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The Relationship of Accuracy of Food Presentation, Atmosphere, Appearance of Food, Outer Food, Taste, and Attitude of The Server with The Leftovers of Staple Foods in Regular and Soft Diet

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ABSTRACT

The effectiveness of food delivery and service programs can be seen in the patient's leftover food. If excess food is not taken into account and left continuously for a long time, it can impact the patient's nutritional status, which decreases. Malnutrition in patients is closely related to the incidence of food waste in hospitals. This research aims to determine the relationship between the timeliness of serving food, the perception of the atmosphere of the treatment environment, the appearance of food, food from the outside, the taste of food and the attitude of the serving staff with leftover staple foods of ordinary and soft diets. This research used a cross-sectional design carried out in several treatment rooms, namely the Mina room (Class I), Marwah (Class II), and Safa (Class III). The sample in this study was 34 samples. The study's results found a relationship between the appearance of food and food consumption from outside with the remaining staple foods. At the same time, there was no relationship between the timeliness of serving food, the atmosphere of the caring environment, the taste of the food and the attitude of the serving staff with the remaining staple foods. Two variables are related to the six variables studied.

Keywords: Regular Diet; Soft Diet; Staple food; Leftovers

ABSTRAK

Efektifitas program penyelenggaraan dan pelayanan makanan bisa dilihat berdasarkan persentase sisa makanan pasien. Jika sisa makanan tidak diperhatikan dan dibiarkan terus-menerus dalam jangka panjang maka bisa berdampak ke status gizi pasien yang semakin menurun. Kasus malnutrisi pada pasien sangat berkaitan dengan sisa makanan di rumah sakit dalam menentukan hubungan ketepatan waktu penyajian makanan, persepsi suasana lingkungan perawatan, penampilan makanan, makanan luar rumah sakit, rasa makanan dan sikap petugas penyaji dengan sisa makanan pokok diet biasa dan lunak. Desain yang digunakan pada penelitian ini adalah desain *cross sectional* dilakukan di RSUD Harapan dan Doa Bengkulu pada beberapa ruang perawatan yaitu ruang Mina (Kelas I), Marwah (Kelas II), Safa (Kelas III). Sampel pada penelitian ini

sebanyak 34 sampel dengan diagnosis medis berbeda dengan kriteria pasien yang mendapatkan diet makanan biasa dilakukan penelitian pada bulan februari 2023. Analisis yang digunakan Fisher exact. Hasil penelitian didapatkan bahwa ada hubungan penampilan makanan dan konsumsi makanan dari luar dengan sisa makanan pokok sedangkan tidak ada hubungan ketepatan waktu pemberian makanan, suasana lingkungan perawatan, rasa makanan dan sikap petugas penyaji dengan sisa makanan pokok. Terdapat dua variabel yang berhubungan dari enam variabel yang diteliti.

Kata Kunci: *Diet Biasa; Diet Lunak ; Makanan Pokok; Sisa Makanan*

INTRODUCTION

Hospitals try to improve patient nutrition to achieve optimal health status when sick. Hospital nutrition services include outpatient nutrition, inpatient nutrition, food management, and nutrition research and development (Indonesian Ministry of Health, 2013).

An appropriate diet is provided to achieve optimal nutritional status, which is one of the targets of nutritional services, with activities ranging from menu planning to food distribution to patients. Food waste indicates the effectiveness of patient food delivery and service programs (Indonesian Nutritionists Association, 2019). The need to pay attention to food waste continuously over a certain period will impact nutritional status, so it can be concluded that food waste is related to malnutrition in hospital patients (Indonesian Ministry of Health, 2013).

Based on research data obtained from Harapan and Doa Regional Hospital in Bengkulu City in 2018 regarding the percentage of food waste: staple food

(22.58%), animal protein (1.6%), vegetable protein (3.72%), vegetables (56 %), fruit (4.2%). In 2019, staple foods (35.9%), animal protein (13.11%), vegetable protein (27.61%), vegetables (56%), and fruit (4.2%). In 2020 staple foods (20.21%), animal protein (12.81%), vegetable protein (12.47%), vegetables (12.19%), and fruit (1.15%). In 2021, the average percentage of basic food waste for patients in these hospitals was 21.9% (Harapan and Doa Hospital, Kota Bengkulu, 2021).

