THE ASSOCIATION OF FOOD FLAVOR AND APPEARANCE WITH FOOD WASTE IN HOSPITALIZED PATIENTS AT NGIMBANG LAMONGAN HOSPITAL

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ABSTRACT

Food waste at Ngimbang Lamongan Regional Hospital during the first semester of 2022 exceeded 20%, with the highest food waste was in May at 29.12%. Meanwhile, the results of a preliminary study in 2024 showed food waste in May was 23.04%, June 24.34%, and July 24.46%. The purpose of this study was to analyze the relationship between flavor and appearance of food and food waste among inpatients at Ngimbang Lamongan Hospital. This study used a cross-sectional approach and was conducted at Ngimbang Lamongan Hospital in August 2024 and October 2024. A total of 96 respondents were selected through purposive sampling. Data on food flavor and appearance collected through interview, while food waste measured using a visual Comstock form. Over a 10-day menu cycle, food waste average was 29.48%, with 60.42% of respondents reporting food waste exceeding 20%. The highest food waste occurred during lunch (32.36%), while staple foods being the most waste category (37.90%). The results of Chi-square test indicated that the most components of food flavor and appearance had a significant relationship with food waste (p-value <0.05). Specifically, food flavor attributes (aroma, seasoning, cooking level of the food, temperature, and texture of food) and appearance factors (color, shape, and presentation of food) were significantly associated with food waste, while portion size showed no significant relationship.

Keywords*: Food appearance, food flavor, food waste, hospital, hospitalized patients*

INTRODUCTION

Food waste can be an indicator of the success of food delivery in hospitals if food waste is ≤ 20% (Wayansari et al., 2018). The presence of food waste can affect patient's inadequate nutritional intake and showing the amount of wasted food cost, so that it is less efficient (Wahyuani, 2017). The research conducted at RSI Ibnu Sina Kota Padang showed that the average cost of food waste over a 10-days cycle with 42 respondents was Rp 108,250. This is happened because, at the time of serving, the food temperature was cold, making the food less visually appealing (Ningsih, 2022).

Factors led to food waste consisted of internal factors such as age, gender, illness suffered, length of treatment, and eating habits of patient at home (Christiwan et al., 2022). External factors such as food flavor, appearance, meal schedule distribution, food outside the hospital, and timeliness of food service can cause food waste in hospitals (Widi et al., 2020).

Food flavor and appearance are two of the factors outside the patient that can affect food waste in hospital. Flavor is one of the properties from food, drinks, and seasonings that is difficult to assess because its subjectivity, so it can affect food waste. If respondents assess the flavor of food as not good, respondents tend to not eat and leave the food. Research conducted on inpatients at Kendari City Hospital who stated that the flavor of food was unsatisfactory had 85.7% food waste (Sulistiawati et al., 2021). Meanwhile, appearance of food is the first factor seen when food is served, thus influence patients to finish their food. If respondents consider appearance as unattractive, it affects patient's appetite in finishing the served food. Research conducted at Ibnu Sina Gresik Hospital states that the appearance of less attractive food affects the consumption of remain meals (p = 0.02) (Amalia, 2020). This research needs to be further investigated due to the correlation between taste and appearance of food,

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such as components of taste (aroma, seasoning, cooking level of the food, temperature, and texture of food) and components of food appearance (color, shape, portion, and presentation of food). The data is important to improve the quality of nutritional services in hospital.

One of the hospital that has an incidence of high food waste is Ngimbang Lamongan Hospital where during the first semester of 2022 the food waste already exceeding 20% with the highest food waste in May at 29.12% (Setyawan et al., 2023). Based on the research results, the factor that influenced food waste was food from outside the hospital that match patients' taste preferences. But other factors such as taste and appearance of the food were not studied. In addition, the results of the preliminary study in the last 3 months of food waste still exceeded 20%, namely in May 23.04%, June 24.34%, and July 24.46%. Therefore, researchers need to examine and analyze the factors of food waste, especially regarding the relationship between flavor and appearance of food with the incidence of food waste in inpatients at Ngimbang Lamongan Hospital.

