

The Risks of using Medication for Weight Loss

Clara Barros de Souza, Nathan Pedro Saraiva Oliveira, Milena Soares Corrêa, Eugênio Maria Gomes, Kaio Vieira Ramos, Paulo Pereira de Souza, Rafaela trindade Souza, Arthur Martins Freitas, Wanessa Soares Luiz Silva, Daniel Rodrigues Silva

Received: 19 Jun 2023,

Receive in revised form: 16 Jul 2023,

Accepted: 25 Jul 2023,

Available online: 05 Aug 2023

©2023 The Author(s). Published by AI
Publication. This is an open access article
under the CC BY license

(<https://creativecommons.org/licenses/by/4.0/>).

Keywords— *Slimming, Medicines, Scratches.*

Abstract— *The objective of all this was to evaluate the risks of using drugs in the weight loss process. This research aims to show the importance of using correct medications, prescribed by doctors in a controlled manner, in the weight loss process, encouraging the patient to use non-pharmacological methods to achieve success in weight loss. Methodology: A literature review study was carried out, using the ABNT standards, through the databases, SCIELO (Scientific Electronic Library On-line), MEDLINE, LILACS, Google Scholar, Bireme, Ebsco Host, Pubmed, books and articles published between 2011 and 2021 in Portuguese, English and Spanish, articles that met the following criteria were included: (1) studies that focus on the use of weight loss drugs and their risks (2) studies that are available in full text. Incomplete and unavailable articles were excluded from the bibliographic search. Conclusion: The indiscriminate use of weight loss drugs can cause adverse effects, such as anxiety, heart problems, confusion, insomnia, mood swings and violent behavior. In addition to these disorders, there are psychiatric disorders, including delusions, visual and auditory hallucinations, and delusions.*

I. INTRODUCTION

Obesity is characterized by the accumulation of body fat, which can alter lipid metabolism, induce hormonal changes, increase blood pressure and the onset of heart problems, blood lipids and diabetes. The incidence of obesity has increased in recent years and is currently one of the biggest public health problems, especially in developed and developing countries. (SANTOS, 2016)

In 2012, the World Health Organization (WHO) defined that the individual would be considered obese if he had a body mass index (BMI) equal to or greater than 30 kg / m². Obesity and overweight are the fifth leading cause of death worldwide. There are nearly 3 million adult deaths as a result of being overweight each year. Within this weight range, the risk of dying from diabetes, heart disease, cerebrovascular disease and cancer is much higher. (OLIVEIRA, 2013)

The search for the fastest method to lose weight, stop adapting to what society dictates, in search of a slim body, perfect saying, makes women, especially young people, use drugs to help with weight loss. (SANTOS, 2016); (SAINTS, 2019)

The main therapeutic strategies currently used to combat obesity are diet therapy, an essential basis for therapy, education and behavior modification, increased physical activity and countermeasures against low-life lifestyles, exercise and pharmaceutical therapy.

Obesity is a risk factor for health, it leads to a higher rate of development and progression of diseases, reduces the life expectancy of people with obesity, decreases the quality of life, limits the individual to practice physical activities, in addition to health, mobility, social, occupational and sexual relationships are impaired. (SAINTS, 2019); (NETO et al. 2021)

The use of drugs for weight reduction is indicated when the BMI is greater than 30 kg/m² or when the individual with a BMI greater than 25 kg/m², who has a disease associated with excessive weight, does not obtain satisfactory results with exercises alone physical activities, diets and behavioral changes. The drugs released and indicated as slimming in Brazil are SIBUTRAMINE and ORLISTATE. (SANTOS, 2016); (MARTINS, 2011).

Among the drugs that have had an increase in their sales in recent years, we have PHENTERMINE, an appetite suppressant, which must be prescribed by a specialist and must be used together with the practice of physical exercises, in addition to a hypocaloric diet prepared by a nutritionist. specialist, is a potentially dangerous drug for people who have heart disease, metabolic disorders. (MARTINS, 2011); (SAINTS, 2019)

The use of indiscriminate medications as a way to help in the weight loss process, without the supervision of trained professionals, has grown considerably in the Brazilian population.

