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THE EFFECT OF ANIMAL SIDE DISH MODIFICATION "ROLADE AYAM" ON ACCEPTABILITY IN ADULT PATIENTS

Ria Fitria Madu*, Purbowati, Septiani
Bachelor of Nutrition Study Program, Faculty of Health Sciences, Universitas Muhammadiyah Kudus, Jl. Ganesha Raya No.I, Purwosari, Kudus, Central Java 59316, Indonesia
*riamadu21@gmail.com

ABSTRACT
Lack of food intake in inpatients or inpatients is often associated with adverse health consequences such as malnutrition. Nutrition services in the hospital's minimum service standards are determined to be at least 80% consumed by the patient. However, there are still many hospitals that have a percentage of leftover food that exceeds 20%. Food modifications are necessary to lower leftovers in hospitals and increase acceptability. The purpose of this study is to analyze the effect of animal side dish modification in the form of chicken rollade on patient acceptability. The research design in this study is a quasi-experimental or quasi-experimental with a One Group Pre-Post Test design.The research was conducted at the Fakfak Regency Regional General Hospital (RSUD) from June to July 2025. The sample in this study amounted to 43 adult patients were selected using purposive sampling. The protein menu modification used is chicken Rolade. While the pre test uses the previous menu, namely curry chicken. Acceptance assessment was carried out with a questionnaire on the related likert scale, taste, texture, and aroma. Analysis using the Paired T Test. The average acceptance score of curry chicken before menu modification was 3.11 (maximum score of 5). The average acceptance score of rolade chicken is 4.4. The results of the test showed a P value of <0.001. The chicken rolade menu is preferred and accepted by patients compared to the curry chicken menu.

Keywords: chicken rolade; curry chicken; modification

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INTRODUCTION

The implementation of hospital food is a series of activities ranging from menu planning, planning for food needs, budgeting for groceries, procuring foodstuffs, receiving and storing foodstuffs, cooking foodstuffs, distribution and recording, reporting and evaluation (Sitasari, 2022). Nutrition services in hospitals are services that are provided and adjusted to the patient's circumstances based on clinical circumstances, nutritional status, and metabolic status of the body. Nutritional services began to be used as a benchmark for the quality of services in hospitals because food is a basic human need and is highly believed to be an inhibiting factor and a helper in curing diseases. Patient feeding services in hospitals aim to meet the patient's nutritional needs to support the healing process and achieve optimal nutritional status (Afrinis, 2023).

Lack of food intake in inpatients or inpatients is often associated with adverse health consequences such as malnutrition. Malnutrition is described as a deficiency or excess of nutrients, an imbalance in macro and micronutrient intake, or both, resulting in irregular body structure, function, and clinical outcomes. Malnutrition during hospitalization is a crucial problem; about 32% of patients are malnourished, and 23% consume less than 25% of hospital-provided food (Saunders, Smith, & Stroud, 2018). Malnutrition that occurs in patients can hinder the healing process in some diseases. Malnutrition has several negative consequences, including weakened immune systems and slower wound healing, muscle shrinkage, longer hospital stays, increased treatment costs, and higher mortality rates. A study showed that lack of physical activity and/or lower protein intake in patients

due to lower energy intake can result in muscle atrophy over several days of hospitalization (Van Ancum, et al., 2017). Low body mass index (BMI) upon admission, accompanying diseases and infections, lack of food intake and quality, and male gender are significant factors that affect food intake and cause malnutrition among inpatients (Allard, et al., 2015).

Many factors are associated with inadequate dietary intake among inpatients, such as lack of eating aids, inability to provide healthy meals daily, and not eating due to clinical investigations. Previous statistics show that about 58% of inpatients do not consume all the food served to them (Afrinis, 2023). According to the findings, factors related to food intake during hospitalization were related to the patient's condition and the quality of hospital food. Factors related to the patient's condition include physical characteristics, such as difficulty eating and swallowing. Psychosocial factors include loneliness, neglect, stress and beliefs about food, while examples of hospital food quality factors are unhygienic food and late meal times (Kontogianni, et al., 2020).

