ORIGINAL ARTICLE

Barriers and Challenges of an Outsource Hospital Foodservice Operation: A Narrative Thematic Analysis

Noor Suzana Osman[1,2], Norazmir Md Nor[1,4], Mohd Shazali Md Sharif[3], Syafiqah Rahamat[5], Syahrul Bariah Abdul Hamid[1]

[1] Center for Dietetics Studies, Faculty of Health Sciences, Universiti Teknologi MARA, Puncak Alam Campus, 42300 Puncak Alam, Selangor, Malaysia
[2] Department of Nutrition Sciences, Kulliyyah of Allied Health Sciences, International Islamic University Malaysia, Kuantan Campus, 25200 Kuantan, Pahang, Malaysia
[3] Department of Culinary Art, Faculty of Hotel and Tourism Management, Universiti Teknologi MARA, Puncak Alam Campus, 42300 Puncak Alam, Selangor, Malaysia
[4] Integrative Pharmacogenomics Institute, Universiti Teknologi MARA, Puncak Alam Campus, 42300 Puncak Alam, Selangor, Malaysia
[5] Department of Dietetics, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, 43400 Seri Kembangan, Selangor

ABSTRACT

Introduction: Hospital foodservice is one of the key performance metrics that should be constantly monitored to maintain and improve the quality of hospital services. However, hospital foodservice must overcome obstacles and constraints that can impact the quality of services supplied. This study explored the barriers and challenges foodservice employees encountered during food production and serving meals to patients. **Methods:** A qualitative study was conducted with thirteen foodservice employees (N = 13) at a government hospital in Selangor, Malaysia, that outsourced its foodservice operations. The interviewees were chosen based on inclusion and exclusion criteria. The interviews were audiotaped, transcribed, and analyzed using narrative, and thematic analysis. **Results:** The narrative findings reported foodservice employees were able to define their job in the foodservice department and describe their responsibilities in delivering sufficient quality of service to patients. The findings showed foodservice staff confronts barriers and challenges related to the type of foodservice operation, budget allocation, menu served, employee issues, meal preparation, and equipment. Employees also proposed that the government should regularly revise the foodservice contract specifications, budget allocation, and upgrade the equipment used during meal preparation and delivery to patients for future improvement. **Conclusion:** Future studies should be conducted in different hospital settings, including government, semi-government and private hospitals or foodservice operation systems such as in-house and outsourced operations or centralized and decentralized plating systems to explore other barriers and challenges that may affect the overall foodservice performance. Therefore, intervention studies can be proposed to improve their operation in the future.
Malaysian Journal of Medicine and Health Sciences (2022) 18(SUPP15): 97-107. doi:10.47836/mjmhs18.s15.14

Keywords: Foodservice, Narrative analysis, Outsource, Qualitative, Hospital meals

Corresponding Author:
Norazmir Md Nor, PhD
Email: azmir2790@uitm.edu.my
Tel: +6019-6664534

INTRODUCTION

Foodservice is a broad term that involves the provision of food and beverages to those who consume the most of their dietary requirement or who are vulnerable and/or have particular dietary needs (1). Compared to other hospitality industries, foodservice in a hospital is an essential component of the treatment process that directly affects the patients' length of recovery and quality of life (2). Operating a healthcare foodservice company for inpatients is always challenging. Healthcare foodservice personnel need to prepare and serve hundreds, if not thousands, of meals per day while keeping floors stocked with snacks, beverages, and supplies for patients. Foodservice employees including directors, dietitians and managers must be resourceful, creative, and open-minded to overcome high staff turnover and cost-cutting challenges despite the stress of working in a busy foodservice environment. It is their role in keeping patients and customers well-nourished and healthy.

Patients' expectations and opinions about hospital food are among the main factors contributing to the

success of hospital foodservice (3). Patient satisfaction is subjective when evaluating the care provided, but judgment is the driver when patients have a wide selection of healthcare providers. As a result, improving patient satisfaction is critical, especially in a competitive healthcare environment where outsourcing companies use patient satisfaction to determine reimbursement rates (4). Previous studies reported that the foodservice quality was evaluated by inpatients based on several factors such as nutritional value, taste, texture, variety, sanitation, portion size, temperature, mealtime, and staff characteristics (5–7). Studies showed that apart from medical conditions that induce patients' food intake, environmental factors such as poor food quality (e.g., taste, temperature, food variety, presentation, and nutrients content), inadequate food availability, lack of nutrition training and education among medical provisional and nurses play significant role that contribute to high prevalence of malnutrition among hospitalized patients (8).

