

Food Management System and Satisfaction Level of Students of Pesantren Tebuireng Jombang, East Java

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Abstract

Efforts so that a person's nutritional needs can be obtained optimally is by holding a food that is managed by applying various scientific disciplines. This study aims to analyze the food delivery system and the level of satisfaction of students in Tebuireng Islamic Boarding School in Jombang, East Java. This research was observational with a cross-sectional study design. Samples taken are students who live and or boarding at Tebuireng Islamic Boarding School in Jombang, East Java, with a total of 303 people from the class 2 population. Samples were taken using total sampling. Data collection is done by providing an identity questionnaire, satisfaction test form sheets and interviews with foodservice parties. The results showed that the food delivery system at Tebuireng Islamic Boarding School in Jombang in East Java was already good in management, service, and workflow but there were still shortages, such as the proportion of students and catering service staff that was not appropriate, there was no calculation of individual student needs, and food handlers hygiene knowledge still needs to be improved. The level of satisfaction of students to the overall menu of students with a thin nutritional status of 76.36% with the category "Satisfied"; students with normal nutritional status of 67.79% with the category "Dissatisfied"; and students with fat nutritional status of 64.49% with the category "Dissatisfied". Training regarding sanitation and hygiene is good and right during the process of providing food and training on how to process various kinds of menus from one food item.

Keywords: *Food Management, Level of Satisfaction, Santri*

Introduction

The nutritional and health status of mothers and children as a determinant of the quality of human resources is increasingly evident by the evidence that the nutritional and maternal health status in pre-pregnancy, during pregnancy, and during breastfeeding is a very critical period. The thousand-day period, which is 270 days during pregnancy and 730 days in the baby's first life, is sensitive because the effects on the baby at this time will be permanent and cannot be corrected. The impact is not only on physical growth but also on mental development and intelligence, which in adulthood can be seen from the physical size that is not optimal and the quality of work that is not competitive resulting in low economic productivity¹

Inadequate nutrition can potentially inhibit sexual growth and maturation, although this may be the result of chronic malnutrition in infancy and childhood. And

can place them at high risk of chronic diseases (risk of type 2 diabetes, hypertension, dyslipidemia, and carotid-arterial atherosclerosis) especially if combined with adverse lifestyle others. Deficiency or excess nutrients will be manifested in the form of growth that deviates from the standard pattern²⁻⁴.

To maintain the quality of the food served, the food served must be evaluated one of the ways is to calculate the acceptability of consumer food. Food acceptance is the percentage of food consumed from the total amount provided⁵⁻⁶. This acceptance is influenced by several factors including the appearance of food when served and the taste of food. This study aims to analyze the food delivery system and the level of satisfaction of students in Tebuireng Islamic Boarding School in Jombang, East Java.

Materials and Method

Population and Sample

The population in this study is the food delivery unit in Tebuireng Islamic Boarding School in Jombang, East Java and all students in the Tebuireng Islamic Boarding School in Jombang, East Java. The students referred to in this study are students living and or boarding at Tebuireng Islamic Boarding School in Jombang, East Java. Sampling is done by total sampling from the target population. The target population is class II, junior high school, Islamic junior high schools, high school, and Islamic high school as many as 521 people. The sample used was a total sampling of 303 people.

Data Collection

Data collection was obtained by conducting direct interviews with food service managers and respondents by referring to the questionnaire that was available that contained questions and statements to explore information about the variables to be analyzed which

are closely related to the food delivery system and satisfaction.

Data Analysis

Data analysis using IBM SPSS Statistics 21. Univariate analysis was carried out to get a general picture by describing each variable used in the study by looking at the description of the frequency distribution in tabular form. Bivariate analysis was performed using chi-square to see individual characteristics of the level of satisfaction.

Results

The food management unit in the Islamic boarding school in the making of the menu does not see the habits of the students and employees (Table 1), menus are made based on a predetermined expenditure budget, for example like there is a fried chili sauce menu of tempeh not all students have the habit of consuming tofu and tempeh because of students not only from Jombang Regency but from various regions in Java and some even from outside Java.