These factors are reported to be significantly associated with increased food waste. In addition, symptoms of nutritional impacts include flatulence, dysphagia, diarrhea, nausea, vomiting, lethargy, low appetite, too sick or too tired to eat and poor teeth. Other conditions, such as disturbances during mealtimes, not eating when mealtime is missed and refusing to eat ordered food are strongly associated with inadequate food intake during hospitalization (Norshariza, et al., 2019). Considering the serious impact that will occur, it is necessary to ensure that the food provided can be consumed properly. One indicator of successful food consumption is low processed food waste.

Food waste is one of the assessments of food quality. Nutrition services in the hospital's minimum service standards are determined that the food consumed by the patient is at least 80% of the food served, meaning that the leftover food allowed is only 20%. The occurrence of food residues in these patients leads to the inadequacy of the patient's nutrient consumption which is also related to the adequacy of the patient's nutrient intake. Adequate nutritional intake for hospitalized patients is needed to help speed up the patient's healing process, shorten the length of treatment days, prevent the onset of complications, reduce mortality and morbidity, which can ultimately save treatment costs (Afrinis, 2023).

Previous research has reported that leftover food is still often found in various hospitals in Indonesia. Several studies conducted in hospitals in Indonesia show that the average food waste varies greatly between 17-67% (Wirasamadi, 2017). Research at Petala Bumi Hospital in Riau found that the most leftover food came from animal side dishes at lunch time (87.5%) with the treatment class whose remaining food was class I (Lestari, 2021). In the city of Palu, leftover food at RSJ Madani at lunchtime is rice as large as 24.48% (Tanuwijaya, 2018). By Ministry of Health No. 129/Menkes/SK/II/2008 concerning Hospital Minimum Service Standards (SPM), food scraps that are not eaten by patients are as much as 20%. Whether or not there is food waste that is not consumed is an indicator of the success of nutrition services in every hospital in Indonesia (Tanuwijaya, 2018).

Identifying and managing malnutrition is critical because improper nutritional support for inpatients with malnutrition leads to higher rates of displacement and death, longer hospital stays, and lower discharge rates than well-nourished patients. It is suggested that future research focus on the factors that contribute to insufficient dietary intake and the development of effective methods to reduce the risk of malnutrition in inpatients (Sun, et al., 2018). In addition, the arrangement of food provision in hospitals can jeopardize patients' food intake and nutritional status due to patient dissatisfaction with hospital food, missed diagnoses due to inaccurate nutritional examinations and assessments, and lack of training and awareness of hospital staff (Palmer & Huxtable, 2015). Therefore, it is important to include nutritional assessments as part of a patient's clinical diagnosis. In addition, hospitals must develop systematic methods to prevent and treat malnutrition. It involves

interdisciplinary care teams, such as doctors, nutritionists, nurses, and pharmacists, who work to develop a nutritional treatment plan, establish an effective process for diagnosing malnourished patients, and introduce a comprehensive nutritional care plan (Guenter, et al., 2015).

Reduction of leftover food can be done by modifying the patient's diet or providing a variety of menus. Menu variation is the arrangement of food ingredients contained in one different dish at each time it is served. The menu served to patients must be varied so that patients do not get bored of consuming food. The variety of menus will stimulate the appetite, the varied food will increase the passion for eating, as a result of which the food served will be spent. One type of food served many times in a short time will bore the patient (Afrinis, 2023). Based on a preliminary study conducted at the Fakfak Regional General Hospital, it shows that the average hospital leftover food reaches 50-75%, this is very far from the food waste target. Which should not exceed 20%, or food should be 80% depleted.

In general, based on preliminary studies, the administration of curry chicken has several limitations in acceptance according to patients, including: unpleasant taste, spices that have a strong aroma that disturbs appetite, and chicken texture that tends to be difficult to chew. So innovation and modification of processed foods that are easy to consume and have an easy-to-consume texture are needed. The problem of patient food at Fakfak Hospital has never received adequate analysis and intervention, the purpose of this study is to analyze the effect of modification of animal side dishes in the form of chicken rollade on acceptability in adult patients at Fakfak Hospital in 2025.

METHOD

Research Design

The research design in this study is a quasi-experimental experiment *with* the One Group Pre-Post Test Design *research design.*This research was conducted at the Regional General Hospital (RSUD) of Fakfak Regency. The research will be conducted from June to July 2025.