The government of Malaysia proposed outsourcing the public healthcare of the Ministry of Health (MoH) in 1996 as part of the Seventh Malaysia Plan to improve the efficiency of service while retaining its own qualified and experienced human resources (9). The type of foodservice operation (in-house or outsourced) and the plating system (centralised or decentralised) used in Malaysian government hospitals influence management and foodservice staff's employment. In-house refers to the foodservice system in which the hospital manages the manpower, infrastructure, and operations of the foodservice, and decentralized plating system is frequently used, especially when the hospital has a small bed capacity. Outsourced foodservice, on the other hand, is when a hospital appoints a private catering company to deliver and serve food to a large number of patients in the wards (10). In other words, outsourcing is the process of delegating duties and services traditionally conducted in-house to third-party vendors (11). Outsourced foodservice vendors prepare and serve food to patients, visitors, and staff in the foodservice industry. In addition, innovative ideas such as room service dining allows patients to order meals at their leisure (12).

Most of the studies on hospital foodservice operations conducted in Malaysia used quantitative methods such as food or plate wastage and patient satisfaction surveys (13 –15). However, few studies on hospital foodservice operations in Malaysia, particularly those that use qualitative approaches. A study using a qualitative approach by Vijayakumaran et. al. (2018) previously reported how various hospital staff (such as nurses, foodservice managers, dietitians, doctors, and ministry officials) affects patients' food consumption. They discovered that staff training and nutrition education, plating systems, and employees lacking initiative and skills were all associated with patients' food consumption (16). Another study by Vijayakumaran (2012) found that patients expected changes in various aspects of hospital food provision, whereas staff were unable to identify the factors that contributed to patients' conceptualization of hospital food, resulting in poor acceptance of hospital food (17). Thus, previous research suggested that while the qualitative approach enabled researchers to understand the common challenges associated with hospital food provision, the patients' perspective is also critical for implementing any positive changes (16).

It is necessary to identify the areas of improvement in hospital foodservice by exploring the main issues arising at the respective hospitals from the patients' perspective and the staff's point of view. The purpose of this study was to identify barriers and challenges that outsource foodservice staff face when producing meals and providing patient meal services. This information will assist outsourced foodservice operators in identifying areas for future improvement at the respective hospitals. Therefore, it will facilitate them in achieving their primary goal of providing appropriate nutrition care to meet patients' needs and requirements, as well as indirectly help them reserving their business revenue for operation and human resource maintenance.

MATERIALS AND METHODS

Participant and procedure

This qualitative case study was conducted at a government hospital with 300 beds in Selangor, Malaysia, which outsourced its foodservice to a private healthcare foodservice company. The plating system used in the foodservice operation is a centralized kitchen with an eight-day menu cycle that is served to the patients. Thirteen participants, including both hospital staffs and outsourced company employees, were selected. The data collection was conducted between May and July 2021.

The ethics and data collection approval were obtained from the Ministry of Health, Malaysia (NMRR-19-3262-47594 (IIR)), the Clinical Research Council, and the hospital director. Before the interview, the head department of dietetics and foodservice was contacted to get their consent to participate in this study. Staff from the hospital foodservice department was assigned to assist the researcher during the interview session. The participants were selected based on inclusion and exclusion criteria. They must be Malaysian and have worked for at least six months in the foodservice department in the respective hospital.

All ethical rules were followed during the interviews. The interview questions were developed and discussed among the authors through literature search from previous studies (18–20). The interview was conducted via telephonic conversation, and they must be seated in an isolated room to avoid any external noise and

destruction during the interview sessions. Then, the in-depth interviews were conducted using an interview protocol focused on the attributes or factors that influence the foodservice operation, the difficulties they faced, and their opinion to improve their operation to fulfill this study's above objective. The interviews lasted between 30 to 60 min for each participant. The sample size was determined once when all the aspects were covered in the interviews, and the data saturation was achieved. The interviews were recorded using a phone recorder and transcribed by a researcher. Transcripts and recordings were cross-checked for reliability and help data concentration. In addition, the triangulation method was applied in this study by utilizing the previous patient satisfaction survey report to validate the interview findings.

Data analysis

The interviews were conducted and recorded in Malay on the phone recorder. The data was then translated into English. Then the data were entered into Word files as raw data. The Nvivo 12 Plus software was used as a research management tool to organize, explore, integrate, and interpret the data. The researcher used a model of narrative analysis in this study, which incorporates thematic analysis. The researcher collected several stories and inductively from conceptual groupings from the data (21). Then, the narratives of the responses were highlighted to increase the in-depth understanding of the underlying factors of the phenomena. The thematic approach helps theorise several cases to find thematic elements across the participants and the event they reported.

RESULTS

Demographic data and characteristics of participants

The demographic data and characteristics of the interviewed participants are shown in Table I. Overall, 13 participants, including six males and seven females (one head of department, one catering dietitian, two catering officers, two chefs (a head chef and sous chef), and three commissary kitchens, two supervisors, and two kitchen porters.), were interviewed in this study. The mean age of the participants was 29 years, with the range of 21 to 50 years old. Five of the participants finished their education in secondary school (SPM) (n = 5, 39%), four participants in bachelor's degree (n = 4, 30%), two participants in certificate (n = 2, 15%), one participant is in high school (STPM) (n = 1, 8%), and one participant in diploma (n = 1, 8%). Most of the participants were single (n = 9, 69%), while the remaining participants were married (n = 4, 31%). Four participants are in administrative positions with one head of department (hospital staff), one catering dietitian (outsource company), and two catering officers from both hospital and outsource company staff. Four subjects are from Patient Service Department (PSD), two are kitchen porters (pramusaji), and two are supervisors at the department. The mean working experience is 6.7 years with a minimum of working experience of 6 months (0.5 years), and the longest working experience is 30 years. Only two subjects were from the hospital (n = 2, 15%), while the remaining subjects were staff from the outsource company (n = 11, 85%).