Table 1: Process Component Analysis at Tebuireng Islamic Boarding School in Jombang, East Java

No	Item	Yes	No
1.	Budget Financing	ü	
2.	Budget Planning	ü	
3.	Santri factor (calculates the nutritional adequacy of students)		ü
4.	Eating habits (planned menus according to student eating habits, food habits)		ü
5.	Kitchen utensils and equipment available (if the equipment is limited to a simple planned menu)	ü	
6.	Number of employees (1 employee for 8-10 students)		ü
7.	The amount of food received must be the same as the amount of food written on the purchase invoice and the same as the demand for the boarding school	ü	
8.	The quality of food received must be by the specifications of the food requested at the time of purchase	ü	

Cont... Table 1: Process Component Analysis at Tebuireng Islamic Boarding School in Jombang, East Java

9.	The price of food items listed on the purchase invoice must be the same as the price of food items listed on the food supply offer.	ü	
10.	Dry food container (rice, sugar, flour, green beans, oil, soy sauce, canned food, etc.)	ü	
11.	Fresh food container (meat, poultry, vegetables, and fruit)	ü	
12.	There is equipment needed (mechanical tools, containers of various sizes, cooking utensils including stoves, pans, pans, cutters in various sizes in good condition)	ü	
13.	Recipe standards include the size of the food ingredients, seasonings needed, cooking methods and techniques for each type of cuisine.	ü	
14.	Preparing spices (onion, garlic, ginger nutmeg, kaempferia galanga, coriander, cumin, pangi, galanga, lemongrass, chilies, and tomatoes) with mashed /ground, thinly sliced and crushed techniques.	ü	
15.	Food that will be processed is fresh, not rotten and not withered	ü	
16.	Using the right way of cooking food		ü
17.	The clothes used are brightly colored	ü	
18.	Clothing that is used in a clean state	ü	
19.	Hand nails are short and clean		ü
20.	Hand nails are not painted	ü	
21.	Hands are always clean before touching food	ü	
22.	Hair in a neat and bound condition (not unraveled) or covered	ü	
23.	Food handlers use aprons that are still clean	ü	
24.	Do not use aprons as hand towels	ü	
25.	Food handlers use head cover to cover hair when processing food		ü
26.	Food handlers use food handlers when processing food ingredients	ü	
27.	Food handlers use special gloves that are still clean when processing food		ü

28.	Washing hands with clean water and soap each time will handle food	ü	
29.	Cover your mouth and nose with a handkerchief or special cloth when sneezing or coughing	ü	
30.	Do not pry ears and or nose at work		ü
31.	Do not hold dirty objects when working	ü	
32.	Do not smoke while working	ü	
33.	The water used does not smell	ü	
34.	The water used is colorless and tasteless	ü	
35.	The water used for washing food utensils is running water	ü	
36.	There is a toilet with a door that is always closed and in a clean state complete with soap	ü	
37.	Available bins in sufficient quantities and meet the requirements, namely at least 1 trash can in each production room, waterproof, has a lid and always cleaned every day	ü	
38.	There is a sewerage that is smooth and waterproof.	ü	

Based on the results of the menu analysis using CD Menu software, the most energy is found in the 4th-day menu with the amount of energy of 2597.8 kcal and the least energy is the menu on the 3rd day which is 2111.3 kcal.

Table 2. Analysis of Output Components (Nutrition Value Menu) at Tebuireng Islamic Boarding School in Jombang, East Java

Menu Days to	Nutritional Substances			
	Energy (kcal)	Protein (gr)	Fat (gr)	Carbohydrate (gr)
1	2348	78,1	61,3	371,9
2	2412,6	101,4	56,4	371,1
3	2111,3	78,5	43,5	341,7
4	2597,8	93,8	61,4	421,4
5	2531,9	102,6	57,9	395,7
6	2458,2	97,0	60,0	384,4
7	2566,6	99,2	52,3	263,4
8	2226,7	69,1	39,2	393,8

Table 3. Frequency of Santri Characteristics in Tebuireng Islamic Boarding School in Jombang, East Java

Characteristics	Nutritional Status					
	Thin		Normal		Fat	
	n	%	n	%	n	%
Age						
12 – 15 year	10	71.4	95	39.3	22	46.8
16 – 18 year	4	28.6	147	60.7	25	53.2
Total	14	100	242	100	47	100
Gender						
Man	11	78.6	147	60.7	22	46.8
Girl	3	21.4	95	39.3	25	53.2
Total	14	100	242	100	47	100
Origin						
Bali	0	0.0	3	1.2	1	2.1
Banten	0	0.0	8	3.3	1	2.1
Bengkulu	0	0.0	1	0.4	0	0.0
DKI Jakarta	0	0.0	15	6.2	1	2.1
Jabar	2	14.3	21	8.7	10	21.3
Jambi	0	0.0	2	0.8	0	0.0
Jateng	1	7.1	31	12.8	7	14.9
Jatim	10	71.5	138	57.0	25	53.2
Jogyakarta	0	0.0	3	1.2	0	0.0
Kalteng	0	0.0	1	0.4	0	0.0
Kaltim	0	0.0	2	0.8	1	2.1
Kalut	0	0.0	1	0.4	0	0.0
Kepri	0	0.0	1	0.4	0	0.0
Lampung	1	7.1	3	1.2	0	0.0
Malut	0	0.0	1	0.4	0	0.0
NTT	0	0.0	1	0.4	0	0.0
Papbar	0	0.0	1	0.4	0	0.0
Papua	0	0.0	1	0.4	0	0.0
Riau	0	0.0	1	0.4	0	0.0
Sulsel	0	0.0	2	0.8	0	0.0
Sulteng	0	0.0	2	0.8	0	0.0
Sumsel	0	0.0	3	1.2	1	2.1
Total	14	100	242	100	47	100