METHODS

The design of this study is quantitative research using analytical observational method and using cross-sectional approach conducted in Ngimbang Lamongan Hospital, Lamongan Regency, East Java from August – October 2024. The population in this study were class II and class III inpatients. The subjects was taken using the purposive sampling technique by calculating the subjects and obtaining the calculation results of as many as 96 people. The subjects used in this study were patients who met the inclusion and exclusion criteria. The inclusion criteria are 1) Willing to join the study by signed the informed consent, 2) Hospitalized and following treatment and medication at hospital for at least 1 day and obtain three meals, including breakfast, lunch, and dinner, 3) Patients who get regular and soft textured food, and 4) Aged between 19-55 years. While the exclusion criteria include 1) Patient with special diets (include liquid food diet), 2) Having olfactory sensory disturbances during hospitalized and directly asked during the interview, and 3) Patients with dietary changes as seen on the meal receipts provided by nutritionist.

The independent variables in this study are food flavor (aroma, seasoning, cooking level of the food, temperature, and food texture) and food appearance (color, shape, portion, and food presentation). The dependent variable in this study is food waste.

Food flavor variables consist of components such as aroma, seasoning, cooking level of the food, temperature, and texture, which measured using questionnaires. The aroma aspect of food is categorized as not good and good (Purwita et al., 2023); the seasoning aspect is categorized as not delicious and delicious; the temperature aspect is categorized as cold and warm/hot (Sumardilah, 2022); level of cooking doneness aspect is categorized as well-cooked and undercooked; and the texture aspect is categorized as improper and proper. Data on the taste and appearance of food collected after the collection of data on food waste. This is done because the researchers want to know the patients' leftover food first, then confirm the reasons for leaving the leftover food using questionnaire.

The variable of food appearance is the respondent's assessment of food appearance based on color, shape, portion, and presentation, measured using questionnaire. The components of color, shape, and presentation of food are categorized as not interesting and interesting (Hartati et al., 2022); while the portion of food is categorized as large and small portion (Sumardilah, 2022). In this study, the portion of food is considered small if, during the interview, the respondents do not have leftover food or have only a small amount of leftover food but still feel insufficient, whereas it is considered large if the respondents have a lot of leftover food.

Food waste is food that has been prepared and distributed to patients such as staple foods, animal side dishes, vegetable side dishes, and vegetables but is not eaten up which is measured for one day with three meals using the visual Comstock method with a scale of 0 (finished) given a value of 5, scale 1 (remaining ¼ portion) given a value of 4, scale 2 (remaining ½ portion) given a value of 3, scale 3 (remaining ¾ portion) given a value of 2, scale 4 (only flavour) given a value of 1,

and scale 5 (whole / not eaten) given a value of 0. Then the value is totaled and calculated by the formula total value divided by the number of menus multiplied by 5 and multiplied by 100%, where if the remaining food is ≤ 20% then the food is categorized as not leftover, while if the remaining food is > 20% then the food categorized as leftover (Wayansari et al., 2018). The collection of food waste data was conducted over 1 menu cycle (10 days) with 3 meal times, where breakfast leftovers were collected from 09:00 to 10:00, lunch leftovers from 14:00 to 14:30, and dinner leftovers from 06:00 to 06:30.

Data analysis in this study used univariate analysis to describe the frequency of respondent characteristics, food waste, flavor, and appearance of food. Bivariate analysis uses statistical analysis of Chi-square test with the help of SPSS version 25 program to determine the relationship between variables. Where if the p-value <0.05, then there is a significant relationship between variables, and if the p-value >0.05, then categorized as no significant relationship. The ethical clearance test in this study carried out at the Health Research Ethics Committee, Faculty of Dentistry, University of Jember, which has approved with ethical certificate number 2619/UN25.8/KEPK/DL/2024.

RESULTS AND DISCUSSION

The following table showed the characteristics of patients at Ngimbang Lamongan Hospital.

Based on Table 1, it was showed that of the 96 respondents, the majority were aged 18-29 years, with as many as 37 respondents (38.54%). The gender of the majority of respondents was female, with as many as 62 respondents (64.58%). The majority of respondents were given a diet, as many as 67 respondents (69.79%).

Food waste data in this study was measured using visual Comstock method, which was carried out for 1 menu cycle (10 days) with three meals, namely morning, afternoon, and evening meals. The following showed the distribution of food waste inpatient meals at Ngimbang Lamongan Hospital.