Table I: Demography data and characteristics of the subjects.

Subject	Gender	Marital status	*Age (Years old)	Level of education	Job position	Working experience (years)
C1	Male	Married	50	Certificate	Head chef	30
C2	Male	Married	27	High school	Sous chef	8
CD1	Female	Single	27	Degree	Catering dietitian	3
CO1	Female	Married	38	Degree	Catering officer	11
CO2	Female	Single	29	Degree	Catering officer	3
HOD	Female	Married	40	Degree	Head of department	15
K1	Male	Single	21	Secondary school	Commissary	2
K2	Male	Single	25	Secondary school	Commissary	1
K3	Female	Single	22	Diploma	Commissary	0.5
PSD 1	Male	Single	22	Certificate	Patient service	1
PSD 2	Female	Single	25	Secondary school	Patient service	2
SV 1	Male	Single	25	Secondary school	Patient service	4
SV 2	Female	Single	26	Secondary school	Patient service	7

*Mean age = 29 years Mean working experience = 6.7 years

Barriers and challenges of food provision

Five themes and issues were identified as significant with the situation based on the study's themes and issues. These themes include identifying the staffs' barriers and challenges faced in the types of foodservice operation and management, equipment and facilities provided by the hospital, food attributes during preparation, meals delivery to the patients, and staff issues that influence the performance. A summary of the themes, categories and codes is presented in Table II. The themes emerged from several stages of analyzing interview responses. Figure I represent the main themes and sub-themes that define the barriers and challenges foodservice staff face when preparing and delivering meals to patients and the impact on patient satisfaction with the hospital foodservice.

The type of foodservice operation and management

The interviews conducted among the participants found that they perceived barriers from the contract specifications, which involved allocating budget for foodservice operations, namely staff recruitment, menu planning, purchasing, and food preparation. Although the Ministry of Health (MOH) has set the specifications of this contract, it depends on the ability of the outsourcing

Table II: Theme, category, and codes in research analysis

No	Theme	Category	Codes
1	Foodservice operation	1.1 Specification of contract	FSO-SC
		1.2 Budget allocation	FSO-BA
		1.3 Menu planning	FSO-MP
		1.4 Patient satisfaction survey	FSO-PSS
2	Equipment and facilities	2.1 Maintenance	EF-M
		2.2 Cleanliness	EF-C
		2.3 Kitchen layout	EF-BL
3	Food production	3.1 Food quality	FP-FQ
		3.2 Food choice	FP-FC
		3.3 Cooking methods	FP-CM
		3.4 Nutrient content	FP-NC
		3.5 Diet order	FP-DO
		3.6 Food safety	FP-FS
4	Meal delivery	4.1 Environment	MD-E
		4.2 Incorrect diet	MD-ID
		4.3 Patient perception	MD-PP
		4.4 Mealtime assistance	MD-MA
5	Staff issue	5.1 Staff attitudes	SI-SA
		5.2 Turnover staff	SI-TS
		5.3 Staff competency	SI-STS
		5.4 Working experience	SI-WE
		5.5 Routine of work	SI-RW

company itself to ensure a balance between profitability and the quality of services it can provide.

'*But when it comes to outsourcing foodservice, even though we have the same contract specifications for all hospitals and we have studied the prices, and so on, there are some companies even selected by the MOH, so not all companies have the same standards. Some companies can offer more, but some may be profit-oriented.*' (Head of department)

The hospital is responsible for monitoring the finished product's quality, even if the contract specifies budget constraints. However, it is the company's responsibility to find strategies to ensure that neither profits nor costs are incurred throughout its operations.

'*Yes. We will only be concerned about the ending product or the quality. If we think that the quality of the product is not so good, we will ask them to make improvements, and they have to find a way. Sometimes we understand that food costs exceed the price that we offer. However, we have to ask them to find a solution, what can be done.*' (Catering officer 1)

Furthermore, expenditures for foodservices vary according to current requirements, such as an increase in the number of patients, particularly during the COVID-19 pandemic that coincided with the data collection period. As a result, additional expenses were required to accommodate the growing number of patients admitted to the hospital, including meal production and the acquisition of necessary equipment.