II. MATERIALS AND METHODS

A literature review study was carried out, using the ABNT standards, through the databases, SCIELO (Scientific Electronic Library On-line), MEDLINE, LILACS, Google Scholar, Bireme, Ebsco Host, Pubmed, books and articles published between the years 2011 to 2021 in Portuguese, English and Spanish. The Keywords will be “weight loss” and “medicines” and “risks”, in Portuguese, Spanish and English, related to the themes, isolated and grouped together, articles that met the following criteria were included: (1) studies that have as focus on the use of slimming drugs and their risks (2) studies that are available in full text. Incomplete and unavailable articles were excluded from the bibliographic search.

III. RESULTS AND DISCUSSION

Considered a chronic, complex and multifactorial disease, obesity usually begins in childhood or adolescence, where there is an interaction between genetics and the environment. “Energy acquisition and expenditure”. (SANTOS, 2013); (NETO et al. 2021)

Obesity is considered a disease, and it is an increased risk factor for several other comorbidities such as hypertension, dyslipidemia, type 2 diabetes, sleep apnea, cardiovascular diseases, some types of cancer, gallstones, respiratory diseases, insulin resistance and other diseases. (FRANCO, 2014)

In Brazil, the Ministry of Health (MS) released research in 2017 showing that one in five Brazilians is obese. Furthermore, obesity rates also decreased from 11.8% to 18.9% over a 10-year period. According to the Ministry of Health, around 51 million adults living in Brazil were overweight in 2013. Among men, this number exceeds 5%. (MOREIRA, 2020)

The urban lifestyle that the population has lived in recent decades directly affects the increase in food intake, the rush of everyday life, eating out of sight, the lack of financial control to have a good diet, the consumption of fast food, the low water intake, are factors directly related to overweight in the population. (SILVA, 2021)

It should be emphasized that, in obesity, extrinsic factors are more important than genetic ones. The main factors involved in the development of obesity are prolonged exposure to food deprivation, high consumption of processed foods, low consumption of natural foods and neuroendocrine changes. (SILVA, 2021)

The WHO revealed that Brazil has one of the highest obesity rates in the world. Inadequate diet, inadequate health habits and sedentary lifestyle are some of the reasons. Bearing in mind that many of these people will prefer to go the quicker route, which is using appetite suppressants, with the promise of fast weight loss, without sacrifices, and these rates rise even more when the summer approaches. (SAINTS, 2019); (NETO et al. 2021)

Careless use of these drugs (amphetamines and methamphetamines) can lead to long-term dopamine depletion, in addition to loss of the transmitter of this neurotransmitter. Long exposure can lead to excessive weight loss, which is why college students are in high demand, but they overlook other adverse effects such as: anxiety, confusion, insomnia, mood swings, violent behavior, and dental problems. In addition, there are psychiatric disorders, including delusions, visual and auditory hallucinations, and delusions. (SILVA, 2013); (MARTINS, 2011)

In the last 10 years, sales of FENTERMIN, ORLISTAT and FENPROPorex have increased by more than 300%, as they are drugs that promise to help control obesity. In general, people prefer to use appetite suppressants or other drugs that help them lose weight. , in the hope that with the lack of appetite your body will start burning calories, and they generally follow the routine, and lifestyle without physical exercise or a balanced diet. These drugs can cause long-distance consequences such as high blood pressure, pulmonary hypertension and stroke, among others. (SAINTS, 2019); (MOREIRA, 2020)

“Weight loss formulas” are always a combination of medications, one for each part of the organism, one for

the intestine to work better (they cause diarrhea and vomiting), another to calm the individual (a tranquilizer or anxiolytic), in addition to miraculous teas. (SILVA, 2013)

Regarding the treatment of obesity, in the United States of America (USA), the Food and Drug Administration (FDA) is very concerned that people who want to lose weight use drugs that are not labeled only. For cosmetic reasons, drugs such as bupropion, topiramate and fluoxetine are not approved for the treatment of obesity, a phenomenon that also occurs in Brazil. (SILVA, 2013); (SANTOS, 2016)

The term off-label is used when a drug is not used as described and approved in the package leaflet, in situations where the indication for treatment, dosage and route of administration are not indicated. Regulation and approval as well as administration by age group that have not been tested or when the product in use is not registered with a regulatory authority. (BRASIL, 2012), (MARTINS,

2011).