Table 2 showed that 58 respondents (60,42%) left food scraps of more than 20%. Calculation of food waste can also be used to determine food waste in each cycle based on meal times. Following was the results of food waste distribution based on meal times. Based on meal times, the highest average food waste at lunchtime was 32.36%. In addition, the calculation of food waste can also be used to determine food waste per type of food. Table 3 shows the results of the highest average food waste based on food found in staple foods with a percentage of 37.90%.

Indicators for evaluating food organization activities can be known through the rest of the patient's food, where when the remaining food is less than or equal to 20%, the organization of

Table 1. Distribution of Characteristics of Inpatients at Ngimbang Hospital

Characteristics	n (96)	(%)
Age		
18 – 29 years	37	38.54
30 – 49 years	35	36.46
50 – 55 years	24	25.00
Gender		
Male	34	35.42
Female	62	64.58
Diet type		
Non diet	29	30.21
Diet	67	69.79
Room		
Bougenville	31	32.30
Flamboyan	34	35.40
Anggrek	31	32.30

Table 2. Food Waste Distribution

Distribution	n	Persentase (%)
Food Waste		
No remaining (≤ 20%)	38	39,58
Remaining (> 20%)	58	60.42
Total	**96**	**100**
Meal time		
Morning		28.43
Afternon		32.36
Night		27.66
Average		**29.48**
Type of food		
Staple food		37.90
Animal side dishes		19.15
Vegetable side dishes		26.92
Vegetable		34.97
Total		**100**

Table 3. Relationship between food flavor and food waste

Food Flavor		Food Waste						p-value	OR (95% CI)
		No Remaining (≤ 20%)		Remaining (> 20%)		Total			
		n	%	n	%	n (96)	%		
Food Aroma									
Staple food	Good	45	58.44	32	41.56	77	100	<0.001*	10.17
	Not good	2	10.53	17	89.47	19	100		(4.42-23.37)
Animal dish	Good	46	57.50	34	42.50	80	100	<0.001*	20.29
	Not good	1	6.25	15	93.75	16	100		(6.14-67.14)
Vegetable dish	Good	44	61.97	27	38.03	71	100	<0.001*	11.95
	Not good	3	12.00	22	88.00	25	100		(5.65-25.28)
Vegetable	Good	43	63.24	25	36.76	68	100	<0.001*	9.71
	Not good	4	14.29	24	85.71	28	100		(5.04-18.71)
Food Seasoning									
Staple food	Delicious	45	57.69	33	42.70	78	100	<0.001*	9.00
	Not delicious	2	11.11	16	87.00	18	100		(3.90-20.74)
Animal dish	Delicious	46	59.74	31	40.26	77	100	<0.001*	19.31
	Not delicious	1	5.26	18	94.74	19	100		(6.76-55.17)
Vegetable dish	Delicious	42	60.87	27	39.13	69	100	<0.001*	6.54
	Not delicious	5	18.52	22	81.48	27	100		(3.54-12.08)
Vegetable	Delicious	39	60.00	26	40.00	65	100	<0.001*	5.51
	Not delicious	8	25.81	23	74.19	31	100		(3.19-9.51)
Cooking Level of The Food									
Staple food	Well-cooked	44	50.00	44	50.00	88	100	0.326	-
	Undercooked	3	37.50	5	62.50	8	100		
Animal dish	Well-cooked	45	51.14	43	48.86	88	100	0.010*	3.56
	Undercooked	2	25.00	6	75.00	8	100		(1.28-9.92)
Vegetable dish	Well-cooked	42	48.84	44	51.16	86	100	0.791	-
	Undercooked	5	50.00	5	50.00	10	100		
Vegetable	Well-cooked	40	53.33	35	46.67	75	100	0.005*	2.29
	Undercooked	7	33.33	14	66.67	21	100		(1.27-4.10)
Food Temperature									
Staple food	Hot/warm	42	51.22	40	48.78	82	100	0.045*	1.98
	Cold	5	35.71	9	64.29	14	100		(1.00-3.88)
Animal dish	Hot/warm	21	61.76	13	38.24	34	100	0.001*	2.32
	Cold	26	41.94	36	58.06	62	100		(1.41-3.81)
Vegetable dish	Hot/warm	17	60.71	11	39.29	28	100	0.015*	1.90
	Cold	30	44.12	38	55.88	68	100		(1.13-3.19)
Vegetable	Hot/warm	36	52.94	32	47.06	68	100	0.033*	1.76
	Cold	11	39.29	17	60.71	28	100		(1.04-2.96)
Food Texture									
Staple food	Proper	43	52.44	39	47.56	82	100	0.012*	2.42
	Improper	4	28.57	10	71.43	14	100		(1.20-4.88)
Animal dish	Proper	45	51.72	42	48.28	87	100	0.002*	4.28
	Improper	2	22.22	7	77.78	9	100		(1.56-11.75)
Vegetable dish	Proper	41	50.00	41	50.00	82	100	0.497	-
	Improper	6	42.86	8	57.14	14	100		
Vegetable	Proper	41	54.67	34	45.33	75	100	0.001*	2.74
	Improper	6	28.57	15	71.43	21	100		(1.51-4.99)