'*We have to look at the trend of patients in hospitals. If the patient's trend does not change, we believe our current budget is adequate. However, because of the current trend, with the increase in inpatient admissions to the hospital, as we can see, the budget is not enough. So, indeed we need an additional budget.*' (Catering officer 1)

'*Ok, for now, we can still handle it, still enough. If the*

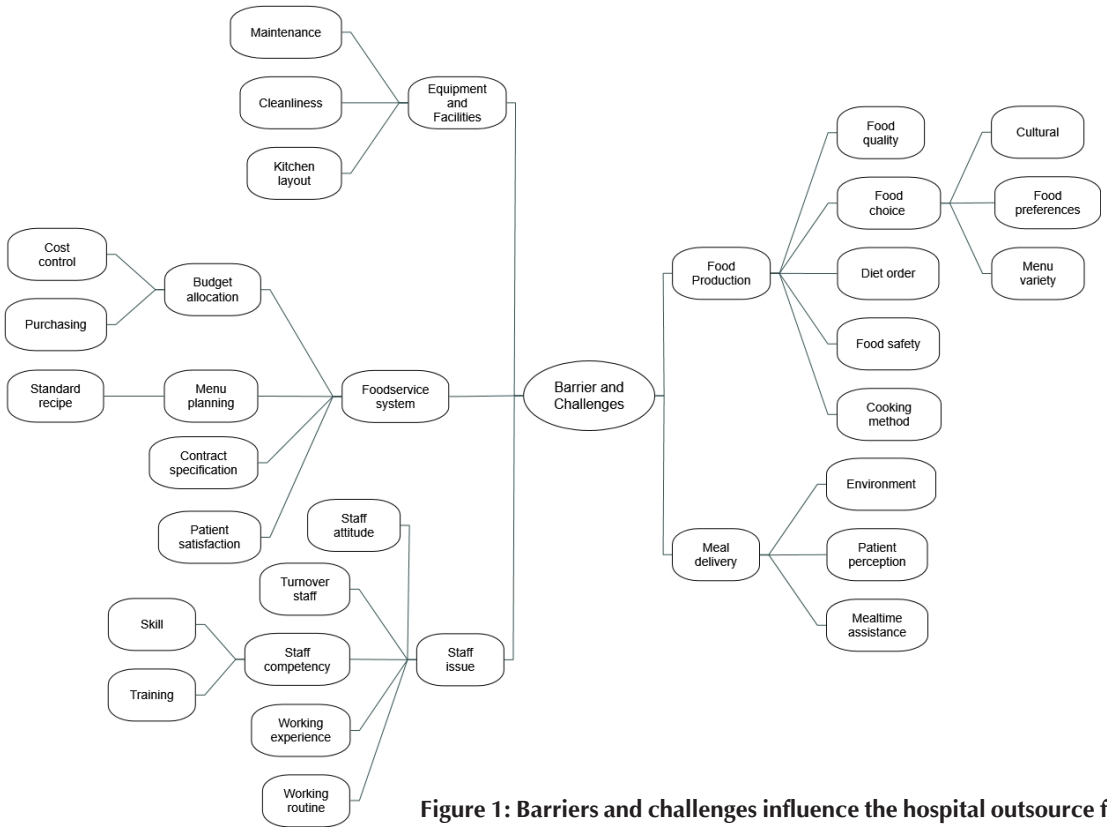

Figure 1: Barriers and challenges influence the hospital outsource foodservice operation

number of patients in the SARI ward increases, we have a lot of disposable container uses; we may need to increase the budget a bit because disposables are quite expensive. However, it is ok because we can still handle that thing for now.' (Catering dietitian)

Besides that, profit was one of the issues frequently discussed in the company. Participants explained that cost control is heavily emphasized to maintain the budget and profit balance, particularly during the purchasing and food production processes.

'*Our profit, that is why other clerks who take orders, they have to consider how much we sell and how much we have a profit margin. If the cost is very high, we have to reduce. We have to find a way to reduce the cost.*' (Head Chef)

The participants also mentioned that one of the challenges in foodservice administration is staff recruitment. As a result, employees may be burdened with excessive workloads due to staff shortages, resulting in unsatisfactory output. However, participants indicated that in the case of staff shortages, they would offer overtime and additional compensations to fulfil the workload.

'*But like this outsourcing company, they sometimes try to cope with the number of employees. For example, the number of staff is not enough, and they will try to cope. Sometimes the worker is burnout and tired. Then when they are tired, indirectly the work seems less efficient.*' (Head of department)

Additional challenges exist at each stage of the purchasing process, including allocation restrictions, raw materials shortages, increasing prices, and an increase in the number of patients, affecting menu planning and the performance of foodservice operations.

'*We must refer them. And see how, if they say ok because they will inform the management team. Supposedly, the financial authorities will tell us about this kind of problem. Sometimes, there are products that we cannot get. For example, now it is the COVID-19 issues, frozen items like chicken, fish ... sometimes some cannot be delivered. So, because maybe, I do not know. Maybe during COVID-19 there were many roadblocks, so ... so far, we have to tell JDS about any changes.*' (Head chef)

'*So, if we want to run this food business, we have to allocate the budget. Furthermore, in that month, I will give one amount to catering officers and dietitians, and together with all the other officers, we will try to work out that amount because it is normal for the food industry to have raw materials that go up quickly. However, we have a daily sale that can sometimes top up the total purchase, and sometimes it will be a little less.*' (Catering officer 2)

'*Insufficiency of raw materials, foodstuffs. Meaning even though there is a standard recipe, we cannot follow the standard recipe that has been set due to a lack of raw material. That is what I saw.*' (Catering officer 1)

Besides, the patient satisfaction survey is another vital performance indicator repeatedly emphasized. The hospital administration must ensure that the evaluation meets the MOH's requirements. If the specified criteria are not fulfilled, the foodservice company should improve.

