

Literature Review: Competencies of Cook and Waiters on Food Distribution Accuracy in Hospital Inpatient Nutrition Installation

Deta Noorfaizah Ulfi¹, Qurratul Aini², Kusbaryanto³

¹Postgraduated Student, Master of Hospital Administration, Muhammadiyah University of Yogyakarta, Indonesia

²Thesis Supervisor, Master of Hospital Administration, Muhammadiyah University of Yogyakarta, Indonesia

³Thesis Supervisor, Master of Hospital Administration, Muhammadiyah University of Yogyakarta, Indonesia

Corresponding Author: Deta Noorfaizah Ulfi

ABSTRACT

Background: Hospital is a health service supported by various aspects of facilities and human resources they play role in changing and improving the quality of service. Each hospital service should meet minimum service standards that are applicable to all patients. Minimum service standard criteria for hospital nutrition services include timely food distribution to patients, food waste amount, and accuracy of food provision to patients' diet. Nutritionists have a vital role in food execution for inpatients in hospitals. Nutritionist quality following competencies will generate excellent performance for patients and hospitals. Qualified nutritionists are supported by certifications, registrations, and continuous training education.

Methodology: The study design used a literature review method by collecting data sources from journals, books, the internet, and other sources related to competencies of cooks and waiters to food distribution accuracy in hospitals.

Result: The competence of cooks is influenced by several factors such as nutritional service implementation, human resources, education, training, and infrastructure of the hospital's inpatient nutritional service.

Conclusion: Food distribution accuracy depends on the competency level of cooks and waiters based on education, training, knowledge, practice, and attitude in safety food practice in hospital nutrition has an effect on the accuracy of food distribution

Keywords: food handler hospital, nutrition installation, food distribution, cooks, and waiters

INTRODUCTION

Each hospital's service should meet the minimum service standard that is righteous to be obtained by all patients. There are many types of services conducted by a hospital; two of them are outpatient and inpatient nutritional services¹. Services provided should follow the hospital's nutritional service guidelines. The outpatient nutritional service seeks to find the solution to nutritional problems related to patients' health conditions. The inpatient nutritional service provides nutritional support to patients after receiving medical

care and treatments. On inpatients, food intake should be adjusted to the expected health condition to foster recovery and improve patients' nutrition status².

RSUD Arifin Achmad is an education type B hospital that should possess nutritionists of 23 people. However, currently, RSUD Arifin Achmad only employs 14 nutritionists. It causes them to have multiple jobs, thereby cannot finish their jobs in time. The nutrition plan implementation in the RSUD is also poor. Only several patients with a specific diet that receive counseling from nutritionists.

Besides the lack of personnel in the nutrition installation, some personnel do not understand their jobs well. It will hinder the working process in the nutrition installation. Food distribution inaccuracy in RSUD Manokwari can happen due to several factors, such as poor human resources, the lack of fuel and food stock monitoring, and inadequate facility. Personnel disobedience in the nutrition installation over the predetermined schedule and late entry become the causes of late food distribution in the hospital. Besides, perforated and uneven trolleys are a hindrance factor in the food distribution process to patient wards. This condition takes a long time to arrive at patient wards³. Based on this background, the authors wanted to conduct a literature study of cook and waiter competencies on the food distribution accuracy in the hospital's inpatient nutrition installation.

RESEARCH METHOD

This study design used the literature review method by collecting data from

journals, books, the internet, and other sources associated with cook and waiter competencies on hospitals' food distribution accuracy. In this study, the data collection process used study journal publications searched using online searching tools such as Google Scholar, Garuda, and PubMed using keywords of food handler hospital, nutrition installation, food distribution, cooks, and waiters. Data were obtained by a filtering process through inclusion criteria of publications over the last ten years, in Indonesian or English, available in full text, and match the theme of cook and waiter competencies on food distribution in hospitals.