Note: *significant at p <0.05

food in the hospital can be said to be successful (Amalia, 2020). The results of the research showed that the average food waste was 29.48%. This research is in line with research conducted on inpatients at Gambiran Hospital, Kediri City, which has a total average of food waste 23% (Dewi & Ruhana, 2023). Based on the type of food with the highest food waste in the 8th menu cycle, namely staple foods with a percentage of 77.78%. In line with research, most of the remaining food is in staple foods and vegetables with a percentage range between 30-45% (Lironika & Suryadi, 2019).

The finding results of the chi-square test analysis of food flavor components according to food type were as follows.

Food aroma occurs because there are volatile compounds that can stimulate the sense of smell so that it provides a strong attraction and increases appetite (Nita et al., 2020). Analysis of food aroma revealed there were respondents who rated the aroma of the food as delicious but still had leftover food, specifically on animal-based dishes, with 34 respondents (42.50%). This indicates that leftover food from respondents who rated the aroma of the food as delicious was not directly consumed because they were not appetizing, and the food no longer had a pleasant aroma, leading to a decreased appetite and lack of interest in consuming it.

The results of the Chi-square test on food aroma showed a significant correlation between food waste and food aroma, with the p-value for all food kinds <0.05. In line with Oktaviani et al., (2023) at Teluk Kuantan Hospital, which showed a significant correlated between food aroma and food waste (p = 0.016).

The use of seasonings during cooking will affect the aroma of food that is generated so that it gives a distinctive flavor to each dish that can arouse appetite (Rimporok et al., 2019). According to the results, there is a small difference among respondents who rated the food seasoning as tasty but still left some food uneaten compared to those who rated the food seasoning as not tasty. Specifically, in the vegetable menu, 26 respondents (40.0%) left some food uneaten. This is because patients who are ill cannot taste the food, which affects their acceptance of the seasoning in the food served.

The results of statistical analysis on food seasoning showed a significant relationship with food waste (p-value <0.05) in all types of food. In line with research by (Oktaviani et al., 2023) on patients at Teluk Kuantan Hospital, which shows there is a relationship between the flavor of food seasonings and food waste (p<0.001).

Level of food doneness is categorized as well-cooked or undercooked as the results in the type of food being cooked, where food has different levels of doneness (Oktaviani et al., 2023). Inappropriate doneness levels will affect the flavor of food (Dewi & Adriani, 2017). As stated by the result respondents of plant-based dishes were rated as having a good level of doneness, with 44 respondents (51.16%) still leave some food uneaten. This is because patients' sense of taste is not in normal condition and their acceptance of food's level of doneness is low, which affects the leftover food. According to (Thania et al., 2022), the food served to patients must be thoroughly cooked to kill the bacteria present in food ingredients.

The results of Chi-square analysis test showed a correlation between doneness level in animal side dishes (p = 0.010) and vegetables (p = 0.005) with food waste. In line with research Oktaviani et al., (2023) on patients at Teluk Kuantan Hospital, where statistical results showed p-value<0.001, which means there is a relationship between doneness level of the food and food waste.

The sensitivity of the stimuli in the sense of flavor in the assessment of food flavor will decrease when the food is excessively hot or cold, which might decrease hunger (Oktaviani et al., 2023). Based on the research results, 38 respondents (55.88%) rated the temperature of plant-based side dishes as cold and having leftover food > 20%. Some respondents did not eat the served food immediately, causing temperature to decrease and colder. In addition, the distance between kitchen and inpatient rooms at RSUD Ngimbang varies, with Anggrek room being the farthest from kitchen. This led respondents to receive food at Bougenville and Flamboyan wards with different temperatures.