'*There are times when the KPIs are not achieved. For example, like a customer satisfaction survey, not everything we achieve every year. We know we cannot make it. So, if we do not achieve that, we have to do an analysis, why don't we achieve it and we have to improve so that we can achieve it.*' (Head of department)

As a result, a participant recommended that contract specifications be reviewed and improved regularly. In addition, as changes occur frequently depending on the current situation, service quality improvements must be made periodically to ensure that food services provided to patients meet their needs.

'*However, as the person in charge of the contract on behalf of the government, we can ensure that the contract's requirements are constantly evaluated. As a result, it follows the existing circumstances. Because the current situation will always change, food prices will always change, we have to redo our contract specs, so from that, we can improve.*' (Head of the department)

The equipment and facilities provided by the hospital

The participants expressed the equipment and facilities used in their meal production for food preparation and delivery during the interview. Most participants agreed that the hospital's equipment and facilities are adequate. However, a few participants felt that the hospital's equipment (such as trolleys and stoves) and facilities, particularly the layout of workstations and maintenance services were insufficient or unsuitable for the large scale of meal production in the kitchen and food delivery.

'*We try to use the heated trolley for temperature, but we cannot. The only good thing is if we can get the one from overseas, it is a heated trolley. It is just that we do not have it. We have a regular trolley, but it only can be heated. It is just, that is it. I mean, maybe we cannot maintain heat. If possible, for improvement, maybe getting a heated trolley should be ok. Because not all hospitals have this kind of heated trolley.*' (Catering officer 1)

'*For me, this kitchen design does not seem to fit. The vegetable cutting section does not suit 400 - 500 patients, so we must take turns during the cutting process. I have to look for another job.*' (Sous chef)

Furthermore, electricity to prepare various dishes on a large scale is a challenge during food preparation. Most kitchen equipment runs on electricity, which can easily lead to power outages during the cooking process. Other than that, staff members must thoroughly inspect the cleanliness of the equipment and utensils during meal preparation and food delivery to ensure that food does not become contaminated.

'*But sometimes, the possible reason for the high electricity consumption is that all kitchen appliances use electricity. Sometimes, once we use it, it overloads. That is why there is an electrical cut-off. We have to cook in small quantities; that is how it is. However, if you want to make improvements, maybe you have to improve the equipment, or the kitchen, the stove near the kitchen. Because when it comes to cooking, we are rushing for time to prepare various dishes.*' (Head chef)

'*We have to wash all the cups and spoons; we must serve the food with clean spoons and cups. After that, we have to wash all the spoons clean. Because of my job as a checker, I have to take care of the spoon. Because sometimes, for example, if there is a spoon, it may be overlooked, do not wipe it, then we make sure we wipe the spoon. Because we want to serve food to patients, we are afraid if they have any problems, right?*' (Patient service 1)

Food attributes during meal preparation

The findings demonstrated that food qualities are among the most significant impediments to food preparation in the kitchen and during meal delivery. Food quality (such as taste, presentation, and temperature), food choice (food preference and cultural influence), and nutritional content, especially for the therapeutic menu, were frequently highlighted food qualities by participants. Therefore, it is crucial to ensure that the food provided is of sufficient quality to suit the demands of patients regardless of their diet type or health status.

'*Depending on the patient as well. For us, the menu is enough in terms of nutrients, and it is complete. This means that the menu has protein, there are carbohydrates, and there are vitamins. That component is complete. Just usually, that will be the issue for therapeutic diets. Although we look, in the dietitian's view, the menu is indeed suitable for patients. In terms of taste, only a little less, for example, if the diet is low fat, low salt, we have to reduce it. That means no oil, no salt. So that is how the diet is. Only customer satisfaction is not satisfactory because the diet will be tasteless. It is usually the case with therapeutic diets.*' (Catering officer 1)

'*Other than that, maybe culturally. If we refer to the population in Shah Alam, most of the menus are mostly Malay, so we provide Malay cuisine menus. However, sometimes, Malay cuisine is not accepted by other races. So, maybe in terms of cultural differences, it affects dietary intake.*' (Head of department)

As a result, food tasting is conducted throughout the meal preparation and plating process to ensure that the food provided contains the optimum amount of nutrients and portion size. It is crucial in preventing malnutrition, and indirectly, the meals educate the patient about healthy eating after discharge.

