



Comparative analysis of older adults and hospitalized adults' perception of hospital diet quality

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Abstract

Objective: To analyze and compare the perception of hospital diet quality between older adults and hospitalized adults. **Method:** Quali-quantitative research conducted at a public hospital in the state of São Paulo, Brazil, involving older adults (n=185) and adults (n=185) who have been hospitalized for at least three days, receiving a general/soft oral diet, and classified according to the prescribed diet type: unrestricted diet (GSR), for glycemic control (GDM), or low-sodium (GHSS). The data were collected through individual interviews, utilizing a validated questionnaire. Diet quality was assessed using a Likert scale, considering the categories of taste, temperature, quantity, appearance, meal timing, hygiene, and availability for food substitution. The qualitative data were subjected to thematic content analysis, while the quantitative data underwent descriptive and statistical analysis using Kruskal-Wallis tests (for quantitative variables) and chi-square tests (for qualitative variables). **Results:** Regardless of the prescribed diet ($p \geq 0.05$), both older adults and hospitalized adults considered the quality of hospital food satisfactory (Good/Excellent) across the assessed satisfaction categories, except for taste, which showed a significant association with the prescribed diet for older adults ($p = 0.05$). Three thematic categories emerged from the reports, indicating that both older adults and adults understand the importance of hospital diet for health recovery, yet a negative expectation regarding the offered meal is still prevalent. Hospital diets with restrictions influence taste perception in older adults. Understanding this particularity can assist in the creation of strategies for adaptation and better acceptance of hospital diets for this age group.

Keywords: Aging. Diet, Food, and Nutrition. Taste Buds. Food Service. Hospital.

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INTRODUCTION

In the early twentieth century, nuns took charge of hospital kitchens, preparing diets for the poor and the sick according to medical prescriptions¹. In the 1970s, the implementation of Hospital Food and Nutrition Units began with the aim of restoring and/or maintaining the nutritional status and health condition of patients².

The correlation of the dietary phenomenon with the recovery process is considered fundamental for the clinical and/or surgical treatment of hospitalized individuals. Therefore, the patient's non-acceptance of hospital diet can hinder their recovery, leading to complications arising from hospital malnutrition and increasing the probability of death^{3,4}.

Despite the importance of hospital diet as an adjunct in therapy, this type of food is still mystified by the population as tasteless, cold, bland, served early, and restrictive, leading to insufficient food intake by the patient, compromising their recovery⁵. Hospital diet, therefore, affects the individual's psychosensory and symbolic attributes, which can negatively influence their experience during hospitalization and their health^{6,7}.

Thus, concerns arise, particularly regarding older adults, whose numbers have been growing in recent years, bringing with them increased demand for healthcare services, including hospitalizations⁸. These individuals account for 23% of the total hospital admissions in the country, with an average length of stay of seven days, 25% longer than the hospitalization period of other age groups⁹. Furthermore, there is a decline in sensory perception with aging, especially in olfaction and taste, which can affect appropriate dietary intake^{10,11} and, consequently, be reflected in the number and duration of hospitalizations among older adults, as well as in hospital malnutrition.

In older adults, other factors can also influence nutrition, such as chewing, digestion, continuous use of medications, mobility difficulties, socioeconomic issues, and Non-Communicable Chronic Diseases (NCDs)^{8,11-13}. Systemic Arterial Hypertension

(SAH) and Diabetes Mellitus (DM), which are more prevalent in older adults, are associated with greater dietary restrictions, increased rates of hospitalizations, worsening nutritional status, and also influence food perception^{8,12,14}.

However, most of the time, the sensory perception of older adults is disregarded, although it has a significant impact on taste and pleasure in eating. A study comparing the gustatory sensitivity of non-hospitalized adults and older adults found alterations in the perception of sweet and salty tastes, predisposing them to add more sugar and/or salt to their food, which negatively impacts the control of SAH and DM¹⁵. In relation to sour and sweet solutions, another study showed that older adults exhibited reduced taste perception compared to adults¹⁶.

In the hospital context, sensory perception alterations can worsen, as environmental, physiological, and dietary factors may hinder oral feeding in older adults¹⁷. It is common for most older adults to consume less food during hospitalization than when they are at home. This scenario becomes even more serious when considering that older patients tend to stay hospitalized for longer periods and more frequently.