As stated by Chi-square analysis on food temperature showed p = 0.045 for staple foods, p = 0.001 for animal dishes, p = 0.015 for vegetable

Table 4. Relationship between food appearance and food waste

Food Appearance		Food Waste						p-value	OR (95% CI)
		No remaining (≤ 20%)		Remaining (> 20%)		Total			
		n	%	n	%	n	%		
Food Color									
Staple food	Interesting	44	55.00	36	45.00	80	100	<0.001*	6.22
	Not interesting	3	18.75	13	81.25	16	100		(2.79-13.84)
Animal dish	Interesting	43	56.58	33	43.42	76	100	<0.001*	5.05
	Not interesting	4	20.00	16	80.00	20	100		(2.55-10.03)
Vegetable dish	Interesting	39	58.21	28	41.79	67	100	<0.001*	3.76
	Not interesting	8	27.59	21	72.41	29	100		(2.18-6.50)
Vegetable	Interesting	42	60.00	28	40.00	70	100	<0.001*	6.80
	Not interesting	5	19.23	21	80.77	26	100		(3.58-12.92)
Food Shape									
Staple food	Interesting	45	56.96	34	43.04	79	100	<0.001*	8.18
	Not interesting	2	11.76	15	88.24	17	100		(3.54-18.90)
Animal dish	Interesting	44	57.89	32	42.11	76	100	<0.001*	7.56
	Not interesting	3	15.00	17	85.00	20	100		(3.55-16.11)
Vegetable dish	Interesting	34	59.65	23	40.35	57	100	<0.001*	3.04
	Not interesting	13	33.33	26	66.67	39	100		(1.86-4.97)
Vegetable	Interesting	43	62.32	26	37.68	69	100	<0.001*	8.48
	Not interesting	4	14.81	23	85.19	27	100		(4.40-16.34)
Food Portion									
Staple food	Large	40	48.78	42	51.22	82	100	0.754	-
	Small	7	50.00	7	50.00	14	100		
Animal dish	Large	17	50.00	17	50.00	34	100	0.988	-
	Small	30	48.39	32	51.61	62	100		
Vegetable dish	Large	18	54.55	15	45.45	33	100	0.212	-
	Small	29	46.03	34	53.97	63	100		
Vegetable	Large	43	50.00	43	50.00	86	100	0.408	-
	Small	4	40.00	6	60.00	10	100		
Food Presentation									
Staple food	Interesting	45	55.56	36	44.44	81	100	<0.001*	8.13
	Not interesting	2	13.33	13	86.67	15	100		(3.32-19.90)
Animal dish	Interesting	43	56.58	33	43.42	76	100	<0.001*	5.73
	Not interesting	4	20.00	16	80.00	20	100		(2.83-11.60)
Vegetable dish	Interesting	37	58.73	26	41.27	63	100	<0.001*	3.27
	Not interesting	10	30.30	23	69.70	33	100		(1.95-5.49)
Vegetable	Interesting	45	60.81	29	39.19	74	100	<0.001*	15.52
	Not interesting	2	9.09	20	90.91	22	100		(6.43-37.46)

Note : *significant at p <0.05

dishes, and p = 0.033 for vegetables. This means there is a significant relationship between food temperature and food waste in all types of food. In line with research on food temperature in patients at Ahmad Yani Hospital, Metro City, that there is a significant correlation between food temperature and food waste (p = 0.048) (Sumardilah, 2022).

Food texture is related to the structure of food that can be well determined when in the mouth, such as hard, soft, chewy, liquid, smooth, rough, tender, and so on (Oktaviani et al., 2023). The results of the food texture study showed that respondents rated the animal protein dishes as tender but still left some food uneaten, with 42

respondents (48.28%). Based on interviews using questionnaires, the texture of the food is related to food waste because respondents rated the served food as not tender and still left some food uneaten, which affects patient's acceptance of food.

The results of Chi-square analysis test showed food texture variable in this study showed a p-value <0.05, which means a significant relationship between the texture of staple foods (p = 0.012), animal side dishes (p = 0.002), and vegetables (p = 0.001) with food waste. These results are in line with research at Teluk Kuantan Hospital showing that the results of statistical analysis obtained a p-value of <0.001, which means a significant relationship between food texture and food waste (Oktaviani et al., 2023).