Subject

The population of this study is all adolescent or adult patients treated at Fakfak Hospital in an average of 60 patients a day. The sampling technique used by the researcher in this study is purposive sampling, where the researcher sets the criteria for inclusion and exclusion from the sample in this study, namely: Patients are at least of adult age to be able to assess taste and other indicators of acceptability. Undergo a minimum of 3 days of hospitalization. Composmentis awareness. Ordinary patients without a special diet The sample in this study amounted to 43 adult patients.

Instruments and intervention

In this study, it is primary data, namely data obtained directly from respondents through filling out questionnaires. The questionnaire used will assess the acceptability of the intervention to provide modified animal side dish food, namely chicken rolade. We have adjusted the instrument for measuring the level of acceptability to the scale and instruments agreed upon by nutrition experts and nutrition researchers in Indonesia. The questionnaire on acceptability contains several questions including: Each result of the assessment made by the panelists on the components of taste, texture, aroma, and color will be classified in the following categories: Very likes = 5. Likes = 4. Enough likes = 3. Dislikes = 2. Very dislike = 1.

Modified chicken rolade side dishes are given 1 time as much as 100 grams/portion for 1 time a day and given, the nutritional value of rolade modification is In 100 gr chicken rolade eggs contains: energy 240.2 kcal, protein 16.8 g, fat 14.2 g, carbohydrates 10.1 gr. The curry chicken comparison menu is given as much as 100 grams/portion for 1 time. The administration of curry chicken is carried out before the administration of the rolade.

Data Analysis

The univariate analysis will display the characteristics of the respondents and the average scores of 4 acceptability indicators, namely taste, texture, aroma, and color. Bivariate analysis is a statistical approach that is carried out on two variables to find out if there is a relationship or correlation between. The differential test or paired T test will be used to measure the effect of the difference between the two means which is the score of the acceptability of the paired sample (one sample is measured 2 times for pre and post intervention).

RESULT

Univariate Analysis

The results of the characteristic analysis of 42 respondents consisted of the distribution of numbers and percentages based on age, gender, and education. The results of the analysis will be presented in table 1.

Table 1.
Frequency Distribution Characteristics of 42 Respondents

Characteristic	f	%
Gender		
Male – Male	15	35.71
Woman	27	64.29
Age		
19 – 35 years old	21	48.3
36 – 50 Years	9	20.9
51 – 66 years old	12	30.8
Education		
Primary school	5	7.14
Junior high school	2	4.76
High school	25	60.5
College	10	27.6

Based on the results of the study, it is known that the majority of respondents are women, namely 27 out of 43 people (64.29%), only 15 people (35.7%) are women. Most of the respondents were young between 19 and 35 years old, i.e. 21 people (48.3%). More than half of the respondents had an education equivalent to high school (SMA), which is 25 people (60.5%).

Table 2.
Frequency Distribution of Curry Chicken Acceptability

Processed Chicken Curry	Red (average)	Maximum	Std. Deviation	Minimum
Taste	3.61	5	1.03	2
Tekstrur	3.14	5	1.29	1
Aroma	3	5	1.39	1
Color	2.71	5	1.48	1

The results of the study showed that processed curry chicken had the highest acceptance in terms of taste, which was with an average of 3.61. However, there are still many aspects of acceptance that get a minimum point or 1, namely the aspects of texture, aroma, and color. The color aspect has a low average value of 2.71. This shows that the appearance of curry chicken does not make patients interested in eating it.

Table 3.
Frequency Distribution of Chicken Rolade Reception

Processed Chicken Rolade	Red (average)	Maximum	Std. Deviation	Minimum
Taste	4.5	5	0.70	3
Tekstrur	4.35	5	0.79	3
Aroma	4.35	5	0.75	2
Color	4.40	5	0.80	1

The results of the study show that processed chicken rolade has a relatively high acceptance in all aspects of taste, namely taste, texture, aroma and color where the sluruh is above 4. Taste-related

admissions have the highest average of 4.5. However, there are still aspects of acceptance that get a minimum point or 1, namely the color aspect.

Analysis Bivariate

The bivariate analysis that will be presented is the *paired T Test* because each respondent received 2 interventions, namely curry chicken and rolade. Bivariate analysis will present the difference in average acceptability and its comparison between the two servings. The results of the analysis will be presented in table 4.4. and 4.5.