Off-label use can be justified if there is credible evidence and technical rigor to support the intended use, taking care that the desired results are radically different from the approved drug use. In some drugs, unwanted adverse effects may occur, such as weight loss, allowing the use of some weight loss drugs, such as Bupropion, Topiramate and Fluoxetine. (BRASIL, 2012), (MARTINS, 2011).

These drugs alone do not help with weight loss, and their ingestion can cause very serious adverse effects. In all cases, supplements, vitamins and similar products must be prescribed by a doctor and a nutritionist who will include them in the treatment. They can be very harmful, as if left unattended they pose a risk of heart palpitations, increased blood pressure, cardiovascular risk, fatigue and even glaucoma. (BRASIL, 2012), (MARTINS, 2011).

Table 1- Active ingredient of the most used medications in the weight loss process

DRUG	ACTIVE PRINCIPLE	EXPECTED EFFECTS	ADVERSE EFFECTS
sibutramine	A serotonin (5-HT) and norepinephrine reuptake inhibitor, which exerts its effects in vitro through its primary and secondary amine metabolites	Decreases body weight gain with dual action: decreases calorie intake by increasing post-eating satiety responses and increases energy expenditure by increasing metabolic rate	-Lose weight and gain weight again after stopping the medication. -Sibutramine has adverse effects and may cause heart attack.
femproporex	is an agent central stimulant it is a sympathomimetic indirect with effects Similar to Dextroamphetamine		Appetite suppressant, and acuity of taste and odor, leading to individual not ingest a series foods
phentermine	Stimulates the release of nerve endings by increasing the number of postsynaptic receptors; at the opposite pole are the substances that affect the release and reuptake of serotonin		Palpitations, increased heart rate, insomnia, restlessness, dry mouth, diarrhea and constipation.
orlistat	Specific and long acting gastrointestinal lipase inhibitor. It exerts therapeutic activity in the lumen of the stomach and small intestine. It works by inhibiting pancreatic lipase.	Reduces the absorption of fat from food, inhibits the hydrolysis of triglycerides, increasing evacuation by 30%	Fecal incontinence, loose stools, rectal discomfort/pain, dental or gum disorders, lower respiratory tract infections, menstrual irregularities, anxiety, fatigue, urinary tract infection, and abdominal distension.

Saxenda	It is an injectable medication used to lose weight in overweight or obese people, as it helps to reduce appetite and control body weight, and can cause a reduction of up to 10% of total weight, when associated with a healthy diet. of regular physical activity.	It can cause a reduction of up to 10% of the total weight, when associated with a healthy diet and the practice of regular physical activity.	Nausea (sickness), vomiting, diarrhea, constipation
fluoxetine	Antidepressant medication that can help you lose weight, as this is one of its adverse effects. This medicine should only be used under medical advice, because, despite contributing to weight loss, in some cases it can cause the opposite effect to that expected and the person may gain weight	This medicine should only be used under medical advice, because, despite contributing to weight loss, in some cases.	It can cause the opposite effect to what is expected and the person may gain weight. Lost weight is usually regained soon
sertraline	Antidepressant belonging to the group of selective serotonin reuptake inhibitors. It has antidepressant and anxiolytic effects, Used clinically for the treatment of depression, obsessive-compulsive disorder, panic disorder, social phobia, and premenstrual dysphoric		Feeling sick; Headache; Insomnia; Somnolence; Diarrhea; Dry mouth; Dizziness; Feeling tired or weak;
bupropion	Dopamine reuptake inhibitor (DA) and NE Antidepressant more indicated for weight loss than fluoxetine and sertraline, for helping to reduce the compulsion. It acts in a similar way in cases of smokers who want to quit smoking, more indicated when the patient has a psychiatric condition, such as depression or binge eating.	When accompanied by diet and exercise, it can be effective for weight loss.	Difficulty sleeping.
amfepramone	It has effects that seem to be mediated by action on dopaminergic neurons, promoting, like other amphetamine-like drugs, increased dopamine release in presynaptic terminals.	drugs called anorectics, because they act directly on the metabolic system by reducing appetite	Palpitation, rapid heartbeat, increased blood pressure, chest pain, pulmonary hypertension, agitation, nervousness, insomnia, depression, headache, dry mouth, change in taste.
Topiramate	anticonvulsant and used in the chronic treatment of epilepsy and migraine	Used in conjunction with other medications, weight loss is promised	Cognitive slowdown and impaired thinking