Although there is a strong correlation between the quality of hospital diet and its acceptance by hospitalized individuals, it is not known whether this acceptance may vary depending on age group, or if it can be negatively exacerbated by the restrictions and characteristics of the diet offered in the hospital. These are two conditions directly related to older adults, considering their greater sensory and functional decline and the need for restrictive diets due to the prevalence of NCDs in this population.

Therefore, considering that hospital diets for older adults, with or without dietary restrictions, are not individualized according to their needs and particularities, this study aimed to analyze and compare the perception of hospital diet quality among older adults and hospitalized adults for different prescribed diet types, as well as to understand the significance of this food for both populations.

METHOD

Quali-quantitative research with a cross-sectional design was conducted at a public healthcare and teaching hospital located in the interior of São Paulo state, Brazil, which is part of the health care network of the Regional Department of Health (DRS - Departamento Regional de Saúde) IX. It serves as a reference for specialized care at different levels of complexity, operating 199 hospital beds exclusively linked to the Unified Health System (SUS - Sistema Único de Saúde). It has a Food and Nutrition Unit (UAN - Unidade de Alimentação e Nutrição), certified by ISO 9001:2015, which provides meals orally and through feeding tubes. It provides an average of 600 main meals (lunch and dinner), 800 small meals (breakfast and snacks) to patients, caregivers, and staff per day, as well as 300 enteral diets. Data collection took place in four medical and surgical wards from June 2018 to June 2019, due to the presence of patients meeting the inclusion criteria in these wards.

Participants were older adults (≥ 60 years) and adults (18 to 59 years) of both sexes, hospitalized for at least three days, a sufficient amount of time to express opinions about the provided food¹⁸, and receiving a general or soft oral diet, distributed into three prescription types: unrestricted diet (GSR), for glycemic control (GDM), and low-sodium (GHSS). Patients who were unable to communicate, those with oral cavity wounds, those receiving enteral or parenteral nutrition, and those fasting were excluded from the study.

For the quantitative approach, the sample size calculation considered a medium effect size of 0.3, a type I error margin (α) of 5%, and a study power of 80%, indicating the need for a minimum sample of 185 individuals per age group. For proportional distribution of patients in diets and age groups, the comparison groups were as follows: 185 older adults, with 126 on GSR diet, 43 on GHSS, and 16 on GDM; 185 adults, with 153 on GSR diet, 22 on GHSS, and 10 on GDM, totaling 370 participants.

For the qualitative approach, the number of interviewees took into consideration the criteria of data exhaustiveness and saturation¹⁸. Thus, a total of

70 participants were included, comprising 37 adults and 33 older adults.

The data collection procedure involved daily analysis of the hospital census to identify potential candidates, followed by personal contact with the patient to explain the research. After obtaining agreement and signing the Informed Consent Form, the interview began (on average 20 minutes) with one of the researchers, who was a nutritionist from the research setting, trained in non-directive techniques.

The data collection consisted of four stages. Stage I: characterization of participants regarding socioeconomic profile, using the Critério Brasil questionnaire¹⁹. Stage II: collection of participant hospitalization data from the hospitalization form, considering the reason and duration of hospitalization, prescribed diet, and associated chronic disease. Stage III: administration of a questionnaire to assess participants' perception of hospital diet quality, considering: taste, temperature, quantity, appearance, meal timing, hygiene, and availability for food substitution. Participants were asked to express their opinion using a Likert scale of satisfaction: excellent, good, fair, or poor. Participants were also asked about their appetite (preserved, reasonable, or poor) and their salivation (reduced, increased, or normal). The same satisfaction questionnaire used by the hospital's UAN nutritionists in this study was employed, following quality standards adopted in hospital services²⁰. Stage IV: Two open-ended questions were asked regarding the participant's perceptions of hospital food: what were their expectations regarding this food, and what knowledge they had about their dietary restrictions, when applicable. This questionnaire was validated in a pilot study with individuals of the same characteristics as the target population, totaling 18 participants (nine per age group and prescribed diet). It underwent adjustments for readability and understanding of the questions. To ensure reliability and preserve the originality of the testimonies, the interviews were conducted with a digital voice recorder, and after transcription, the recordings were deleted. They were conducted at the bedside, with the presence of both the interviewer and the interviewee, preserving anonymity and avoiding potential biases. There were no dropouts or need for repeat interviews.