One of the accreditation standards for hospitals is based on the Republic of Indonesia Minister of Health Decree number HK.01.07/MENKES/1128/2022, infection prevention and control, which includes food service. Food services in the hospital nutrition field can be considered appropriate if the accuracy of food delivery is $\geq 90\%$, the patient's food waste is $< 20\%$, and there are no errors in providing the diet. This research can help the hospital accreditation process (Indonesian Ministry of Health, 2008). Routine research conducted by Harapan and

Doa Regional Hospital regarding food waste looks at food waste as a whole diet in patients with regular food forms.

This study aims to determine the relationship between timeliness of food serving, perception of the atmosphere of the care environment, appearance of the food, food from outside, taste of the food, and attitude of the serving staff with the remaining staple foods from regular and soft diets.

METHOD

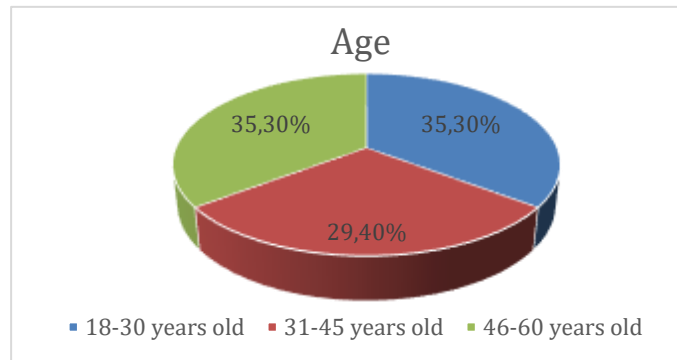
The design used in this cross-sectional study was carried out in several patient care rooms, namely the Mina (Class I), Marwah (Class II), Safa (Class III), and Muzdalifah (Midwifery Room) rooms at the Harapan and Doa Hospital, Bengkulu City with a total population of 1,405 patients/year. The sampling in this study was purposive sampling using the Lemeshow sample size calculation formula. The calculation results were 34 samples. The selection was carried

out in February 2023. Inclusion criteria were patients aged 18-60 years, patients in class I, II, III obstetrics, and communicative patients. Exclusion criteria for patients with NGT, slurry, and liquid patients treated for less than one day. Researchers interviewed the sample by asking several questions about the independent variables and measuring food waste in the sample's lunch using a Comstock form for two days. A statistical test is used for each ordinal measuring scale variable, namely Fisher Exact. This research has been approved by the Bengkulu Ministry of Health Polytechnic Health Research Ethics Committee and is ethically appropriate for research to be carried out with No. KEPK.BKL/057/02/2023.

RESULTS AND DISCUSSION

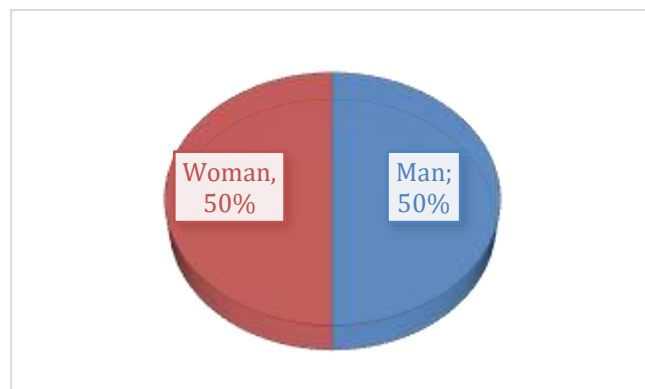
The general characteristics of the respondents studied were related to age, gender, treatment room, and type of food received.

