

GASTRONOMIC ANALYSIS AND AQPC METHOD IN MENUS OF HOSPITAL FOOD AND NUTRITION UNITS IN THE METROPOLITAN REGION OF FORTALEZA-CE

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Abstract: The aim of this study was to qualitatively evaluate the menus for the General, Soft and Pureed diets served by two Nutrition and Dietetics Departments (SND), one private and the other public, using the Qualitative Assessment of Menu Preparations (AQPC), with the addition of certain gastronomic aspects at both hospitals. This was a quantitative, retrospective, observational study conducted over four weeks in March 2018. Lunch preparations were analyzed for 19 days based on the AQPC method. The gastronomic aspects assessed were the provision of sauces, herbs, seasonings, texture and cooking methods (grilled, stewed and roasted). With regard to leafy vegetables, their presence was recorded on only 0% to 20% of days; at one unit, foods rich in sulfur were offered on 100% of days across all diets; among the cooking methods, grilled preparations were recorded on 80% to 100% of days. The menus evaluated showed a low supply of leafy vegetables, a high presence of foods rich in sulfur, and a prevalence of grilled preparations. Corrective measures are necessary, such as proper menu planning, in order to standardize the meal production process and improve the nutritional and sensory quality of the preparations.

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Keywords: Menu; Qualitative analysis; Food service

INTRODUCTION

A Food and Nutrition Unit aims to provide healthy meals, with a view to maintaining or restoring diners' health and promoting healthy eating habits. A healthy diet should include diverse preparations containing a variety of food groups; to this end, attention should be paid to food selection quality in order to meet daily nutritional requirements (BRASIL, 2014). According to Sant'anna; Gomes (2010), Food and Nutrition Units (UANs) belong to the collective food service sector and are committed to health, since they provide diners with a balanced diet that complies with the Laws of Nutrition, namely Quantity, Quality, Harmony and Adequacy.

Food is important for a patient's recovery and stands out as a significant element of comfort and quality provided by the hospital. However, owing to financial constraints, a hospital unit may be forced to reduce food purchasing expenses; thus, efforts to improve the sensory aspects of meals through gastronomy may be an alternative (BELENTANI; ROBERTO, 2013). Patient satisfaction is currently considered essential to maintaining hospital quality, as well as to the individual's recovery (SIMONE; MAURÍCIO 2013).

Hospital gastronomy emerged from a twofold approach: nutritionists' efforts to offer more pleasurable food and chefs' challenge of adapting gastronomic trends to this setting. It is known that the presentation, flavor, and aroma of a dish can provide patients with greater pleasure; tasty food with an attractive appearance has therapeutic value, assisting in treatment (TALVINO; SANTOS, 2012).

The application of gastronomic techniques to these diets reconciles dietary prescriptions and food restrictions in the preparation of healthy, nutritious, attractive, and tasty meals, in order to combine dietary, clinical, and sensory objectives and promote nutrition with pleasure. Therefore, the quality of hospital food and patient involvement in the nutritionist's care are of utmost importance for patients' dietary treatment, nutritional recovery, and quality of life (MESSIAS et al, 2011; JORGE, 2012).



The qualitative assessment of menu preparations (AQPC) is an auxiliary method used by nutritionists when planning menus that are more appropriate from a nutritional and sensory standpoint, within scientifically established health parameters. It assesses colors, preparation techniques, repetitions, combinations, the availability of leafy vegetables and fruits, and types of meat, as well as the sulfur content of foods. (VEIROS, 2002; VEIROS; PROENÇA, 2003; VEIROS et al., 2006)

Thus, it is important to assess gastronomy in hospital menus to contribute to patient well-being, improve the sensory qualities of diets, and increase their acceptance.

METHOD

This is a quantitative study with a cross-sectional design.

Menus offered from 05/03/2018 to 29/03/2018 by the Food and Nutrition Units (UAN) of hospital A in Fortaleza and hospital B in the metropolitan area were analyzed. Patients' lunches were analyzed on consecutive days, except for holidays and weekends, totaling 19 days.