In the analysis of quantitative data, comparisons between groups for quantitative variables were performed using the Kruskal-Wallis test, followed by pairwise comparisons using the Mann-Whitney test with Holm-Sidak post-hoc correction. The association between qualitative variables was analyzed using the chi-square test. Quantitative variables are described by median and interquartile range (25th and 75th). Qualitative variables are described by relative (%) and absolute (n) frequency distribution. The significance level adopted was 5%.

Regarding the qualitative approach, the speeches were transcribed and subjected to the theoretical-analytical framework of thematic content analysis proposed by Minayo. The analysis involved breaking down the text into units and then categorizing them into groups. For anonymity and confidentiality of the collected testimonies, participants were identified as Older Adult or Adult, followed by the acronym of the prescribed diet.

The research followed the norms and regulatory guidelines for research involving human subjects, being reviewed and approved by the Institutional Review Board (IRB) of the involved institution, obtaining a favorable number 2,596,014, CAAE: 85263318.0.0000.5413.

DATA AVAILABILITY

The dataset is not publicly available due to containing information that compromises the privacy of the research participants.

RESULTS

The participant population consisted of 370 individuals, comprising older adults (n=185) and adults (n=185), ranging in age from 18 to 94 years with a mean age of 54.6 years. Of these, 58.6% were male, 51.9% were married or in a stable union, 43.8% had completed up to nine years of schooling, 70.0% were of white ethnicity, 58.1% were Catholics, 83.2% lived with family, and 56.5% belonged to socioeconomic class C. There was no significant association between participants' characteristics and diet and age, except for whether they had hypertension and/or diabetes mellitus (Table 1).

When comparing age among the types of diets, it was observed that participants with the GHSS diet were older than those with the GSR diet, however, there was no significant difference between those with GSR and GDM diets. It is also noted that the age group of 60 years or older was concentrated in the GHSS or GDM diets, with more older adults on a low-sodium diet (Table 2).

The prevalent diagnosis at admission, according to the International Statistical Classification of Diseases and Related Health Problems (ICD-10), was circulatory diseases in 22.7% of adults and 26.5% of older adults, with the most common being: hypertension, acute myocardial infarction, pulmonary embolism, heart failure, stroke, atherosclerosis, arterial and venous thrombosis. Both age groups showed a similar distribution of morbidities, which reduces the study's bias regarding morbidity.

Table 1. Analysis of absolute frequency (f) and relative frequency (%) distribution of participant population characteristics regarding the prescribed diet type and age group. Marília, SP, 2019.