RESULT AND DISCUSSION

Result

From online databases (Google Scholar, PubMed, Garuda) using keywords food handler hospital, nutrition installation, food distribution, cooks, and waiters found 17 articles

No	Author	Title	Method	Result
1	Ansye A.P et al	Analysis of competencies staff in Nutrition Service at Prof.dr.R.D.kandou Hospital Manado	Quantitative Qualitative	RSUP prof.dr.R.D.Kondou Manado doesnt have staff who attended professional education for got title registered dieticians and also doesn't have nutrition specialist doctor. Overall, nuttition staff have good knowledge. But for prattice, there were some problems due to multiple task. Not all staff have attended training
2	Rizki Muliawardani, Ahmad Ahid Mudayana	Analysis of nutrition service management at Grhasia Yogyakarta Hospital	Qualitative	Nutrition service already organized as function and task. But, there were some staff who have double jobs and tasks
3	Nur Farhana Aminuddin et al	Patient Satisfaction With Hospital Foodservice and its Impact on Plate Waste in Public Hospitals in East Malaysia	Quantitative	Patient's satisfaction depends on several factors. Nutritionist who had various background of education gave an impact on different levels of patients satisfaction It's necessary to do evaluation system and improvement for food administration and how to serving food well to give patients satisfaction
4	Zela Falmita et al	Analysis of Nutritional Unit Service Management in Arifin Achmad Regional General Hospital of Riau Province in 2019	Qualitative	The lack of nutrition service in Riau Hospital,Indonesia is caused by several factors examples staffs don't understand about their duties and incomplete facilities. The quality of human resources can be seen from two aspects, quantity dan quality. The Quantity can be known from total staffs in nutrition installation hospital. The Quality can be known from ability, physical, non-physical, education, and training.
5	Bachyar Bakri, Nur Rahman	Qualifications of workers in various classification of mass food organization	Qualitative	Workers in nutrition installation plays a role in monitoring and regulating the patient's diet. Not all hospital nutritionist have been registered dietitians and technical dietitians. Most educational qualifications in the nutrition installation in hospital are high school or vocational high school graduates who work as food processing staff
6	Prateek S Bobhate et al	Profile of catering staff at a tertiary care hospital in Mumbai	Qualitative	There is a relationship between education level of food processing workers on personal hygiene. Periodic evaluation are necessary to monitoring the health of

				food processing workers.
7	Lesiba A. Teffo and Frederick T. Tabit	An assessment of the food safety knowledge and attitudes of food handlers in hospitals	Qualitative	Not all food processing workers have attended food safety training. Unsuitable implementation of food administration is found in workers with a low level of knowledge of food safety
8	Sudip Bhattacharya et al	Implementing a skill development program among food handlers in tertiary care hospital to improve their personal hygiene: A pilot study	Qualitative	Total 103 workers are divided into 85 kitchen assistants, 6 waiters, and 12 cooks. There is an increasing personal hygiene before and after given training using interactive video media
9	Labib Sharif et al	Food Hygiene Knowledge, Attitudes and Practices of the Food Handlers in the Military Hospitals	Qualitative	In this hospital, there are significant differences in knowledge, behavior, and practices in food processing based on workers's level education
10	Margaret Githiri et al	Knowledge in food hygiene and hygienic practices differ in food handlers at a hospital in Nairobi, Kenya	Descriptive	Food processing workers with tertiary level of education have better knowledge than other levels of education
11	Widyana Lakshmi Puspita et al	Application of Hazard Analysis Critical Control Point (HACCP) reduce microbiological hazards in special animal-based children's foods in the regional general hospital dr. Soedarso Pontianak Indonesia	Quasi experiment	Giving training and the application of HACCP has a good influence on food hygiene knowledge and practices for food processing workers
12	Dr. Amany Mohamed Saad,et al	Training Program among Hospital Food Handlers' Regarding Food Borne Diseases	A quasi-experimental study	The training program has a positive impact for knowledge and practice of food handlers.
13	Fitria Ayuti et al	The Relationship between Knowledge, Attitude, Behaviour, and Personal Hygiene Standard of Food Handler in Installation of Nutrition	Quantitative	There is a relationship between knowledge and personal hygiene of food processing workers. And also there is a relationship between clean behavior and food handlers personal hygiene standards.
14	Daru Lestantyo et al	Safe Food Handling Knowledge, Attitude and Practice of Food Handlers in Hospital Kitchen	Qualitative	80 % of the food handlers have a vocational education background. More than 80 % of food handlers have good food safety knowledge, attitudes, and practices.
15	Emy Shinta Dewi et al	Analysis on the Implementation of Nutrition Services in Tugurejo General Hospital Semarang	Qualitative	The implementation of nutrition care has not been optimal due to several factors such as unclear duties, principal, function, authority, and procedural operational standards
16	Eko Wigiantoro et al	The Relationship of Quality Nutrition officer Services With Patient Satisfaction in Nutritional Services in Inpatient Sevices at Kajen Regional Hospital Pekalongan Indonesia	Quantitative	58.5 % of respondents were satisfied with the services provided by nutrition workers. But some nutritionist have not been maximal for their duties, mains, and functions at work
17	Muayanah et al	Correlation Between Knowledge and Attitudes to The Behavior of Personal Hygiene Food Handlers in Nutrient Departement	Quantitative	81.8 % of nutrition workers have a high school/vocational education background. They have a good level of knowledge, attitude, and behavior of food handlers. The results of statistical tests showed that there was no relationship between knowledge and personal hygiene behavior among food handlers (p=1.000) and there was no relationship between attitudes and personal hygiene behavior among food handlers (p=0.178)