'*Like our hospital, there are many portion sizes, and everything has to be weighed, everything has to be checked correctly. While at the hotel I used to work, the important thing is that the food must be tasty. It cannot be like that here. Here, there is no salt, there are diabetics, a therapeutic menu, a normal menu, and the doctor's menu is all normal; everything is possible.*' (Head chef)

Apart from that, participants mentioned that taking diet orders from the wards is one of the obstacles they have during meal production. Sometimes, they made mistakes counting the number of ward diet orders. In that case, the company will be penalized as stated in the contract specification. Thus, before the meal is prepared, the person in charge must double-check that the quantity of meal orders received is correct and sufficient according to the figure.

'*For example, there are many cases such as insufficient food, and then we will be penalized. This penalty seems to be punishable. For example, if the food is not enough, the nurse will inform the foodservice department that we are the ones to blame. For example, it is a penalty if there is not enough food. Before the meal is served in the ward, inspect the food, and then advise the patient that we have a half-hour timeframe to eat due to the ticket tag.*' (Patient service 1)

Meal delivery to the patients

The staff encountered difficulties delivering meals to patients due to the ward environment, patient perceptions of hospital food, and the need for mealtime assistance, particularly for the elderly, immobile patients, or patients without a caregiver to feed them.

'*Sometimes there are also unpleasant nurse staff, for example, if the diet served late because we also sometimes have the issue of constraints here. For example, waiting for the elevator because we have to follow the service time is sometimes unavoidable. However, we have to face a situation like that.*' (Supervisor 1)

Additionally, participants reported that they were not permitted to assist patients during mealtimes but claimed they would do their best to assist patients despite their supervisors' instruction not to assist patients unnecessarily. However, if they notice that the nurse is preoccupied with serving the patient during mealtimes, they will make every effort to assist them.

'*For example, if the patient cannot move, then ok, we are not allowed to feed or help unreasonably. However, if patients ask for help, for example, giving them water feeding them food, I will say if we feel the need to help, we help. Moreover, we need to refer to the nurse to tell her because we do not want any issues later. For example, the patient on the other side will look when we feed this patient. So, I will talk to the staff if we say we want to help the patient. It is out of our kindness to help them.*' (Supervisor 2)

Staff issues that influence the performance

In addition, issues involving employees have been identified as one of the foodservice administration's challenges. Staff attitudes, high staff turnover rates, skills, and even training provided to employees and work experience are just a few of the issues that foodservice operators must deal with.

'*Because we have constraints, sometimes the staff comes in and out, so my work shift cannot be just one shift. I cannot come in at 8 o'clock, come back at 5 o'clock. Sometimes I have to come in at 5 am, to cover staff who have resigned, not enough staff, or staff on vacation.*' (Head chef)

Most participants believed that employees' attitudes and working environment are highly significant in high turnover, especially among chefs in food production. The company's management routinely encountered unrecorded medical leave, absenteeism during working hours, and refusal to follow superiors' instructions.

'Duty shift will not be a problem if the staff listens to the instructions. That means he can follow our schedule; it will not have a problem. However, it will be a problem if the staff has personal issues, health problems, or wants to shift with his friend; he will be a problem because our shift has rotation.' (Catering officer 2)

'*Usually, staff attitudes and turnovers. Staff turnover is very high in this outsource company. We will hire them based on conditions and requirements as requested but working in a hospital is not the same as working in a hotel. Once they have been trained, they are quite stable, and then after that, they will resign. That is one of the reasons why staff turnover is high.*' (Catering officer 1)

The participants also discussed the staff's skills and training. Most participants indicated that they were required to attend a food handling course during their initial employment with the organisation but received no extra training. Also, they did receive on-the-job training from their senior staff to perform their duties efficiently and adequately, such as food hygiene and Good Manufacturing Practices (GMP), also mentioned by the respondent. Additionally, limitations imposed by the current situation, such as a COVID-19 pandemic, contribute significantly to the inability of their staff to receive the training that should have been provided.

'*If there is usually a new staff coming in, he does not find his timing, what he can do first… I will guide him for a week first. I will ask two staff to monitor the new staff.*' (Sous chef)

'*For now, there is none. However, we send off training to other hospitals before this because we also have other branches. So, we give them the exposure in other hospitals, like that.*' (Catering dietitian)

'*Second, we will have training once a month with company officers. During the training, the dietitian and catering officer will educate the staff on anything related to the equipment that we serve to patients, the food hygiene. The dietitian also educates related to the diets that we serve to patients.*' (Catering officer 2)

'*If we need them to implement GMP, the company will organize a short course or seminar for their staff to give knowledge about GMP. At the same time, we also organize for company staff regarding GMP.*' (Catering officer 1)

DISCUSSION

This study aimed to explore the experiences of foodservice employees and their perceptions about struggles in a hospital foodservice operation. Five key barriers to meal preparation and delivery were discovered through qualitative analysis used in the study. Even though the healthcare foodservice operator's effort to provide the best service possible, due to patients' wide range of delivery needs, the challenges faced by hospital foodservices are multifaceted. Besides, food preferences and physiological issues may change with age, religion, and cultural beliefs.