Characteristics	Adult			<i>p</i> -value	Older adult			<i>p</i> -value
	GSR (n = 153)	GDM (n = 10)	GHSS (n = 22)		GSR (n = 126)	GDM (n = 16)	GHSS (n = 43)	
Gender	<i>f</i> (%)	<i>f</i> (%)	<i>f</i> (%)		<i>f</i> (%)	<i>f</i> (%)	<i>f</i> (%)	
Male	92 (60.1)	7 (70.0)	9 (40.9)	0.14	79 (62.7)	9 (56.3)	21 (48.8)	0.10
Female	61 (39.9)	3 (30.0)	13 (59.1)		47 (37.3)	7 (43.8)	22 (51.2)	
Marital status								
Single	79 (51.6)	3 (30.0)	9 (40.9)	0.22	58 (46.0)	9 (56.3)	20 (46.5)	0.85
Married/stable union	74 (48.4)	7 (70.0)	13 (59.1)		68 (54.0)	7 (43.8)	23 (53.5)	
Education								
0 - 3 years	21 (13.7)	1 (10.0)	3 (13.6)	0.92	50 (39.7)	6 (37.5)	15 (34.9)	0.76
Up to 9 years	64 (41.8)	4 (40.0)	10 (45.5)		53 (42.1)	7 (43.8)	24 (55.8)	
More than 9 years	68 (44.4)	5 (50.0)	9 (40.9)		23 (18.3)	3 (18.8)	4 (9.3)	
Ethnicity								
White	100 (65.4)	7 (70.0)	11 (50.0)	0.38	98 (77.8)	13 (81.3)	30 (69.8)	0.19
Black	11 (7.2)	0 (0.0)	4 (18.2)		4 (3.2)	0 (0.0)	3 (7.0)	
Brown	41 (26.8)	2 (20.0)	7 (31.8)		23 (18.3)	2 (12.5)	7 (16.3)	
Yellow	0 (0.0)	1 (10.0)	0 (0.0)		1 (0.8)	0 (0.0)	2 (4.7)	
Red	1 (0.7)	0 (0.0)	0 (0.0)		0 (0.0)	1 (6.3)	1 (2.3)	
Religion								
Catholic	81 (52.9)	3 (30.0)	12 (54.5)	0.51	83 (65.9)	9 (56.3)	27 (62.8)	0.86
Evangelical	56 (36.6)	4 (40.0)	10 (45.5)		32 (25.4)	4 (25.0)	10 (23.3)	
Spiritist	2 (1.3)	1 (10.0)	0 (0.0)		2 (1.6)	2 (12.5)	3 (7.0)	
Other	1 (0.7)	0 (0.0)	0 (0.0)		1 (0.8)	1 (6.3)	3 (7.0)	
Not declared	13 (8.5)	2 (20.0)	0 (0.0)		8 (6.3)	0 (0.0)	0 (0.0)	
Housing situation								
Alone	13 (8.5)	1 (10.0)	2 (9.1)	0.89	34 (27.0)	4 (25.0)	8 (18.6)	0.28
Family	140 (91.5)	9 (90.0)	20 (90.9)		92 (73.0)	12 (75.0)	35 (81.4)	
Socioeconomic class								
A-B	34 (22.2)	3 (30.0)	3 (13.6)	0.37	21 (16.7)	4 (25.0)	6 (14.0)	0.46
C	93 (60.8)	5 (50.0)	14 (63.6)		69 (54.8)	6 (37.5)	22 (51.2)	
D-E	26 (17.0)	2 (20.0)	5 (22.7)		36 (28.6)	6 (37.5)	15 (34.9)	
SAH								
No	124 (81.0)	6 (60.0)	4 (18.2)	<0.001*	63 (50.0)	4 (25.0)	7 (16.3)	<0.001*
Yes	29 (19.0)	4 (40.0)	18 (81.8)		63 (50.0)	12 (75.0)	36 (83.7)	
DM								
No	146 (95.4)	0 (0.0)	20 (90.9)	0.002*	100 (79.4)	0 (0.0)	35 (81.4)	0.38
Yes	7 (4.6)	10 (100.0)	2 (9.1)		26 (20.6)	16 (100.0)	8 (18.6)	

n = number of participants; GSR = general diet without restriction; GDM = general diet for glycemic control; GHSS = general low-sodium diet. **p*-value ≤ 0.05 indicates significant association with the type of diet prescribed by the chi-square test.

Table 2. Comparison of age groups among participant groups (N = 370) by prescribed diet. Marília, SP, 2019.

	Prescribed diet									<i>p-value</i>
	GSR (n = 279)			GDM (n = 26)			GHSS (n = 65)			
	25 th	Med.	75 th	25 th	Med.	75 th	25 th	Med.	75 th	
Age (years)	38.0	54.0	66.0	49.8	60.0	65.5	56.0	63.0*	73.5	<0.001**

Values expressed as median and interquartile range (1st quartile 25th and 3rd quartile 75th).

n = number of participants; GSR = general diet without restriction; GDM = general diet for glycemic control; GHSS = general low-sodium diet; * p-value ≤0.05 indicates significant difference between groups by Kruskal-Wallis test; ** p-value ≤0.05 indicates significant difference compared to the GSR group by Mann-Whitney test with Holm-Sidak post-hoc correction.

Table 3. List of the main diagnoses of the interviewed individuals, adults and older adults, categorized according to ICD-10. Marília, SP, 2019.

Chapters	Diseases	Adult <i>f</i> (%)	Older adult <i>f</i> (%)
I	Some infectious and parasitic diseases	3 (1.6)	1 (0.5)
II	Neoplasms [tumors]	12 (6.5)	19 (10.3)
III	Diseases of the blood and Hematopoietic organs and certain disorders involving the immune mechanism	3 (1.6)	3 (1.6)
IV	Endocrine, nutritional, and metabolic diseases	4 (2.2)	10 (5.4)
V	Mental and behavioral disorders	1 (0.5)	1 (0.5)
VI	Diseases of the nervous system	1 (0.5)	2 (1.1)
VII	Diseases of the eye and adnexa	3 (1.6)	1 (0.5)
IX	Diseases of the circulatory system	42 (22.7)	49 (26.5)
X	Diseases of the respiratory system	15 (8.1)	16 (8.6)
XI	Diseases of the digestive system	13 (7.0)	15 (8.1)
XII	Diseases of the skin and subcutaneous tissue	12 (6.4)	7 (3.8)
XII	Diseases of the musculoskeletal system and connective tissue	8 (4.3)	9 (4.9)
XIV	Diseases of the genitourinary system	11 (5.9)	14 (7.6)
XVIII	Symptoms, signs, and abnormal clinical and laboratory findings, not elsewhere classified	6 (3.2)	0 (0.0)
XIX	Injuries, poisoning, and certain other consequences of external causes	52 (28.1)	35 (18.9)
XX	External causes of morbidity and mortality	0 (0.0)	3 (1.6)