DISCUSSION

After conducting analyses on 17 journals obtained based on inclusion and exclusion criteria, the authors classified the discussion focus of study results into several topics, i.e., nutritional service implementation, human resources,

education, training, and infrastructure of the hospital's inpatient nutritional service.

Nutritional service implementation

According to the Hospital's Nutritional service Guideline, nutritional services in hospitals encompass nutritional care services and consultations, food procurement, and nutritional research and

development². Nutritionists will employ nutritional assessments and diagnoses on all inpatients, then plan the menu to be provided to patients in treatment wards accordingly. After the menu planning, the subsequent process is food material procurement. This process requires a good collaboration between nutritionists and food handlers, such as cooks, waiters, and supporting personnel. This collaboration should be promoted by safe and appropriate food handlers' knowledge and behavior so that patients receive an appropriate diet menu in terms of nutrition, taste, and appearance.

The food service implementation is initiated by the food material planning process, food material procurement, food material storage, food material distribution, food material processing into food, food serving, food distribution process to patients, and evaluation process. Nutritionists should monitor cooks in the food processing process, and cooks should cook food according to patients' diet⁴.

The food distribution to patients is carried out three times, i.e., morning, midday, and evening with the hospital's distribution system. The food distribution system consists of centralization, decentralization, and a combination of both. One hospital with another has different distribution systems. The Mental Hospital Grhasia Yogyakarta utilizes both food distribution systems. Centralization is used for food implementation with a specific diet, and decentralization is for general diet⁵.

A good food service implementation will impact inpatients' satisfaction levels. Patient satisfaction with the hospital's nutritional service can be assessed on several factors, i.e., food quality, food service quality, nutritionist quality, and the hospital's environment. Food quality is assessed from menu planning, menu selection by patients, served menu variations, food appearance during serving, and appealing taste. The food service quality is assessed from the accuracy of food temperature served, whether cold or

hot. Patient satisfaction assessment regarding nutritionists is observed from the cleanliness of dressing, good food serving and taking, hospitality, and ready-to-help attitude⁶.

Human resources

Good quality and quantity are necessary to obtain competent human resources. Human resources quality includes knowledge, physical and non-physical abilities, education, and training that help develop intellectual abilities and personality. Human resource quantity is related to the amount of personnel required in an institution (Familta et al., 2019). Nutritionists in hospitals consist of Registered Dietitian (RD) and Technical Registered Dietitian (TRD).