The findings reveal that the foodservice system associated with policy and regulatory compliance in contract specifications influences budget allocation, particularly procurement and recruitment. Contract specifications emphasise that larger foodservice has more operations than smaller hospitals (22). Moreover, contract specifications are crucial in the hospital food procurement process, and they must vary in response to menu modifications (23). The importance of managing and monitoring procurement processes in an outsourced foodservice company was highlighted in our study as a goal for healthcare managers to minimise costs while providing high-quality food to patients. Procurement is a critical phase in the foodservice system since it impacts food production, patient satisfaction, and the hospital's profitability (24). It requires collaboration between hospitals and external resources (25). It is a critical step in the value chain of hospital food production since it ensures that ingredients fulfil the specifications and

standards (26).

Outsourcing hospital foodservice can directly impact a patient's hospital experience and positively enhance healing outcomes. The hospital's food, environment, and facilities define a patient's nutrition, cleanliness, and comfort (12). Meanwhile, our research revealed the difficulties of working with a limited budget, increasing expenses due to a high patient admission rate, and limited resources such as labour and raw material, as well as insufficient equipment and maintenance service for large-scale food production. However, a study reported that the in-housing method is associated with the highest quality of foodservice departments. While, the outsourcing method is associated with the lowest quality of foodservice department, based on the five aspects of the Servqual model. Patients and staff are satisfied with the foodservice department when the hospital provides the raw materials, and the contractor manages the cooking and distribution (27). Other than food quality, foodservice directors at for-profit hospitals anticipate serving fewer inpatient meals, employing less staff, having smaller expense budgets, and generating more income in the future than foodservice directors at non-profit hospitals (28). Hence, standardising foodservice operations, sanitation system maintenance, facility remodeling, and new equipment are suggested as planning strategies. An appropriate response to patient needs is also suggested as a planning strategy (29).

The hospital's centralised plating system offers numerous advantages, including better quality and portion control, less equipment usage, and lower expenses (30). A previous study conducted in Malaysia indicated that the plating system (centralised or decentralised) and foodservice system (outsourcing or in-house) influence the food consumption of patients. They discovered that while the centralized plating system improved food presentation, cold food was served (16). Similarly, our findings suggest that one of the elements affecting food temperature is the type of trolley utilized during meal delivery. A study comparing bulk trolley and plate system methods stated that the bulk trolley method of food distribution allows all items to have a more tolerable texture, temperature, and flavour than the plate system of delivery. Temperature and texture are the most critical factors determining patient satisfaction with meals, focusing on hospital foodservice management (31). In contrast, a study conducted in Malaysia to evaluate patients' satisfaction with the bulk trolley system and the energy and protein discovered that while most patients were satisfied with the foodservice, the majority did not meet their total energy and protein requirements from the hospital food provided. The purpose of distributing food via the bulk trolley service were to improve the quality of food by retaining temperature and allow patients to make selections at the point of service regarding the type of dish, portion size and amount of gravy (32).

The quality of the foodservice department is strongly associated with patient satisfaction with hospital food as the end-product. The foodservice operators' major challenge is ensuring that patients are satisfied with the hospital's meal service and that nutritional requirements are met. Menus are essential in hospital foodservice, particularly when associated with cultural, ethnic, religious, and social diversity (22). Inpatients value foodservice quality based on several characteristics, including taste, nutritional content, hygiene, temperature, portion size, serving time, and staff attitude (33). As a result, planning hospital food/menus present a significant impediment for hospital foodservice operators. Other than that, regulations, operations, budget, kitchen facilities, labour, hospital types, and patient population are all aspects to consider while preparing or modifying hospital meals (34). From our point of view, the outsourced foodservice operator should be considered all these aspects when planning for menu improvement in future.

Furthermore, this study suggests that utilising equipment that seizes the number of patients, the raw materials utilised, and the staff skills contribute significantly to a foodservice organisation's ability to provide patients with a good level of care. Understanding the different systems' spacing requirements is necessary for picking a system that meets each hospital's building capacity. Foodservice managers and industry experts believe that the size of hospital kitchens and the productivity of a foodservice operation are inextricably linked (35). According to a previous study, cook-serve appears appropriate for public hospitals since it delivers fresh food, flexibility, and menu variety (24). Moreover, standard recipes and portion sizes were used in public hospitals to assist staff in identifying process flow and eliminating errors. However, most private hospital employees rely on experience rather than standard recipes to help them identify process flow and eliminate errors (22). Meanwhile, our study indicated that standard recipes could not be followed due to a lack of raw materials and foodstuff, indirectly impacting food quality. The shortage of raw materials and foodstuffs was due to the government's restriction of movement orders during the pandemic, which prevented suppliers from delivering raw materials on time. As a result, the chefs must be resourceful in modifying or changing the menu based on the availability of the raw materials.