Values expressed in absolute frequency (N) and relative frequency (%).

Overall, the perception of the quality of hospital diet was positive among participants, regardless of the prescribed diet type, with the majority being rated as Good/Excellent (Table 4). Among adults, 82.7% received the GSR diet, 5.4% received the GDM diet, and 11.8% received the GHSS diet, while among older adults, 68.1% received the GSR diet, 8.6% received the GDM diet, and 23.2% received the GHSS diet.

The quantity of the meal offered was evaluated as Poor/Fair by 13.7% of adults with the GSR diet and 27.3% of those with the GHSS diet, as they considered it to be small. Among older adults, 18.3% of participants with the GSR diet and 25.0% of those with the GDM diet also expressed dissatisfaction with the quantity, but considered it to be excessive. On the other hand, the appearance and temperature of the preparations were evaluated as Good/Excellent by

the majority of participants, regardless of age. These categories did not show a significant association with the prescribed diet (Table 4).

Participants' perception regarding meal timing, hygiene, and the possibility of substitutions also did not show a significant association with the diet. However, for older adults, the taste of the hospital diet category was significantly associated with the prescribed diet. Thus, the perception of older adults about the taste of GHSS and GDM diets was negative for 30.2% and 25.0% of participants, respectively. For adults, 27.3% of participants receiving the GHSS

diet and 20.0% of those with the GDM diet also reported dissatisfaction with the taste of the meals. However, in this group, there was no significant association with the diet (Table 4).

The data also showed that the type of diet did not significantly affect the appetite and salivation of the participants. However, the assessment regarding the desire to eat during hospitalization showed that 37.9% of adults without any dietary restrictions perceived their appetite as reasonable. Among older adults, 35.7% of those receiving the GSR diet also considered their appetite as reasonable (Table 5).

Table 4. Analysis of absolute frequency (f) and relative frequency (%) distribution of categories of perception of hospital food regarding the prescribed diet type among participating adults and older adults. Marília, SP, 2019.

Categories	Adult			p-value	Older adult			p-value
	GSR (n = 153)	GDM (n = 10)	GHSS (n = 22)		GSR (n = 126)	GDM (n = 16)	GHSS (n = 43)	
Appearance								
Poor/Fair	8 (5.2)	1 (10.0)	2 (9.1)	0.405	6 (4.8)	1 (6.3)	2 (4.7)	0.998
Good/Excellent	145 (94.8)	9 (90.0)	20 (90.9)		120 (95.2)	15 (93.8)	41 (95.3)	
Quantity								
Poor/Fair	21 (13.7)	1 (10.0)	6 (27.3)	0.139	23 (18.3)	4 (25.0)	5 (11.6)	0.403
Good/Excellent	132 (86.3)	9 (90.0)	16 (72.7)		103 (81.7)	12 (75.0)	38 (88.4)	
Temperature								
Poor/Fair	17 (11.1)	0 (0.0)	1 (4.5)	0.227	13 (10.3)	1 (6.3)	5 (11.6)	0.881
Good/Excellent	136 (88.9)	10 (100.0)	21 (95.5)		113 (89.7)	15 (93.8)	38 (88.4)	
Taste								
Poor/Fair	24 (15.7)	2 (20.0)	6 (27.3)	0.175	21 (16.7)	4 (25.0)	13 (30.2)	0.050*
Good/Excellent	129 (84.3)	8 (80.0)	16 (72.7)		105 (83.3)	12 (75.0)	30 (69.8)	
Meal timing								
Poor/Fair	21 (13.7)	4 (40.0)	3 (13.6)	0.575	6 (4.8)	2 (12.5)	2 (4.7)	0.872
Good/Excellent	132 (86.3)	6 (60.0)	19 (86.4)		120 (95.2)	14 (87.5)	41 (95.3)	
Hygiene								
Poor/Fair	1 (0.7)	0 (0.0)	0 (0.0)	0.662	0 (0.0)	0 (0.0)	0 (0.0)	-
Good/Excellent	152 (99.3)	10 (100.0)	22 (100.0)		126 (100.0)	16 (100.0)	43 (100.0)	
Substitution								
Poor/Fair	67 (43.8)	6 (60.0)	9 (40.9)	0.998	36 (28.6)	5 (31.3)	9 (20.9)	0.372
Good/Excellent	86 (56.2)	4 (40.0)	13 (59.1)		90 (71.4)	11 (68.8)	34 (79.1)	