The duty of a Registered Dietitian is to provide food and dietetic nutritional services. Meanwhile, the task of a Technical Registered Dietitian is to help Registered Dietitians in providing services. A competent Registered Dietitian has completed professional education, took the competency test, registered, and has working experience as a general dietetic for four years. A competent Technical Registered Dietitian has working experience as a general and simple dietitian for four years².

Nutritionists are professional medical personnel who focus their job on assessing patients' nutritional requirement fulfillment by implementing an appropriate diet, preventing disease complications with diet, and helping the recovery process. Nutritionist presence is believed to influence inpatients' psychology and help create a new environment that supports patients' food intake⁸.

Employment in a hospital's nutrition installation consists of shift and non-shift groups. The shift group consists of cooks and waiters. The non-shift/morning workgroup consists of nutritionist personnel such as the nutrition installation head and other nutritionist staff. A competent cook should be trained and educated well, skillful

in their jobs, and conducting their jobs professionally. Cooks have tasks in serving food, processing food materials, distributing food, and washing and cleaning utensils, and working environment⁹.

Central General Hospital Prof. Dr. R. D. Kandou Manado is a type A hospital with 69 nutrition personnel consisted of nutritionists, cooks, waiters, logistics, special food personnel, and supervisors¹⁰. However, it is not following the study of the human resource empowerment agency of 2012 regarding nutrition personnel requirements based on the analysis calculation method of workloads, which mentions that type A hospitals should possess 72 nutrition personnel. Nutrition personnel in RSUD Arifin Achmad were 14 people. An education type B hospital such as RSUD Arifin Achmad should have nutrition personnel of 23 people⁷.

It is discovered from both hospitals that the nutritionist amount in hospitals is not following the regulation. It caused multiple jobs to nutrition personnel and non-optimal services provided to patients.

Education

Nutritionists who work and practice should have a Registration Certificate (STR) obtained from the government after completing the competency test. STR's validity period is five years and can be extended according to the applied terms and conditions¹⁰. The Regulation of the Minister of Health No. 78 of 2013 regarding the nutritional service guideline for hospitals states that nutritionists required as Registered Dietitians (RD) are graduates of Bachelor's Degree completing the competency test, while Technical Registered Dietitians (TRD) are graduates of Diploma completing the competency test. In the study conducted on type A, B, and C hospitals in Surabaya, most food handlers' education was Food Major in State High School or Vocational High School. For waiters or supporting personnel, most of their education was Elementary School or Middle School¹¹. A study conducted at the

Hospital of Universitas Sebelas Maret Solo showed that nutritionists in the hospital had education backgrounds of High School/ Vocational High School and Diploma¹².

Nutritionists appointed as food service coordinators on type A and B hospitals should be graduates of Bachelor's Degree in Nutrition/Health with basic education of Diploma of Nutrition or Master's of Nutrition/Health².

Training

Food services in hospitals should be conducted optimally and according to the health standard of service quality. Food services that do not meet the hygiene and health elements will result in disease infection transmitted from food (Puspita et al., 2010). So it is necessary to control all food service processes so that it is always clean and protected from the growth of bacteria. Transmission of disease through food is one of the health problems around the world. Many infectious diseases are caused by microorganisms that enter the patient's body through food intermediaries. Therefore, it is necessary to implement hygiene procedures for food handlers so that the food they manage is safe and healthy¹⁴.

World health organizations, food, and agriculture organizations define safe food ingredients as food free from hazardous substances that can endanger the health of consumers¹⁵. Foodborne diseases are still one of the health problems in developing and developed countries. Errors in processing food ingredients and ignoring hygiene factors lead to disease transmission through pressure. Food handlers play an important role in maintaining and ensuring food ingredients' safety throughout the chain of production, storage, preparation, and processing. The health of food handlers is also important to consider so that the quality of food safety is maintained¹⁶.