Unit A serves an average of 3000 meals daily, including main meals and snacks for healthy individuals (employees and physicians) and patients. It provides transported meals to a post attached to the hospital. It operates 24 hours a day, serving breakfast, a morning snack, lunch, an afternoon snack, dinner, and supper to patients, and breakfast, a morning snack, lunch, an afternoon snack, and dinner to employees, as well as fulfilling additional requests for events (coffee breaks and sales).

Unit B has 40 beds and an average of 25 companions and 150 employees per day, with a standard type C menu. It operates 24 hours a day, serving breakfast, a morning snack, lunch, an afternoon snack, dinner, and supper to patients and companions. For employees on the day shift, a morning snack, lunch, and an afternoon snack are offered, while those on the night shift receive dinner, supper, and breakfast.

The general, soft, and puréed diets offered to patients were used in this study. The method used to analyze the menus was AQPC (Qualitative Assessment of Menu



Preparations), which helps professionals ensure that meal plans are appropriate from a nutritional and sensory perspective, achieving balance in menu preparation by assessing the following aspects: color variations, food cooking methods, menu repetitions, combinations, and the percentages of leafy vegetables, fruits, desserts, types of meat, sulfur-rich foods (banana, orange, pineapple, melon, spinach, cabbage, lettuce, cauliflower, broccoli, leek, and collard greens), excluding beans, since they are consumed daily by almost everyone, fried foods, and fried foods served with dessert. Some gastronomic aspects were added to the assessment method, such as the use of sauces, herbs (the use of rosemary, oregano, parsley, saffron, bay leaves, and basil was assessed), and seasonings (the use of salt, annatto, all-purpose seasoning, shoyo, bell pepper, tomato, sweet pepper, garlic, pepper, nutmeg, and green seasoning was assessed for each unit).

The lunches provided to patients on the general, soft, and puréed diets were used in this study, and the availability of fruits, leafy vegetables, fried foods, fatty meat, desserts, sulfur-rich foods, desserts served with fried foods, cooking methods, and color monotony, herbs, seasonings, and sauces was assessed.

Data were collected and tabulated in Microsoft Excel spreadsheets (YEAR), and analyzed using descriptive statistics, with percentages calculated for the categories studied.

This study is based, with regard to ethical aspects, on Resolution 466/12 of the National Health Council (CNS), ensuring that all established ethical principles were respected with regard to safeguarding the legitimacy, privacy, and confidentiality of information, when necessary, , with the signing of the Consent Form by those responsible for each hospital unit.

RESULTS AND DISCUSSION

Analysis Results:

Table 1 – Gastronomic and qualitative analysis of hospitals A and B for the GENERAL diet, March 2018

Semanas	Dias	Frituras		Frutas		Folhosos		Cores		Enxofre		Carne Gordurosa		Doce		Doce + Frit.	
		A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
1	05/03 à 09/03	0	0	5	4	0	0	2	2	2	5	0	0	1	1	0	0
2	12/03 à 16/03	0	0	5	4	0	2	3	2	3	5	0	0	1	1	0	0
3	19/03 à 23/03	0	0	5	4	0	0	2	2	2	5	0	0	1	1	0	0
4	26/03 à 29/03	0	0	5	4	0	2	1	2	2	5	0	0	1	1	0	0
TOTAL	19 DIAS	0%	0%	100%	80%	0%	20%	40%	40%	45%	100%	0%	0%	20%	20%	0%	0%

Textura		Molhos		Ervas		Grelhados		Ensopados		Assados		Tipos de tempero	
A	B	A	B	A	B	A	B	A	B	A	B	1	2
4	3	3	1	3	1	4	0	1	3	2	1	5	11
3	3	0	3	5	2	5	0	1	1	0	0	5	11
3	3	3	1	1	1	4	0	2	3	0	1	5	11
2	3	1	3	3	2	3	0	0	1	2	0	3	11
60%	60%	35%	50%	55%	30%	80%	0%	20%	50%	20%	10%	27%	100%

Source: Own authorship.