n = number of participants; GSR = general diet without restriction; GDM = general diet for glycemic control; GHSS = general low-sodium diet. *p-value ≤ 0.05 indicates significant association with the type of prescribed diet by the chi-square test.

Table 5. Analysis of absolute frequency (f) and relative frequency (%) distribution of appetite and salivation categories by prescribed diet type among participating adults and older adults. Marília, SP, 2019.

Categories	Adult			<i>p-value</i>	Older adult			<i>p-value</i>
	GSR (n = 153)	GDM (n = 10)	GHS (n = 22)		GSR (n = 126)	GDM (n = 16)	GHSS (n = 43)	
Appetite	<i>f</i> (%)	<i>f</i> (%)	<i>f</i> (%)		<i>f</i> (%)	<i>f</i> (%)	<i>f</i> (%)	
Poor	8 (5.2)	0 (0.0)	1 (4.5)	0.277	9 (7.1)	1 (6.3)	2 (4.7)	0.261
Reasonable	58 (37.9)	3 (30.0)	6 (27.3)		45 (35.7)	6 (37.5)	12 (27.9)	
Preserved	87 (56.9)	7 (70.0)	15 (68.2)		72 (57.1)	9 (56.3)	29 (67.4)	
Salivation	<i>f</i> (%)	<i>f</i> (%)	<i>f</i> (%)		<i>f</i> (%)	<i>f</i> (%)	<i>f</i> (%)	
Reduced	35 (32.7)	1 (12.5)	7 (41.2)	0.750	37 (40.7)	3 (33.3)	12 (46.2)	0.686
Increased	3 (2.8)	1 (12.5)	0 (0.0)		0 (0.0)	0 (0.0)	0 (0.0)	
Maintained	69 (64.5)	6 (75.0)	10 (58.8)		54 (59.3)	6 (66.7)	14 (53.8)	

n = number of participants; GSR = general diet without restriction; GDM = general diet for glycemic control; GHSS = general low-sodium diet.

From the qualitative analysis of participants' testimonials, categorized by the prescribed diet type, three thematic categories were defined:

Hospital Diet for Health Improvement

Regardless of the prescribed diet and age, participants associated the hospital diet as necessary for health recovery, characterizing it as a supervised meal distinct from what they consumed at home:

"It is food for us to become strong, strengthened [...]" (Older Adult, GHSS).

"A meal that sustains the patient [...]" (Adult, GHSS).

Participants also mentioned that meal times are always respected in the hospital, being important for proper recovery:

"To eat better, because at home we don't do that, lunch, coffee, no, I don't do it, the times correct" (Adult, GSR).

In individuals prescribed with restrictive diets, it was evident that the main difficulty is the lack of salt in the meal. This fact was highlighted among older adults with GHSS diet and even with GSR when compared to adults with the same diets:

"... but for me, it doesn't work, the lack of salt, I can't eat" (Older Adult, GHSS).

"I thought it was more seasoned [...] it's not bad, the matter is the salt" (Adult, GHSS).

The Mythification of Hospital Diet

Among adults and older individuals, regardless of the received diet, recurring testimonials brought deep-seated prejudices about hospital diet, qualifying it as bad, tasteless, and bland. However, with the experience of the meal, there was a deconstruction of this stigma:

"I've heard it's bad, that it's hospital food, I've always eaten here in the clinics, it's always been tasty" (Older Adult, GHSS).