There is a systematic approach to controlling and overseeing food on food from chemical, physical, and biological hazards known as Hazard Analysis Critical Control Point (HACCP)¹³. HACCP has

seven basic principles, namely conducting a hazard analysis by preparing a list of steps in the process where a significant hazard will occur and explaining how to prevent it, determining critical control points in the process, setting critical limits, establishing monitoring requirements for critical control points, establishing actions which may be taken if the monitoring finds a deviation from the specified critical limit, establishes verification procedures to ensure that the HACCP system is working effectively, and makes documentation and records of all procedures carried out following the principles and their handling¹⁷.

Implementing HACCP begins with socialization first to nutrition workers and then counseling on hygiene and food safety practices and their application. There is an increase in knowledge, changes in behavior, changes in work practices for better hygiene and food safety, and a decrease in the number of bacteria in food and equipment used to process food after nutrition workers apply HACCP¹³.

In a study conducted in two hospitals in Egypt, there was an increase in nutritionists' knowledge and behavior on food safety after training. The food-safety practice training program provides information on personal hygiene practices, including how to dress clean and neatly when working, clean nails and hair, when nutrition workers should wash their hands, how to process safe food storage and processing. Besides maintaining personal hygiene to prevent disease transmission, nutritionists must also care for and understand the kitchen environment. A dirty kitchen environment that is not following the rules can support the transmission of disease as well¹⁸.

In addition to implementing safe food management practices, food processing personnel must be aware of not being present to work if they suffer from illnesses such as coughs, colds, infections of the eyes, skin, and ears. Diseases suffered by food processing personnel will cause a disease transmission process that will negatively

impact the development of the patient's condition¹⁹.

Providing training to all personnel who work in the hospital is essential. In addition to recalling what knowledge has been obtained, training is useful for providing the latest knowledge to hospital personnel. Training is provided for food processing personnel on food safety and providing interventions to increase knowledge and hygiene attitudes towards oneself and food. The training can be delivered through the provision of materials directly with video media, the distribution of posters/booklets/leaflets, and group practice. The use of media in the form of videos, posters, booklets, and leaflets is expected to facilitate the absorption of the material given because the use of language in the media is light, attractive, and easy to understand. Food safety training would be better if it were given regularly, at least once a year.

5. Facilities and infrastructure

Optimal nutritional services must be supported by good facilities and infrastructure. Some of the facilities that must be in place to support the process of providing hospital meals include the availability of drinking water and clean water, liquid and solid waste disposal sites, smooth sewerage, availability of toilets or toilets, availability of suitable bins, places for washing hands, washing cooking utensils, cold and hot water taps, clean kitchen floors and walls, adequate ventilation and lighting in the kitchen¹⁵. According to the Decree of the Minister of Health Number 715/Menkes/SK/V/2003 regarding infrastructure in hospitals, it states that the kitchen ceiling must be made of strong material, the kitchen wall must be coated with a material that is easy to clean, and the trash can must be in good condition, plastic-coated, which is waterproof and easy to clean¹³.

CONCLUSION

The competence of cooks and waitresses in terms of educational

background, training, knowledge, practice, and behavior in food safety practices in the administration of hospital nutrition affects food distribution accuracy to patients. Routine training on nutrition and food safety practices is needed for nutrition workers in each hospital so that the quality of human resources can be better. It is necessary to conduct another evaluation regarding the number of nutrition workers based on their function and role so that there is no work framework so that the services provided can be optimal.