The following were the results of the Chi-square test analysis of the food appearance component based on the kind of food.

The combination of color between food is very influential on the appearance of food because it can stimulate the nerves sight sense so that appetite increases (Dewi & Adriani, 2017). The results of the research on food color showed the color of the food in vegetable dishes and salads appealing but still leave some of uneaten items, specifically 26 respondents (37.68%). This is because plant-based dishes were considered unappealing and appeared pale. Research revealed that respondents who dislike the color of food do so because the color of the served food menu is brownish or looks pale (Nita et al., 2020).

The statistical analysis of Chi-square test showed a correlation between food color and food waste (p-value <0.05). According to studies at Mojowarno Cristian Hospital, there is a correlation between food waste and food color, as indicated by the p-value finding of 0.222 (Anggraeni et al., 2017).

The shape of food can make food more attractive with various shapes that can provide attractiveness to the food served (Hartati et al., 2022). Findings on the shape of food indicate that respondents found the shape of vegetables unappealing, with 26 respondents (37.68%) not finishing their meals. This is due to the processing of large portion, which done quickly without paying attention to the shape, such as carrots in some soup menu that appear to be cut into large pieces.

The results of statistical analysis test using Chi-square showed a relationship with food waste (p-value <0.05). In line with research on class III patients at Mojowarno Christian Hospital, it showed that there is a significant relationship between food form and the rest of the vegetable menu (p = 0.016) (Anggraini & Sholichah, 2023).

Food portion is the amount of food served in the hospital per meal. Each patient has a different portion of food; this is because the needs of each patient and eating habits at home are different (Habiba & Adriani, 2017). The size of food served portion can affect the attractiveness of patients eating dishes that have been served, which can cause food waste (Sumardilah, 2022). The research conducted on food portions showed 43 respondents (50.00%) considered the food portions served to be large, resulting in respondents not finishing the food served.

The results of statistical test analysis using Chi-square showed that the variable portion of food in this study showed no relationship with food waste (p-value >0.05). In line with research at the Jakarta Drug Dependence Hospital, the results show no correlation between meal portions and food waste (p = 0.690) (Puspitasari et al., 2023).

The last factor that affects the appearance of food is food presentation. As many as 33 respondents (43.42%) rated the food presentation provided by hospital as attractive, but they still left some food uneaten. This is because the food presentation at RSUD Ngimbang Lamongan in class III, which uses covered food boxes, is less appealing, making it difficult to know the menu being served inside the box. The presentation of food can affect its appearance because it is related to vision, which can enhance appetite (Anggraeni et al., 2017).

The results of statistical test analysis using Chi-square showed that the food presentation variable in this study had a relationship with food waste (p-value <0.05). In line with Sumardilah's (2022), which shows a p-value of 0.018, this indicates a significant relationship between hospital food presentation and food waste.

The limitation in this study is that the fruit and snack menu was not examined because it was only provided during lunch, and only a few patients received that menu. In addition, the researchers

did not study patients who received special diets, so the difference in food leftover between patients on regular diet and those on special diet could not be determined.

CONCLUSION

The average food waste of 96 respondents during one menu cycle (10 days) with three meals was 29.48%, whereas 58 respondents (60,42%) had food waste > 20%. The analysis results showed a significant relationship between flavor components of food and food waste, for all in aroma ($p < 0.05$ for all types of food), seasoning ($p < 0.05$ for every type of food), doneness level ($p = 0.010$ for animal dishes and $p = 0.005$ for vegetables), temperature ($p = 0.045$ for staple foods, $p = 0.001$ for animal dishes, $p = 0.015$ for vegetable dishes, and $p = 0.033$ for vegetables), and food texture ($p = 0.012$ for staple foods, $p = 0.002$ for animal dishes, and $p = 0.001$ for vegetables). Meanwhile, the results on food appearance showed a significant relationship between the components of color, shape, and presentation of food with food waste ($p < 0.05$ in all types of food). Meanwhile, the portion of food does not have a significant relationship with food waste ($p > 0.05$ for every type of food). Suggestions for further research include examining the differences in food waste based on the diet provided, the relationship between internal patient factors that may affect food waste, and the impact of food waste on the cost of wasted food.

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