Table 2 – Gastronomic and qualitative analysis of hospitals A and B for the SOFT diet, March 2018.

Semanas	Dias	Frituras		Frutas		Folhosos		Cores		Enxofre		Carne Gordurosa		Doce		Doce+Frit	
		A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
1	05/03 à 09/03	0	0	5	4	0	0	3	1	3	5	0	0	1	1	0	0
2	12/03 à 16/03	0	0	5	3	0	1	3	1	3	5	0	0	1	2	0	0
3	19/03 à 23/03	0	0	5	4	0	0	3	1	3	5	0	0	1	1	0	0
4	26/03 à 29/03	0	0	5	3	0	1	2	1	3	5	0	0	1	2	0	0
TOTAL	19 DIAS	0%	0%	100%	70%	0%	10%	55%	20%	60%	100%	0%	0%	20%	30%	0%	0%

Textura		Molhos		Ervas		Grelhados		Ensopados		Assados		Tipos de tempero	
A	B	A	B	A	B	A	B	A	B	A	B	A	B
4	3	4	2	5	1	4	0	2	2	2	1	5	9
4	3	4	2	5	1	4	0	2	3	2	0	5	9
5	3	2	2	5	1	4	0	2	2	2	1	5	9
2	3	1	2	4	1	4	0	0	3	3	0	4	9
75%	60%	55%	20%	95%	20%	80%	0%	30%	50%	45%	10%	29%	80%

Source: Own authorship.



Table 3 – Gastronomic and qualitative analysis of hospitals A and B for the PUREED diet, March 2018.

Semanas	Dias	Frituras		Frutas		Folhosos		Cores		Enxofre		Carne Gordurosa		Doce		Doce+Frit	
		A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
1	05/03 à 09/03	0	0	5	3	0	0	1	1	0	5	0	0	1	5	0	0
2	12/03 à 16/03	0	0	5	2	0	0	2	1	0	5	0	0	1	5	0	0
3	19/03 à 23/03	0	0	5	3	0	0	4	1	0	5	0	0	1	5	0	0
4	26/03 à 29/03	0	0	5	2	0	0	0	1	0	5	0	0	1	5	0	0
TOTAL	19 DIAS	0%	0%	100%	50%	0%	0%	35%	20%	0%	100%	0%	0%	20%	100%	0%	0%

Textura		Molhos		Ervas		Grelhados		Ensopados		Assados		Tipos de tempero	
A	B	A	B	A	B	A	B	A	B	A	B	A	B
2	3	0	0	0	1	0	0	0	1	0	0	3	3
2	3	0	0	0	1	0	0	0	1	0	0	3	3
2	3	0	0	0	1	0	0	0	1	0	0	3	3
2	3	0	0	0	1	0	0	0	1	0	0	3	3
40%	60%	0%	0%	0%	20%	0%	0%	0%	20%	0%	0%	12%	12%

Source: Own authorship.

In hospital settings, it is important to offer more leafy greens, as they are sources of essential nutrients and support the nutrition of ill patients. In addition to being tasty, they strengthen the immune system and provide other health benefits. The supply was found to be limited: 0% in unit A and 20% in unit B for the GENERAL diet. For the SOFT diet, the results were 0% in unit A and 10% in unit B, while for the PUREED diet they were 0% in both units (BRASIL, 2014).

Regarding the supply of fatty meats, the percentages for both units across all diets were 0%, which is ideal for menu planning, especially in a hospital food service, since excessive consumption of saturated fat and cholesterol can lead to the development of various illnesses, including obesity, dyslipidemia, and cardiovascular diseases. In their role as food and nutrition educators, nutritionists should avoid combining less healthy foods (MACHADO et al., 2013).

