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Dietary intervention and lifestyle in distinct clinical contexts: a comparative case study in lactose intolerance and obesity.

Dietary intervention and lifestyle in distinct clinical contexts: a comparative case study of lactose intolerance and obesity

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Summary

Diseases related to dietary patterns and inadequate lifestyles constitute one of the main challenges of contemporary public health, being associated with the increased prevalence of Non-Communicable Chronic Diseases (NCDs). Among these conditions, lactose intolerance and obesity stand out, pathologies that are distinct from a pathophysiological point of view, but frequently associated with inadequate eating habits. This study aims to comparatively analyze the influence of nutritional interventions based on simple and structured changes in dietary patterns and lifestyle on the clinical and nutritional evolution of two adult patients with distinct diagnoses: lactose intolerance and grade II obesity. This is a comparative case study conducted at a Nutrition Clinic School, with anthropometric, dietary, and clinical evaluation, followed by individualized diet therapy intervention and two months of follow-up. The results demonstrated that, despite diagnostic differences, both patients presented similar dietary and behavioral patterns at baseline, characterized by sedentary lifestyle, disorganized meal schedules, low intake of unprocessed foods, and frequent consumption of refined/ultra-processed items. After the intervention, a significant reduction in gastrointestinal symptoms was observed in the case of lactose intolerance, and an improvement in clinical and anthropometric indicators was observed in the case of obesity. It is concluded that...

Simple dietary changes, when structured and accompanied by nutritional education, can produce relevant clinical results regardless of the underlying pathology.
Keywords: Nutritional assessment; Lifestyle; Diet therapy; Lactose intolerance; Obesity.

Abstract

Diseases related to inadequate dietary patterns and lifestyle represent a major challenge in contemporary public health and are linked to the increasing burden of non-communicable chronic diseases. Lactose intolerance and obesity are distinct conditions from a pathophysiological standpoint, yet both are often associated with unhealthy eating habits. This study aimed to comparatively analyze the effects of simple, structured dietary and lifestyle interventions on the clinical and nutritional outcomes of two adult patients with different diagnoses: lactose intolerance and grade II obesity. This comparative case study was conducted in a Nutrition Teaching Clinic, including anthropometric, dietary and clinical assessment, followed by individualized diet therapy and follow-up (ÿ54 days). Despite different diagnoses, both patients initially showed similar behavioral and dietary patterns (sedentary lifestyle, disorganized meal schedules, low intake of unprocessed foods and frequent consumption of refined/ultra-processed items). After the intervention, gastrointestinal symptoms markedly improved in the lactose intolerance case, while clinical and anthropometric indicators improved in the obesity case. These findings suggest that simple, structured dietary changes supported by nutrition education can produce meaningful clinical benefits regardless of the underlying condition.

Keywords: Nutritional assessment; Lifestyle; Diet therapy; Lactose intolerance; Obesity.

1. Introduction

Changes in dietary patterns and lifestyles observed in recent decades have

contributing significantly to the increase in NCDs, constituting a major problem.

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of public health. Inadequate diet, associated with sedentary lifestyle, and high consumption of Ultra-processed foods and disorganized meal plans are among the main factors. Modifiable factors related to impaired nutritional status and quality of life. (WORLD HEALTH ORGANIZATION, 2020).

Lactose intolerance is characterized by the partial or total inability to digest lactose. disaccharide present in milk and its derivatives, due to a deficiency of the lactase enzyme in small intestine. It can manifest as abdominal distension, flatulence, cramps, and diarrhea, with impact on nutrient intake/absorption when not properly managed (HEYMAN, 2006; SUCHY; BRANNEN; CARPENTER, 2010).

Obesity, in turn, is recognized as a multifactorial chronic disease, characterized by Excessive accumulation of body fat is strongly associated with behavioral and environmental factors. and metabolic. This is a condition related to prolonged positive energy balance, to High consumption of ultra-processed foods and low levels of physical activity are associated with diseases. cardiovascular diseases, type 2 diabetes mellitus and other comorbidities (BRAY; KIM; WILDING, 2017; ABESO, 2016).

Although distinct, both conditions share common determinants related to lifestyle. of life. In clinical practice, it is observed that individuals seeking nutritional care, Regardless of the primary diagnosis, they frequently present with dietary patterns. similar, characterized by poor diet quality and sedentary behavior. Therefore, the This comparative case study aims to analyze the influence of nutritional interventions. based on simple and structured changes in dietary patterns regarding clinical evolution and Nutritional assessment of patients with lactose intolerance and grade II obesity.

2. Theoretical Framework / Results

2.1 Lactose intolerance and nutritional implications

The prevalence of lactose intolerance in adults varies according to genetics, ethnicity, and conditions. previous intestinal problems. Nutritional management is generally based on individualized lactose reduction, in the selection of low-fat/free products and in the use of strategies that preserve the suitability of calcium and vitamin D, preventing deficiencies resulting from dietary restrictions without guidance. (HEYMAN, 2006; SUCHY; BRANNEN; CARPENTER, 2010). Nutritional education is fundamental for promoting adherence, label reading, and food choices that reduce symptoms. and maintain the quality of the diet.