Table 4.
Frequency Distribution of Accepted Acceptance of Processed Curry and Rolade Chicken

Processed	Red (average)	Maximum	Std. Deviation	Minimum	Sum
Curry Chicken	3.11	5	1.20	1.25	42
Rolade Chicken	4.41	5	0.65	2.25	42

The results of the analysis showed that chicken rolade had a higher average acceptance rate compared to processed curry chicken. The minimum value of Rolade acceptance is 1 point greater than that of curry chicken, which is 2.25 for rolade and 1.25 for curry chicken.

Table 5.
Uji Paired T Test

Variable	Mean	Std. Error	Std. Deviation	P-Value	95% Confidence Interval	
					Lower limit	UpperLimit
Curry Chicken	3.11	0.18	1.20			
Rolade Chicken	4.41	0.10	0.65	< 0.001	-1.72	-.86
Difference	-1.29	0.21	1.37			

The results of the study showed that the acceptability of animal side dish modification in the form of rolade had a significant difference from curry chicken, characterized by a p value of <0.001 (<0.05). Rolade chicken is more acceptable as compared to curry chicken and has an average acceptance difference of 1.29 points higher. This acceptability includes high scores in the aspects of taste, aroma, texture, and color of food.

DISCUSSION

Acceptability of Curry Chicken

The results of the study showed that processed curry chicken had the highest acceptance in terms of taste, which was with an average of 3.61. However, there are still many aspects of acceptance that get a minimum point or 1, namely the aspects of texture, aroma, and color. The color aspect has a low average value of 2.71. This shows that the appearance of curry chicken does not make patients interested in eating it. Previous research conducted by (Irwandini, et al2025) entitled "The Influence of Taste, Texture, and Visual on the Willingness To Buy Spice Chicken Products" reported that the exterior and visual aspects (visual appeal) have a significant influence on Willingness to Buy (WTB). The p-values for texture and visuals were both significant (p = 0.013), confirming the strong impact of texture and appearance elements being highly considered elements for food consumption.

Texture and color are the main factors in assessing the quality of processed chicken. If curry chicken tastes hard and the appearance is less evocative, consumers may doubt its freshness, even before tasting it. Hard chicken extrusion often reduces the comfort of chewing and the perception of product quality. Consumers generally like the texture of meat that is chewy, tender, and easy to chew, especially for elderly or children's consumers. Studies reveal that the texture that consumers prefer is a chewy texture that is easy to process and chew and provides a more comfortable dining experience (Ayu et al, 2020). The low acceptability of curry chicken due to the hard texture and unevocative color is not only a taste problem, but directly related to the perception of product quality, freshness, and aesthetics. Empirical research from various regions in Indonesia supports

that the tender texture and bright yellowish color are attributes that greatly influence the preferences of chicken meat consumers. By improving these two aspects, you can significantly increase product appeal, consumer satisfaction.

Rolade Acceptability

The results of the study show that processed chicken rolade has a relatively high acceptance in all aspects of taste, namely taste, texture, aroma and color where the sluruh is above 4. Taste-related admissions have the highest average of 4.5. However, there are still aspects of acceptance that get a minimum point or 1, namely the color aspect. Superior quality chicken rolade generally has a soft and chewy texture, so it provides a chewing sensation that is comfortable and easy to accept by various age groups. This kind of texture enhances the enjoyment of eating and the perception of product quality. Previous research on processed chicken rolade also displays results and combinations with high nutritional value, one of which is (Khoirunisya, et al, 2024) entitled "Overview of Organoleptic Properties and Nutritional Value of Rolade Chicken Formulation of Red Beans (Phaseolus vulgaris L) and Moringa leaves (Moringa oleifera) as an Alternative to High Iron Entertainment Foods for Anemia in Adolescent Women" showed good acceptance.