Graph 1. Respondent Age Characteristics



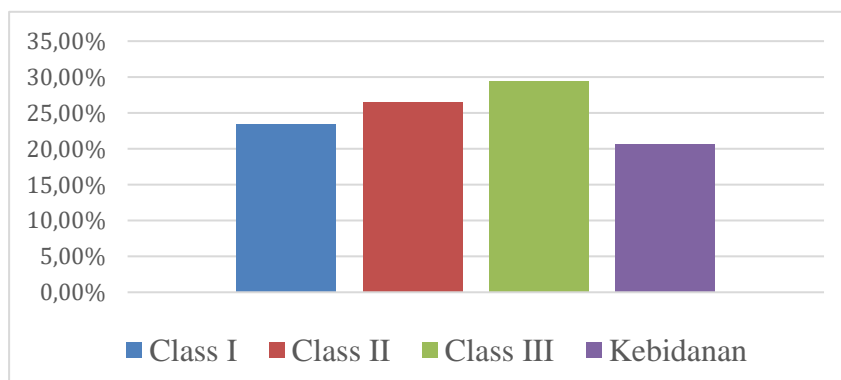
Based on Graph 1 regarding the characteristics of the lowest number of respondents, namely in the range 31-45 years old were 29%.

Graph 2. Respondent's Gender



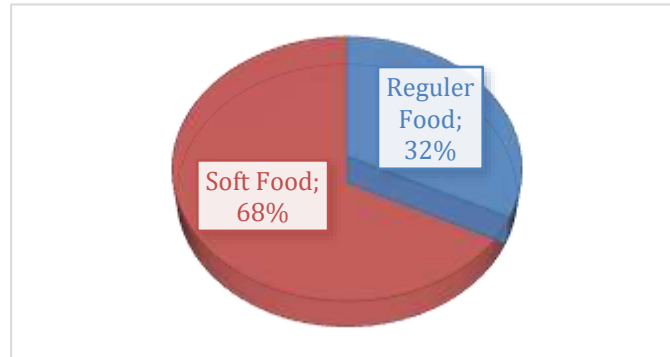
Based on graph 2, gender, the number of respondents studied was the same, between men and women 50%.

Graph 3. Treatment Room



Based on Graph 3, the respondent's treatment room is dominated by class 3 (Marwah), with ten respondents (29%).

Graph 4. Types of Food Researched



Based on graph 4.4, the respondents taken in this study only received regular and soft food. Respondents were dominated by respondents who received soft food, namely 23 respondents (68%).

Table 1. Food Waste Data Results

Leftovers	Frequency (n)	Percentage (%)
Lots $\geq 20\%$	23	67,6
A little $< 20\%$	11	32,4
TOTAL	34	100

In Table 1, it can be seen that at Doa and Harapan Hospital, there was food waste in the large category ($\geq 20\%$) in 23 samples (67.6%) out of a total of 34 samples. Both internal and external factors can impact food waste. One aspect of service quality that influences patient satisfaction is the timeliness of presentation. (Wahyunani et al, 2017). The comfort felt by respondents covers many things. The convenience of each individual is also different, and some are more comfortable if other patients are in the room because they feel it is not quiet, but

quite a few think otherwise. Color, shape, and size are all aspects of food appearance. If they think the food in the hospital is not good, patients will bring food from outside the hospital and eat it (Rimporok et al., 2019). The aroma, tenderness, seasoning, and food temperature are part of assessing the taste of food. According to Rimporok et al. (2019), the attitude of the serving staff can also influence the patient's

psychological state, affecting the quantity of the patient's food waste.

Food appearance and consumption of external food are related to staple food waste. The timeliness of food delivery, the atmosphere of the care environment, the food's taste, and the serving staff's attitude are separate from the remaining staple food.

The atmosphere of the care environment with a p-value of 0.031, the appearance of the food (0.024), and the consumption of food from outside (0.002), which means that H0 is rejected by the p-value (<0.05). Timeliness of food delivery with a p-value of 0.648, taste of food (0.182), and attitude of serving staff (0.487), which means that H0 failed to be rejected (>0.05).

