional surveillance is characterized by care directed to food and nutrition in order to promote individual health, prevention and treatment of chronic diseases, which will be offered both to the obese individual and to their families and community together with other health actions of Primary Care. These actions aim to act "[...] in growth and development in childhood, pregnancy, and breastfeeding, showing that the promotion of healthy eating practices is an important item for food and nutritional security [...]" (32,33).

To ensure this action of healthy food consumption practices, a feeding guide was developed with strategies to combat obesity due to the ingestion of processed foods. This guide helps the Unidades Básicas de Saúde (Basic Health Units) to guide mothers during the management of their children, how to correctly feed themselves, and the continuity of this care after their birth without the use of processed foods, giving preference to breastfeeding. For this, the food guide brings as parameters to be followed the degree of processing and examples of foods that compose each degree.(34,35)

For those who are already in a state of obesity, the UBS uses a line of care directed to the treatment of this disease. The care begins with a consultation with the general practitioner and the multiprofessional team to perform an evaluation and obtain a diagnosis of the patient's nutritional status and other variables such as glycemic rates. With the results of this evaluation, nutritional education will be started. In addition, the patient will also be referred to a psychological support and physical activity group, and if they are unable to reduce weight, they [...] "are referred to the endocrinologist who will make an evaluation, identify diseases that accompany obesity - such as diabetes, hypertension, high cholesterol, and joint problems - and indicate a drug treatment. (36-39)

One of these drug treatments is based on the administration of sibutramine, with monitoring and recommendation by the National Health Surveillance Agency - ANVISA, in 2011, for the marketing of this drug. ANVISA conducted tests to investigate the effectiveness of this drug in the treatment of obesity and found the benefits of its use over a period of up to two years to combat this disease, despite side effects, such as depression and suicidal thoughts. (40)

Health care directed to people with obesity in Intensive Care Units include: skin care [...] "as, bed bath, monitoring, repositioning and positioning. The use of specific creams and ointments to prevent pressure injury" [...]. These cares also include specific techniques of mobilization and movement aiming to avoid complications and injuries besides examining the hemodynamics configuring themselves as important measures for the maintenance of the obese patient's health in the ICU. (41)

The nurse has an important role in this process of treatment against obesity, since he/she is directly and daily checking the clinical status of the patient in the ICU, besides also being responsible for the physical preservation of this individual. This care provided by the nurse also protects the obese patient in the ICU from peaks of depression, since the nurse will be in constant contact with the patient, and will represent a support for the patient from the moment he or she is in the nurse's company. The nurse may also inform the psychologist of the inpatient's emotional state so that appropriate action may be taken in case there is any life-threatening change in the patient's emotional state. (42-45)

#### **4 CONCLUSION**

This study focused on discussing the health care used in the care of patients with obesity, the causes that give rise to this disease, and the public policies created by the Ministry of Health. Based on the research, we found that some public policies to fight obesity have been developed, such as the Health Academy Program (PAS), created by the Health Surveillance Secretariat (SVS) of the Ministry of Health (MS) as of 2005, consisting of health promotion practices, such as physical and cultural activity and leisure. The PAS aims to "contribute to the promotion of the population's health, from the implementation of centers with infrastructure, equipment, and qualified staff for the guidance of body practices and physical activity and leisure and healthy lifestyles.



Another public policy developed by the Ministry of Health was the Strategic Action Plan for Confronting Non-Transmissible Chronic Diseases in Brazil. This plan aims to promote the creation and application of public policies [...] "effective and integrated, aiming to reduce the prevalence of obesity, with emphasis on physical activity, healthy eating, combating smoking and alcohol use. "

Then there is the public policy, the National Food and Nutrition Policy (PNAN), created in 1999 to develop guidelines for the promotion of obesity prevention and treatment actions by the Brazilian Unified Health System (SUS) to be offered in the health care networks for people with chronic diseases. Besides this, we also have a public policy that is focused on improving healthy eating as a way to fight obesity, and especially to prevent it and contribute to the reduction of public spending on care, treatment, and creation of programs to fight this disease.

And finally we have the Zero Hunger Program, created with the aim of reducing childhood obesity, by ingesting foods rich in energy and poor in nutrients necessary for growth, as for the hunger present in thousands of Brazilian homes, even those beneficiaries of the Bolsa Família Program. Besides these programs, we also have the School Health Program - PSE, which acts directly in schools as a way to educate children to have and consume foods rich in nutrients and thus avoid overweight and obesity.

Through the research conducted, we also found that the causes of obesity are mostly also caused by the way of life of this society, which has been modified over the decades through technological development and the increased purchasing power of people who started consuming processed foods and not practicing physical activities. Therefore, the causes of obesity are inadequate food, consisting of fried food, fat, sodium, sedentary lifestyle, family genetics, socioeconomic levels, psychological factors such as stress, demographic factors, level of education, early weaning, having obese parents, alcohol consumption, and smoking.

It has as consequences the appearance of chronic diseases, such as hypertension, cardiovascular dysfunctions, ischemic strokes, type 2 diabetes mellitus, and some types of cancer, such as colorectal and kidney diseases. In addition, the obese person can also develop several emotional disorders, such as depression, anxiety disorders, and altered body image conception. We can also list social isolation and low self-esteem as consequences of obesity.

Through the research and reading carried out, we identified in the literature that the health care to be applied in the care of the patient with obesity is developed in Basic Health Units (BHU) as a way to properly monitor the progress of obesity and mainly and the other diseases that accompany it. Thus, "The primary health care (PHC) approach concerning obesity should include (but not be limited to) health promotion, food and nutrition surveillance, health education, and medical and interdisciplinary care. "

In addition, the UBS uses a line of care directed to the treatment of this disease. The care begins with a consultation with the general practitioner and the multiprofessional team to perform an evaluation and obtain a diagnosis of the patient's nutritional status and other variables with the glycemic rates. With

the results of this evaluation, nutritional education will be started. The patient will also be referred to a psychological support and physical activity group, and if they are not able to reduce the weight [...], they "are referred to the endocrinologist who will make an evaluation, identify diseases, which accompany obesity - such as diabetes, hypertension, high cholesterol, and joint problems - and indicate a drug treatment, such as sibutramine.

Health care directed to people with obesity in Intensive Care Units include: skin care [...] "as, bed bath, monitoring, repositioning and positioning. The use of specific creams and ointments to prevent pressure injury" [...]. This care also includes specific techniques of mobilization and movement in order to avoid complications and injuries, in addition to examining the hemodynamics, configuring themselves as important measures for the maintenance of the obese patient's health in the ICU.

Another health care is linked to the nurse who has an important representation in this process of treatment against obesity, since he/she is directly and daily checking the clinical status of the patient in the ICU, besides also being responsible for the physical preservation of this individual. This care provided by the nurse also protects the obese patient in the ICU from peaks of depression, since the nurse will be in constant contact with the patient, and will represent a support for the patient from the moment he or she is in the nurse's company. The nurse can also inform the psychologist of the inpatient's emotional state, so that appropriate measures can be taken in case there is any life-threatening change in the patient's emotional state.

Therefore, the creation and implementation of public policies to address obesity is of utmost importance for the prevention of new cases in families in which parents are obese, changing eating habits and performing physical activities so that their children do not become obese as well. Moreover, this practice will reduce public spending both with the creation of public policies and with hospitalizations and other medical care.

With the practice of physical exercises and the ingestion of healthy food, the use of medication to inhibit or treat the person with obesity will also be reduced, and the person will have a normal life and will be able to enter the job market without fear of reprisals for their physical appearance with the possibility.



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