Other reports brought the perception that in the past hospitals offered food that did not add nutritional value to the patient, but that currently there is supervision by nutritionists, which ensures higher quality meals:

"The nutritionist will see what people need [...] vegetables, because there's a lot of chayote, for those who need to be hospitalized, it's good" (Adult, GSR).

Economic status and religiosity also emerged in the testimonials, especially among older individuals, who value the food received:

"Sometimes we talk about the food, but for me, food is sacred" (Older Adult, GDM).

(Dis)knowledge regarding the prescribed diet

Some adults and older individuals were aware of the diet they were receiving, especially the groups with GHSS and GDM diets:

"Because you can't eat salt, otherwise the blood pressure goes up" (Older Adult, GHSS).

"Because I have high diabetes, it needs to be controlled, sometimes it's high, sometimes it's okay, but it won't go down" (Adult, GDM).

Others did not have discernment about the prescribed diet or their health condition:

"I don't know, to me it's coming as usual, I also don't like to eat salty food" (Older Adult, GHSS).

The lack of knowledge and the scarcity of access to health information worsen in participants with a misconceived view of their illness and a lack of understanding of how to control its consequences in their daily lives:

"The doctor didn't say anything, a little salt because of diabetes, what's that? I don't know. The doctor said I can't eat too much salt; said I can't eat "ajinomoto" (monosodium glutamate). "Ajinomoto" doesn't have any salt, right? I use Shoyu (soy sauce) more on salads, just some" (Older Adult, GHSS).

DISCUSSION

The data showed that regardless of age and prescribed diet, participants positively evaluated the meals received during hospitalization. However, the negative perception of the diet's taste was significantly associated with restrictive diets among older individuals. It could be inferred that participants understand the importance of hospital diet as a means of health recovery, but the prejudiced view of the meal is still noticeable.

Indeed, categories such as the appearance, quantity, and temperature of the meal, hygiene of the nutrition service, possibility of substitutions, and meal times were well received. Furthermore, patients acknowledged that the hospital adheres strictly to dietary prescriptions and schedules. Although there was no significant association between age group and prescribed diet for these categories, the proportion of the Poor/Fair satisfaction level for some of them deserves attention. The substitution category showed proportions of 40 to 60% of Poor/Fair satisfaction among adults and 20 to 31% among older individuals, especially for patients with the GDM diet. The quantity, taste, and timing categories also showed percentages of Poor/Fair satisfaction among adults that deserve attention, especially the quantity and taste of the GHSS diet and the timing of the GDM diet. For older individuals, the most impactful percentages of Poor/Fair satisfaction were the taste in the GHSS diet and the quantity and timing in the GDM diet.

The data regarding meal quantity corroborate with the qualitative analysis, where patient dissatisfaction with the portion served was observed. Older patients considered this quantity to be excessive, expressing indignation at wasting food. Conversely, for several adults, the quantity was insufficient to feel satiated.

Considering that taste was the only category that showed a significant association with the prescribed diet, but only for older individuals, it was indeed found that restrictive diets interfere with the overall perception of the older person about the diet offered in the hospital and in the pleasure of eating.

Older individuals showed a higher proportion of prescription for GDM and GHSS diets. This

occurrence is related to the prevalence of DM and hypertension among older people. These chronic diseases require specific dietary intervention, especially in the hospital environment, as they are strongly related to inadequate dietary behaviors throughout life²³⁻²⁵.

In older population, lifestyle habits involving sedentary behavior, alcoholism, smoking, and inappropriate dietary routines, as well as the fact that older individuals sometimes live alone and have difficulty cooking, reflect greater difficulty in modifying dietary behavior. Thus, when faced with hospitalization and a strict nutritional therapy for disease control, they feel the difference in the food served^{23,24}. Furthermore, aging itself imposes limitations on older individuals that compromise their nutrition^{10,13}, especially when associated with NCDs. Regarding taste, studies associate aging with a decline in the ability to detect basic flavors when compared to adults²⁵⁻²⁷. Therefore, it is inferred that if older individuals have dietary habits for sodium and/or glycemic control in the home environment, their perception of the taste of hospital food could be more satisfactory.

The findings reinforce the relevance of public health research that seeks different approaches to hospital diets for older adults, including health promotion measures and prevention of health complications, consequently reducing hospitalizations. However, it is emphasized that the greater effectiveness of health actions for a population that is aging depends on nutritional education starting early in life. This education should be maintained over the years as a lifelong learning process, considering that part of the NCDs arise from or present complications due to inadequate nutrition, either due to lack of knowledge or the individual's lifestyle habits.