Table 2. Relationship between Timeliness of Food Delivery, Atmosphere of Care Environment, Food Appearance, Consumption of Food from Outside, Taste of Food, and Attitude of Serving Staff with Leftover Staple Food

Variable	Option	Frequency						P Value
		Lots $\geq 20\%$		A little $< 20\%$		Total		
		n	%	n	%	n	%	
Accuracy of food presentation	Not on time	3	8,8	2	5,9	5	14,7	1,000
	On time, according to the schedule	20	58,8	9	26,5	29	85,3	
Care environment atmosphere	Uncomfortable	11	32,4	3	8,8	14	41,2	0,295
	Comfortable	12	35,3	8	23,5	20	58,8	
Food appearance	Not attractive	12	35,3	0	0	12	35,3	0,003
	Interesting	11	32,4	11	32,4	22	64,7	
Consuming food from outside	Yes	17	50	3	8,8	20	58,8	0,023
	No	6	17,6	8	23,5	12	41,2	
Taste of food	Not good	15	44,1	5	14,7	20	58,8	0,458
	Nice	8	23,5	6	17,6	14	41,2	
The attitude of the serving staff	Not friendly	2	5,9	0	0	2	5,9	1,000
	Friendly	21	61,8	11	32,4	32	94,1	

Accuracy of Food Serving

The timeliness of food delivery can also affect the temperature of the food given. However, the food temperature will stay the same when the food delivery is only slightly ahead of schedule. This also does not affect

the amount of food left by the respondent.

This is supported by research (Nurhamidah et al., 2019), which shows no significant relationship between the timeliness of feeding and the remaining staple food.

Care Environment Atmosphere

The comfort felt by respondents covers many things. The convenience of each individual is also different, and some are more comfortable if there are other patients in the room because they feel it is not quiet, but quite a few think otherwise. This can be seen from the results of the research. Some respondents who studied in class felt uncomfortable, while less than half of the respondents in category III said it was painful. Research (Ronitawati et al., 2017) shows a relationship between the environment of the treatment area and the patient's food waste. However, in the study (Ronitawati et al., 2017), most respondents who gave unfavourable ratings were in class III. In contrast to this study, more respondents gave less comfortable ratings in category I compared to class III or the midwifery room. This is what makes the atmosphere of the treatment place unrelated to the rest of the staple food and vegetable side dishes.

Food Appearance

The research results show a relationship between food appearance and staple food waste. This is in line with research studies (Indraswari et al., 2020) of patients who received soft food that there was a relationship between the appearance of the

food and the rest of the food. The appearance of food when distributed to patients is one factor that can influence the assessment of food taste. The visual nerve from the sense of sight is stimulated by the appearance of food when it is served (Yuliantini et al., 2015). (Sulastris, 2021) that there is a relationship between food appearance and food waste.

Food from Outside

The culture of bringing souvenirs when visiting patients in hospitals can cause patients to consume food from outside. Apart from that, the absence of clear management to control diet therapy in hospitals can be one of the influencing factors, as well as an example of a prohibition on patients from bringing coloured drinks. Moreover, certain foods from outside require education because the nutritional value contained in food from outside is not necessarily the same as that served by the hospital (Budianto, 2015). This aligns with research (Sri, 2022) that food consumption from outside is significantly related to food waste and research (Suhendra, 2019).

Taste of Food

Based on the research results, there is no relationship between food taste and staple

food waste. Food taste includes aroma, spices, tenderness, and temperature (Moehyi, 2002). Of the four respondents' assessments studied, the most significant discrepancy was related to cooking spices focused on side dishes (not tasted) by as many as 23% of respondents out of a total of 34 respondents. This is one of the factors causing the taste of food to be unrelated to the rest of the staple food. Research (Metta et al., 2020) states that there is a relationship between food temperature and staple food waste.

Attitude of Serving Officers

The results of this research showed that there was no relationship between the attitude of the serving staff and the remaining staple food. This is in line with research by Noor et al., 2018, namely that there is no relationship between the attitude of the food server and the patient's food waste. This happens because other factors make the patient divert from the perspective of the serving staff so that it is not related to the rest of the food. These factors could divert the patient's psychological attention to the officer's attitude, making him unrelated to food waste.

CONCLUSION

From the research results, it was found that there was a relationship between the

appearance of food and consumption of food from outside with staple food waste. In contrast, there was no relationship between the timeliness of food delivery, the atmosphere of the care environment, the taste of food and the attitude of serving staff with staple food waste. Suggestions for future researchers to conduct related research on the relationship between staple food waste and unique diet patients.

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