Source: Adapted from Santos, p.37, 2019 and Silva, p. 22-23, 2013.

Advertising the use of off-label drugs is prohibited, but their use is not illegal and, in some cases, it may be a clinical option, such as in diseases for which there

is no alternative medicine or when the benefits outweigh the risks. However, the pattern of use involves clinical issues, in addition to ethics and safety in use, which must

be taken into account in the prescription so that it occurs in the safest way, based on scientific evidence. (SANTOS, 2016); (NETO et al. 2021)

If you do not keep in mind certain precautions when taking weight loss pills, not only can you gain more weight instead of losing weight, but it can also be harmful to your health by taking these inhibitors, weight loss cravings, a preliminary consultation with a doctor as mentioned and certain cautions should be considered. (SAINTS, 2019); (NETO et al. 2021)

The use of slimming drugs should be done with caution, as they can cause several adverse effects. The difficulty of accessing qualified medical care increases the number of people who use ineffective treatments, increasing rates of self-medication, making use of herbal preparations with little or no scientific evidence. Study and diet without the supervision of a nutritionist. (SILVA, 2013); (SANTOS, 2016)

A multidisciplinary perspective involving pharmacological, humanistic and social concepts is needed, which replace the mere view of medical therapy and, therefore, promote educational programs aimed at the general population, focusing on the most consumed anorexia medications and their main adverse effects.

Controls on sales in pharmaceutical establishments and restrictions imposed by health laws must be redoubled to reduce the flow of mail orders, sales through online pharmacies and sales of real estate, legally without a prescription. (SILVA, 2013)

The drugs used in the treatment of obesity are controversial, due to practices such as inappropriate use, excessive prescription, excessive use of measures containing drugs for weight loss and downgrading of traditional treatments, system, combination of diet and exercises and changing habits. (SANTOS, 2016); (NETO et al. 2021)

In order to have a good result in the treatment of obesity, a balanced and healthy diet, nutritional monitoring, periodic physical exercises are necessary, that is, changing the lifestyle, which is difficult to find or do for a subgroup of patients, who need pharmacological assistance to solve the problem with the scale.

The history behind drug therapy for obesity is surrounded by pitfalls and dilemmas regarding efficacy, abuse and adverse effects, as already proven the risk of valvular disease, pulmonary hypertension associated with phentermine, fenfluramine, which had its use discontinued some time ago. 13 years ago, because of cardiovascular risk. These episodes prompted regulators to set strict requirements for approving a drug to treat obesity.

(SANTOS, 2016); (SAINTS, 2019); (NETO et al. 2021)

Obese patients who want to use medications to help them lose weight should therefore know about the possible adverse effects that the medications can cause, have multidisciplinary follow-up, in addition to changing habits, eating habits and life, such as practicing physical exercises together. of drug treatment.

One of the rates of indiscriminate use of slimming drugs, most are university students (MARTINS, page 02, 2011), who have troubled schedules and prefer to look for the fastest way to lose weight, but the adverse data of prolonged use without it is in conjunction with physical exercises and a good diet are harmful to health.

IV. CONCLUSION

Using weight loss drugs indiscriminately can cause adverse effects, cardiovascular problems, anxiety, confusion, insomnia, mood swings and violent behavior. In addition to these disorders, there are psychiatric disorders including delusions, visual and auditory hallucinations, and delusions.