Based on table 3, the respondents who were mostly aged between 12-15 years were in the normal nutritional status of 74.8%; most respondents aged between 16-18 years were at normal nutritional status that is 83.5%.

Table 4. Distribution of Santri Satisfaction of the Entire Menu at Tebuireng Islamic Boarding School in Jombang, East Java

Overall Quality Food Menu	Nutritional Status		
	Thin	Normal	Fat
Score (%)	76,36	67,79	64,49
Category	Satisfied	Not Satisfied	Not Satisfied

Table 4 shows the level of satisfaction of students with the overall menu of students with nutritional status of 76.36% under the category of “Satisfied”; students with normal nutritional status of 67.79% with the category “Dissatisfied”; and students with fat nutritional status of 64.49% with the category “Dissatisfied”.

Discussion

Employees also need to get adequate nutrition attention so that employee performance is expected to be optimal. According to Marotz⁷, nutritional needs are several nutrients needed by individuals to be able to live healthy and maintain their body condition. Adequacy of nutrition is the amount of each nutrient needed by individuals to live a healthy life. The nutritional adequacy of each person/individual varies according to age, sex, and level of activity.

According to Nurdiani⁸, in the procurement of foodstuffs, there is a food procurement planning and market survey aimed at obtaining standardized foodstuff specifications according to size, type, size to maintain good quality foodstuffs. The market survey aims to find out the price of materials by specifications in the market as a basis for budget planning.

According to Kwon et al⁹, the reception of foodstuffs in the operation of food is carried out to ensure that food is received in a fresh and safe condition so that foodstuffs can be moved to the right place by the characteristics of these foodstuffs. It is known that the food operation unit already has a dry food storage area and has been separated between dry food ingredients and wet or fresh food items. This is by the statement of Bartono

& Ruffino¹⁰, which states that the food ingredients are stored according to the appropriate types and conditions.

In preparing food ingredients must pay attention to the principle of maintaining and preventing loss of nutrients lost cooked, weeding, and washing food ingredients then cut them according to recipe instructions, carry out preparation techniques and mix herbs according to recipe instructions, prepare food ingredients and seasonings as little as possible with cooking.

In food processing, hygiene behavior is very much needed, including using the attributes of the headcover, mask, and gloves to avoid contamination of food. According to Damayanthi et al¹¹, high levels of bacterial and microbial contamination of cutlery and food served openly. Therefore it is necessary to increase hygiene behavior for food handlers. One way to do hygienic behavior for food handlers is to wash hands before doing food processing activities. But food handlers must know good hygiene behavior. This is due to avoid contamination of food¹².

Based on the results of menu analysis using CD Menu software, it is obtained the nutritional value of the menu per day in the menu cycle. The menu with the most energy is on the 4th-day menu with the amount of energy of 2597.8 kcal, while the least energy is the menu on the 3rd day which is 2111.3 kcal. Research conducted by Carrier¹³ proves that menu cycles, modification of recipes, serving and packaging as well as ways of food distribution are significantly related to the incidence of malnutrition because it reduces food intake

Customer satisfaction can be achieved if consumers feel all their needs are met and get good customer service. The results of this study are also consistent with the results of Mandasari & Tama's¹⁴ research, which states that staff behavior including service friendliness is the most influential attribute on customer satisfaction.

African American adolescents have low consumption of vegetables and fruits, and they consume too much fried food and soft drinks: 55.1% consume twice or more fried foods every day and 19.5% four times or more daily day; 70.3% consumed soft drinks twice or more every day and 22.0% four times or more every day on average¹⁵.

Conclusions

The food delivery system at Tebuireng Islamic Boarding School in Jombang in East Java is good in management but the knowledge of food handlers' hygiene needs to be improved. In organizing food, it should consider aspects that can improve consumer appetite, namely variations in processing techniques, taste, flavor, color, size, shape of the dish cut, portions, and appearance of the presentation and training on how to process various kinds of menus from one food ingredient.

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Conflict of Interest : Nil

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