Rolade also allows for a combination of spices, spices, and fillers (such as vegetables, nuts, or leaves) in rolade to create a richer flavor dimension—smooth and savory, with a supportive aroma that delivers the desired sensation of complex flavors. The high acceptability of chicken rolade—due to its soft texture and complex flavor—is supported by research and practice evidence. Organoleptics show a high preference for soft textures, while the addition of functional ingredients increases nutritional value and consumer preference. A processing strategy that pays attention to these two aspects will result in a chicken rolade product that is not only delicious, but also valuable.
The Effect of Modified Animal Side Dish "Rolade Ayam" on Acceptability.

The results of the analysis showed that chicken rolade had a higher average acceptance rate compared to processed curry chicken. The minimum value of Rolade acceptance is 1 point greater than that of curry chicken, which is 2.25 for rolade and 1.25 for curry chicken. The results of the paired T test showed that the acceptability of animal side dish modification in the form of rolade had a significant difference from curry chicken, marked by a p value of <0.001 (<0.05). Rolade chicken is more acceptable as compared to curry chicken and has an average acceptance difference of 1.29 points higher. This acceptability includes high scores in the aspects of taste, aroma, texture, and color of food.

These results are in line with the study by Marina et al, 2024 entitled "The Relationship between the Level of Satisfaction with Food Serving and Service Against Inpatient Leftovers" which reported that there was a relationship between food taste and patient leftovers with a p = 0.031 value, patients who were satisfied with the taste of food tended to leave less food left. Other studies that report the modification of soft diet tempeh vegetable side dishes on the preference of tempeh vegetable side dishes, namely: shape, presentation, aroma, taste, and temperature, there is an effect of modification of soft diet tofu vegetable side dish recipes on tofu liking, namely: color, presentation, spices, taste, and temperature. There was an effect of recipe modification on the rest of the soft diet tempeh with a value of p = 0.001. There was no effect of recipe modification on the rest of soft diet tofu with a p value = 0.204 (Mutia, & Rachmawati, 2020).

Food acceptability can be influenced by the appearance of food which includes color, shape, portion size, and food presentation. In addition to appearance, acceptability is also seen from the taste of food which includes aroma, spices, tenderness, level of maturity, and temperature of food aroma, spices, tenderness, level of maturity, and temperature of food (Triastuti, 2017). Food that is served attractively, gives a pleasant smell and gives a delicious taste are the characteristics of food that has a high taste. So that food processors do not have to have skills in processing and cooking food, but

also must have enough knowledge about food ingredients and their properties so that food attracts consumer interest (Wirasamadi, 2017).

The study also mentioned that patients who left food scraps had different reasons such as lack of appetite, nausea, bad taste, lack of attractiveness and not hunger. Food consumers' desires are determined by the appearance, shape, aroma, and taste of food. In terms of organoleptic assessment, there are the main factors in the assessment of culinary sounds, namely: the appearance of food (color, shape, size, and consistency) and the taste of food (aroma, texture, taste and level of maturity) (Ronitawati et al, 2021).

Factors that affect the occurrence of food waste that results in food intake are other than factors that come from within the consumer or internal factors, as well as factors outside the consumer or external factors. Internal factors include appetite, eating habits, boredom and the presence of additional food from outside. Boredom usually arises when consuming food less varied, so that you have memorized the type of food served. To reduce this boredom, in addition to increasing menu variety, it is also necessary to change the atmosphere of the environment at mealtimes. External factors include the taste of food, appearance, method of presentation, serving time, and attitude of the officers (Arifah, 2022).

Rolade is a processed food with beef-based ingredients. Along with the times, this processed food product has also experienced the development of innovation. Not only made from beef, now rolade can be found made from chicken, even sourced from vegetable proteins such as kidney beans, tempeh, and so on. Rolade is made from a mixture of basic ingredients that are mashed with flour or starch and given additional spices and wrapped in omelet sheets, then rolled using aluminum foil and steamed (Sanditya, 2023).

According to the Directorate of Nutrition of the Ministry of Health (2010) chicken meat has a protein content of 18.20 grams, fat of 25 grams, and has a calorie of 404 Kcal per 100 grams of chicken meat. Chicken meat is high in vitamin A, contains vitamins C and E. Chicken meat contains low fat content. Chicken meat fat is mostly unsaturated fatty acids (Patangkin, 2023).

CONCLUSION

The chicken rolade menu is preferred and accepted by patients compared to the curry chicken menu. The hospital can change or modified chicken menu into “rolade” rather than chicken curry.

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