Medical and specialized follow-up for the use of such drugs is extremely important, doctors such as endocrinologists and nutrologists are indicated for the surveillance of patients who intend to use drugs to aid weight loss.

Just take medicine if there are permanent results in the body, there are many reports of people who used "faster" strategies and the phenomenon of the accordion effect occurred, where individuals lose weight, but gain weight again as soon as they stop taking the medication, which in its natural it cannot be used for long periods of time.

Physical exercise and dietary re-education are the first strategies that doctors and nutritionists ask patients to do, as they are long-lasting and changing life habits has much more results than the use of medications, but if the patient even with the change does not get results, the use of medications associated with exercise and a good diet does have a good expectation of results.

Therefore, it is possible to conclude that the use of drugs for weight loss for an indefinite period causes cardiac, physical and mental consequences in people who consume them, making us think about the intake and sale of this medication to audiences such as university students, and that the prescription and Correct medical follow-up is essential.

In view of the material available in educational bases on the subject, it is important that other articles like

this one are prepared on a scientific basis so that professionals can base themselves using them.

REFERENCES

- [1] BRAZIL, Ministry of Health. Off-label use: error or necessity? Rev. Public Health: Institutional Technical Reports, Brasília, v. 46, no. 2, p.398-399, 2012.
- [2] Franco, RR, Cominato, L., & Damiani, D. (2014). The effect of sibutramine on weight loss in obese adolescents. *Brazilian Archives of Endocrinology & Metabology*, 58(3), 243–250. <https://doi.org/10.1590/0004-273000002825>
- [3] Gomes, JS (2016). The irrational use of herbal medicines in weight loss: A literature review. <http://repositorio.faeima.edu.br:8000/jspui/handle/123456789/410>
- [4] Carvalho e Martins, M. do C. de, Souza Filho, MD de, Moura, FS, Ribeiro de Carvalho, J. de S., Müller, MC, Neves, RV, Mousinho, PC, & Lima, IP (2011) . Use of anti-obesity drugs among university students. *Journal of the Brazilian Medical Association*, 57(5), 570–576. <https://doi.org/10.1590/S0104-42302011000500017>
- [5] Moreira EF, Almeida IM, Barros NB de, & Lugtenburg CAB (2021). What are the risk-benefits of sibutramine in the treatment of obesity? *Brazilian Journal of Development*, 7(4), 42993–43009. <https://doi.org/10.34117/bjdv7n4-659>
- [6] Neto, BB de C., Neto, IF, Souza, V. de A. de, Sousa, FDA de, Marques, A. EF, & Pereira, LR de AB (2021). Use of medication for weight loss by higher education students in the health area at a private educational institution in the city of Cajazeiras, Paraíba, Brazil. *Health and Environment Magazine Environment*, 12(1), 167–179.
- [7] Oliveira, IC de, & Cordeiro, PB de MH (2013). Phytotherapeutics as Adjuncts in the Treatment of Obesity. *Cadernos UniFOA*, 8(1 (Esp.)), 97–104. <https://doi.org/10.47385/cadunifoa.v8.n1>
- [8] Santos, C. de SC, & Belo, RFC (2017). Prevalence of drug use for weight loss in university students from Sete Lagoas - mg. *Brazilian Journal of Life Sciences*, 5(1).
- [9] Santos, KP dos, Silva, GE da, & Modesto, KR (2019). Danger of slimming drugs. *Journal of Scientific Initiation and Extension*, 2(1), 37–45.
- [10] Silva, RR and, & Abreu, PA (2021). Teas and slimming: A critical analysis of what is being recommended in youtube videos. *Health and Environment Magazine*, 12(1), 235–248.
- [11] Silva, LFO da, Silva, FVM da, & Oyama, SMR (2013). Prevalence of weight-loss drugs among university students: Prevalence of weight-loss drugs among university. *Revista Recien - Scientific Journal of Nursing*, 3(7), 19–26.