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2.2 Obesity, lifestyle and eating behavior

Obesity is associated with dietary patterns characterized by energy density.
High consumption of ultra-processed foods and low intake of whole, unprocessed foods. Evidence
Experimental and epidemiological studies indicate that diets rich in ultra-processed foods may increase the risk of heart disease.
Energy intake can contribute to weight gain, reinforcing the need for targeted interventions.
for food quality and reorganization of the eating routine (HALL et al., 2019; MONTEIRO et al.,
(2019). Clinical guidelines highlight that treatment involves sustainable lifestyle changes,
with individualized meal plan, promotion of physical activity and behavioral support (ABESO,
2016; BRAY; KIM; WILDING, 2017).

2.3 Inadequate eating habits as a recurring pattern

In nutritional care, a cross-sectional pattern of habits is frequently observed.
Inadequate (disorganized schedules, low intake of fruits/vegetables, low hydration and
(sedentary lifestyle) among individuals with different clinical complaints. An important clinical critique is that the
The presence of gastrointestinal symptoms does not necessarily imply greater adherence to practices.
Healthy eating habits. Therefore, the nutritionist's role should prioritize nutritional re-education and...
Lifestyle modification as a central strategy, regardless of the primary diagnosis.
with a focus on gradual goals and monitoring adherence.

3. Materials and Methods

This is a comparative case study, with a descriptive and analytical approach, carried out in
Nutrition Clinic School. Two adult patients with distinct diagnoses were monitored:
(i) lactose intolerance and (ii) grade II obesity.

The initial nutritional assessment included anthropometric data (body weight, height, index).
body mass index and waist circumference), assessment of food consumption by recall.
24-hour dietary intake, lifestyle assessment, medical history, and identification of key factors.
complaints related to food.

The intervention strategies prioritized simple and progressive changes, including:
reorganization of meal times; encouragement of increased consumption of fresh, unprocessed foods and
minimally processed; adjusting fiber intake; hydration guidance; reducing
ultra-processed foods; and, where applicable, exclusion/substitution of foods that trigger...
Symptoms (e.g., lactose intolerance) were addressed. Educational guidance was provided to promote adherence and encourage...
Physical activity compatible with the patients' reality. Clinical progress was evaluated after
approximately 54 days.

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4. Results and Discussion

Table 1 summarizes the comparison of dietary patterns and lifestyle before the intervention. There is a convergence of risky behaviors in both cases, reinforcing the idea that A recurring pattern among individuals seeking nutritional care.

Table 1 – Comparison of dietary pattern and lifestyle before the intervention

Aspect evaluated	Case 1 – Lactose intolerance Case 2 – Grade II obesity	
Meal organization	Irregular	Irregular
Consumption of fruits, vegetables and greens (FLV)	Insufficient	Insufficient
Consumption of of ultra-processed/refined foods	Frequent	Frequent
Water intake	Low	Low
Physical activity	Absent	Absent
Sedentary behavior	High	High

Table 2 presents the initial clinical and nutritional characterization. Although Case 1 does not Although the patient presented with obesity, their eating habits and sedentary lifestyle were comparable to those of Case 2. indicating that the presence of gastrointestinal pathology does not necessarily translate into a pattern Eat healthier.

Table 2 – Initial clinical and nutritional characterization of patients

Variable	Case 1 – Lactose intolerance Case 2 – Grade II obesity	
Age (years)	32	36
Sex	Feminine	Masculine
Lifestyle	Sedentary	Sedentary
Classification by BMI	Eutrophy	Grade II obesity
Main clinics demonstrations	Abdominal distension, diarrhea, cramps	Edema, fatigue, hypertension

Following the intervention, clinical and nutritional improvements were observed in both cases. Table 3 summarizes the evolution before and after the intervention, highlighting that simple changes (reorganizing meals, reducing ultra-processed foods, ensuring adequate hydration, and adjustments) specific treatments (such as lactose reduction) generated measurable clinical results, regardless of the diagnosis.

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Table 3 – Comparison of clinical/nutritional status before and after the intervention

Variable Case 1 – After	Case 1 – Before		Case 2 – Before	Case 2 – After
Food organization	Inadequate	Improved	Inadequate	Improved
Main symptoms	Diarrhea/cramps	Reduced/absent edema/fatigue		Reduced
Diet quality from the	Low	Improved	Low	Improved
Well-being of perception	Low	Improved	Low	Improved

The findings reinforce a relevant criticism: even individuals with gastrointestinal complaints They may exhibit inadequate eating habits similar to those of patients with diseases. metabolic issues, which are frequently encountered in nutrition services. Therefore, the therapeutic focus should include lifestyle restructuring and nutritional education, in addition to specific behaviors for each diagnosis. In Case 1, the individualized reduction of lactose associated with the overall improvement of diet contributed to symptom control (HEYMAN, 2006; SUCHY; BRANNEN; CARPENTER, 2010). In Case 2, dietary reorganization and reduction of ultra-processed foods are coherent behaviors. with contemporary evidence on diet quality and energy intake (HALL et al., 2019; MONTEIRO et al., 2019).

Final Considerations

The study highlights that inadequate eating habits and a sedentary lifestyle... They represent a common pattern among individuals seeking nutritional care. regardless of the clinical diagnosis. Interventions based on simple changes and Structured approaches have proven effective in producing relevant clinical improvements, reinforcing the role The nutritionist's role is central to reorganizing lifestyle and promoting health.

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