REFERENCES

1. Peraturan Menteri Kesehatan Republik Indonesia. Standar Pelayanan Minimal rumah Sakit. 2008.
2. Peraturan Menteri Kesehatan Republik Indonesia. Pedoman Pelayanan Gizi Rumah Sakit.
3. Mardianingsih N, Utami FA, Palupi IR. Capaian Standar Pelayanan Minimal Gizi di Rumah Sakit Umum Daerah (RSUD) Manokwari Papua Barat. *Gizi Klin Indones* 2020; 16: 152–167.
4. Herawati et al. Analisis Implementasi Pelayanan Gizi di RSUD Tugurejo Semarang. *Manaj Kesehat Indones*; 03.
5. Muliawardani et al. Analisis Manajemen Pelayanan Gizi di Rumah Sakit Jiwa Grhasia Daerah Istimewa Yogyakarta. 2016; 10: 11–16.
6. Aminuddin et al. Patient Satisfaction With Hospital Food service and its Impact on Plate Waste in Public Hospitals in East Malaysia. *Hosp Pract Res* 2018; 3: 90–97.
7. Familta et al. Analisis Manajemen Pelayanan Instalasi Gizi di Rumah Sakit Umum Daerah Arifin Achmad Provinsi Riau Tahun 2019. *J Kesehat Komunitas* 2019; 5: 218–226.
8. Pitri et al. Eksplorasi Peran Perawat Dan Ahli Gizi Dalam Pemberian Nutrisi Pada Pasien Kritis. *JPerawatIndones* 2019; 3: 109.
9. Jocom et al. Pengaruh Tingkat Gejala Kecemasan terhadap Indeks Prestasi Akademik pada Mahasiswa Angkatan 2016 Fakultas Kedokteran Universitas Muhammadiyah Sumatera Utara. *J Biomedik* 2019; 11: 137–143.
10. Regar et al. Analisa Kompetensi Ketenagaan Terhadap Kualitas Pelayanan Nutrisi di RSUP Prof.dr.R.D.Kandao Manado. *Fak Kedokt Univ Sam Ratulangi Manad* 2017; 14–24.
11. Rahman N, Bakri B. Kualifikasi Tenaga Kerja Pada Berbagai Klasifikasi Penyelenggaraan Makanan Massal. *J Info Kesehat* 2019; 17: 35–49.
12. Hardiah M, Nabawiyah H, Pibriyanti K. Correlation between Knowledge and Attitudes to the Behavior of Personal Hygiene Food Handlers in Nutrient Department. *Sport Nutr J* 2020; 2: 17–24.
13. Puspita WL, Prawiningdyah Y, Nisa FZ. Penerapan Hazard Analysis Critical Control Point (HACCP) terhadap penurunan bahaya mikrobiologis pada makanan khusus anak berbasis hewani di Rumah Sakit Umum Daerah Dr. Soedarsono Pontianak. *J Gizi Klin Indones* 2010; 7: 8.
14. Fitria Ayuti et al. Hubungan Pengetahuan, Sikap, Perilaku, dan Standar Personal Higiene Penjamah Makanan di Instalasi Gizi Rumah Sakit Islam Jakarta Cempaka Putih. 2018; 25: 69–75.
15. Adikari AMNT, Rizana MSF, Amarasekara TP. Food Safety Practices in a Teaching Hospital in Sri Lanka. *Procedia Food Sci* 2016; 6: 65–67.
16. Bobhate et al. Profile of catering staff at a tertiary care hospital in Mumbai. *Australas Med J* 2011; 4: 148–154.
17. Grintzali GP, Babatsikou F. The significance of the application of hazard analysis critical control point system in hospital catering. *Heal Sci J* 2010; 4: 84–93.
18. Saad AM, Mahmoud F, Mahmoud BH. Training Program among Hospital Food Handlers ' Regarding Food Borne Diseases. *J Nurs Heal Sci* 2018; 7: 1–11.
19. Githiri M, Kimiywe J, Okemo P. Knowledge in food hygiene and hygienic practices differ-in food handlers at a hospital in Nairobi, Kenya. *African J Food Sci Technol* 2013; 4: 19–24.

How to cite this article: Ulfi DN, Aini Q, Kusbaryanto. Literature review: competencies of cook and waiters on food distribution accuracy in hospital inpatient nutrition installation. *Int J Health Sci Res.* 2020; 10(12):150-156.