Foods rich in sulfur accounted for 45% in unit A and 100% in unit B for the GENERAL diet; for the SOFT diet, the figures were 60% in unit A and 100% in unit B; and for the PUREED diet, 0% in unit A and 100% in unit B. In the study by Vieira et al.(2016),



the occurrence of foods rich in sulfur was 95%. It is noteworthy that offering foods rich in sulfur can cause gastric discomfort due to their high content of sulfur compounds (VEIROS, PROENÇA, 2003). Beans were not included in this item, as they were present in the preparations every day; however, they also contribute to gastric discomfort because they contain raffinose and sulfur-containing amino acids that can cause flatulence. This underscores the importance of soaking beans to help reduce flatulence-causing compounds (FLORINTINO, MAZUR, 2015).

This study found high percentages of fruit consumption: 100% in unit A across all diets and, in unit B, 80% for the GENERAL diet, 70% for the SOFT diet, and 50% for the PUREED diet. This represents an excellent supply of fruit, since consuming at least three daily servings of fruits and vegetables is recommended (ANTUNES et al., 2010).

The lowest percentages observed in the menus were associated with the provision of desserts, fried foods, and fried foods served with desserts. This differed from the findings of Veiros & Proença (2003), who discussed the possibility of menus having high caloric values due to the combination of simple sugars and fats. Frequent consumption of foods rich in carbohydrates and lipids contributes to the development of atherosclerosis and other coronary events by increasing serum cholesterol and triglyceride levels (MATOS; PROENÇA, 2003).

A 40% occurrence of color monotony was observed in both units. According to Diniz and Miguel (2010), a varied diet in terms of colors and variety is important so that our bodies receive all the nutrients they need to function properly and obtain all the benefits these nutrients provide.

Herbs were used in both hospitals, with percentages of 55% in unit A and 30% in unit B for the GENERAL diet; 95% in unit A and 20% in unit B for the SOFT diet; and 0% in unit A and 20% in unit B for the PUREED diet. The use of aromatic herbs may positively influence health by reducing the amount of salt in the diet and through their beneficial health properties, which include a possible role in preventing neurodegenerative diseases, cancer, diabetes, and cardiovascular diseases (PORTUGAL, 2014).

According to Brasil, (2005), seasonings are products obtained by mixing spices and other ingredients, whether fermented or not, and are used to add flavor or aroma to foods and

beverages. They may be designated as "Seasoning" followed by the ingredient that characterizes the product, provided that this is not solely the common name of the plant species used. The designation may be followed by expressions relating to the production process, form of presentation, purpose of use, and/or specific characteristics. In the present study, the following percentages were found among the 11 seasonings analyzed: GENERAL – 27% in unit A and 100% in unit B. SOFT – 29% in unit A and 80% in unit B; for the PUREED diet, 12% in both units.

Sauces are products in liquid, paste, emulsion, or suspension form, based on spices, seasonings, and/or other ingredients. They may be designated as "Sauce" followed by the ingredient that characterizes the product, or by names established through common usage. The designation, as with seasonings, may be followed by expressions relating to the production process, form of presentation, intended use, and/or specific characteristics. The analysis revealed that in the GENERAL diet, the proportions were 35% in unit A and 50% in unit B. In the Soft diet, they were 55% in unit A and 20% in unit B. The PUREED diet, meanwhile, was at 0% in both units (Brazil, 2005).

Regarding the cooking techniques used for the main dishes, the most common were grilling and stewing. It is known that varying meal preparation methods is important, as it improves the appearance and acceptance of the dishes by patients, given that hospitalized patients show a high rate of refusal of hospital food, precisely because it is unattractive in appearance and unappealing in taste (FLORINTINO, MAZUR, 2015).

CONCLUSION

The results obtained through the application of the AQPC method suggest the need for improvements in menu planning in both units. Among the suggested improvements, the following stand out: reducing the provision of sulfur-rich foods, avoiding monotony in the colors and cooking techniques of the dishes, and increasing leafy vegetable consumption. A balanced diet is essential to ensure an individual's health and capacity, contributing to increased productivity and reducing the risk of workplace accidents. The problems identified



in the menu may be related to operational difficulties, such as the limited availability of equipment for food preparation and delays in the delivery of food supplies.

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