In the current state, improvements are already being made in technologies such as the development of tools to identify the most suitable nutritional therapy for older adults, considering that this demographic requires accessible and appropriate communication, often overlooked²⁸. There are also studies highlighting the importance of a specialized

menu for older adults, considering their sensory losses that interfere with food choices, aiming to minimize interference in social interactions²⁹ and their health. Thus, improving the acceptance, especially of restrictive diets. However, ensuring quality, nutritionally safe nutrition is directly related to the training of involved staff, in addition to the supervision of the nutritionist at every stage of meal production. This specialized form of supervision has brought higher standards to hospital food and nutrition services, prompting individuals to reconsider their opinion about meals, often regarded as inadequate.

The appetite and salivation of participants during hospitalization were also evaluated, with no significant association found regarding age and diet. Although the majority of participants considered their appetite and salivation preserved, others reported having reasonable appetite and reduced salivation. Especially for older population, the relationship between declining taste sensitivity and food intake is not very clear. However, it is known that there is a reduction in salivary flow, which can affect saliva production^{31,32}. Thus, the preparation of the diet, its presentation, and clearer, illustrative instructions with accessible vocabulary for this audience about the importance of consuming what has been prescribed are potential enhancers for food acceptance. The entire multidisciplinary team involved in hospital care for older adults should be part of this process, with the nutritionist serving as a facilitator in this dialogue.

In the testimonials, it was observed that both age groups have the same perception of hospital diets regarding their importance and significance for health. Additionally, they acknowledged that meal times serve as a standard to be followed at home. They recognized that this diet is essential for health recovery and is part of the treatment. More than adults, older adults value the offered food and even attribute a sacred value to it. The reports also showed, corroborating with the quantitative data, that the most significant interfering factor for older adults is the taste of meals, especially with a low-sodium diet. Such data reinforce the difficulty of older adults in accepting hospital diets, which can negatively influence their health and well-being

recovery. Since the individual's nutritional status is directly associated with the recovery process, a low food intake during hospitalization can lead to malnutrition, which, due to factors associated with aging itself, can present a more abrupt condition⁴.

It became evident that hospital diet, even in present days, is mystified by the population as being tasteless, bland, cold, and only offering soups. However, it was noticed that it is after tasting it that the ingrained perception in society changes. Therefore, it is relevant to plan actions to improve the acceptance of hospital diets, aiming to add greater satisfaction and enjoyment to meals, thus becoming an important tool in patients' recovery.

It was also evident that the majority of participants have knowledge about the diet they received and their health condition. On the other hand, others did not understand their current illness and treatment, reinforcing the importance of health education interventions during hospitalizations.

Although this study provides representation of a significant contingent of hospitalized individuals in a hospital in the interior of São Paulo, its limitation relates to the diversity of dietary cultures and hospital services found in Brazil, which may determine different feeding experiences. In other regions of the country, new outcomes regarding the perception of hospital diet quality, especially among older adults, may be encountered.

CONCLUSION

Regardless of the diet, older adults and hospitalized adults consider the quality of hospital food satisfactory, except for the taste, which showed a significant association with the diet received, particularly among older adults. The quantity, timing, and substitution of the diet, although not significant, presented percentages of Poor/Fair perception that indicate the need for intervention to contribute to greater adherence to dietary therapy.

The reports from hospitalized participants reinforce their dietary habits, which represent barriers to nutritional therapy and exacerbate cardiovascular diseases. The excessive use of salt in homemade meals stands out, a factor that may be associated with the profile of the studied population, which is often characterized by low levels of education and income. This highlights the even greater necessity for nutritional education.

This study advances by providing evidence regarding the unique aspects of hospital diets for older population, with or without dietary restrictions. It aims to support strategies aimed at improving the quality, adequacy, and acceptance of the food offered, thereby contributing to the nutrition of hospitalized older adults and, consequently, to the recovery process and reduction of hospitalization time.

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AUTHORSHIP

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- Eduardo Federighi Baisi Chagas - Design, analysis, and interpretation of quantitative data.
- Joyce Fernanda Soares Albino Ghezzi - Writing and revision of the paper; approval of the version to be published.
- Maria Angélica Spadella - Responsible for all aspects of the work, ensuring the accuracy or integrity of any part of the manuscript.

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