Mealtime assistance is essential because it improves nutritional intake, patient satisfaction, and clinical outcomes (36). Our research discovered that, even though it is not the kitchen porters' responsibility, they empathize with patients who require assistance during mealtimes. Although staff empathy was critical, the nurses were unaware that they were often perceived as unpleasant and not providing enough encouragement and support during mealtime (16). In addition, a

previous study mentioned that the nurses were aware of neglecting patients due to their hectic schedules (37).

According to this study, the primary reasons for high staff turnover in foodservice departments include staff attitude, health concerns, working conditions and staff competency. Besides, the way a company manages employee well-being can affect productivity. According to the Centers for Disease Control and Prevention (CDC), healthy employees are more likely to be more productive (38). The CDC recommends workplace wellness programs as a strategy to boost employee productivity, and organisations that support workplace health have a higher percentage of employees on the job each day. The financial savings associated with implementing a workplace health program would be less than the cost of absenteeism, which includes overtime and replacement training. Other than that, staff must have the appropriate skills and competencies to ensure that patients' nutritional requirements are fulfilled, ideally through continuous nutritional care and management training (39). A previous study measuring the quality of food service at a university hospital discovered that after initial training before recruitment, none of the employees received any more training on food safety and cleanliness (40). Thus, kitchen employees can be trained regularly on food safety and hygiene and better cooking procedures to enhance undesirable foodservice areas. Besides that, it is considered that training health care personnel in interpersonal skills and communication can improve patient satisfaction more cost-effectively than expanding technical facilities. The inspections and observations of the kitchen by a local public health inspector or a higher authority regularly also can assist ensure that food safety and hygiene standards are met.

This research has some limitations. First, this study was conducted at only one hospital; hence, it could not be applied to the entire population. It is suggested to be carried out further research by comparing data from various hospitals with different backgrounds and foodservice systems, such as in-house and outsourced foodservice systems, government and private hospitals, and other health care institutions. Second, because of the government's COVID-19 pandemic lockdown, data collection during the study could only be done via phone calls. It is recommended that data be gathered via a face-to-face interview or focus group discussion on enabling the researcher the detailed collect information about interviewees' attitudes and behaviours toward their role in foodservice provision. Observations also can be made in the kitchen and during the meal delivery process to explore in-depth and achieve the study's objectives.

CONCLUSION

Based on our study objective, it is recommended that to improve future foodservice operations, the government should always revise the foodservice contract specification and budget allocation and upgrade the equipment utilised in the kitchen and during food delivery. Even though this study was conducted in one hospital and does not represent the entire population, it is suggested that future research be conducted in other private and public hospitals including teaching hospitals or other healthcare institutes particularly in Malaysia, to investigate the barriers and challenges that may affect foodservice operations performance. Finally, a quantitative approach, such as a questionnaire or online application to identify areas of improvement, can be developed as a guideline for hospital foodservice operators, and intervention studies may be recommended to improve their efficiency and productivity.

ACKNOWLEDGEMENTS

Researchers thanked the Hospital Director and Clinical Research Council of Hospital Shah Alam, Selangor, Malaysia, for their consent for data collection. The best gratitude to the Head of Department, the Department of Dietetics and Foodservice, and Warisan Kurnia Sdn. Bhd staff for their commitment and contribution during data collection. The study followed the Declaration of Helsinki criteria. The UiTM Research Ethics Committee approved it (reference number 600-IRMI (5/1/6) and date of approval 18th June 2019) and Medical Research and Ethics Committee, Ministry of Health, Malaysia (protocol code (NMRR-19-3262-47594 (IIR)) and date of approval 21st January 2021). Universiti Teknologi MARA financially supported this research through Research Incentive Grant (600-RMC/GIP 5/3 (015/2021). The authors declare no conflict of interest. The funders were not involved in the study's design, data collection, analysis, interpretation, manuscript writing, or the decision to publish the findings.

REFERENCES

1. Rosario VA do, Walton K. (2020) Handbook of eating and drinking. Handbook of Eat and Drink. doi:10.1007/978-3-319-75388-1_74-1
2. Sahin B, Demir C, Celik Y, Teke AK. (2006). Factors affecting satisfaction level with the food services in a military hospital. Journal of Medical Systems, 30(5):381–7. doi:10.1007/s10916-006-9022-3
3. Al-torky MA, Mohamed EA, Yousef FMA. (2016). Inpatients' Satisfaction with Food Services in Sohag University Hospital. The Egyptian Journal of Community Medicine, 34(2):33–45. doi:10.21608/ejcm.2016.651
4. Otani K, Kurz RS, Harris LE. (2005). Managing primary care using patient satisfaction measures/practitioner application. Journal of Healthcare Management, 50(5):311–25. doi:10.1097/00115514-200509000-00007
5. Fallon A, Gurr S, Hannan-jones M, Bauer JD. (2008). Use of the Acute Care Hospital Foodservice Patient

Satisfaction Questionnaire to monitor trends in patient satisfaction with foodservice at an acute care private hospital. Nutrition & Dietetics, 65(1):41–6. doi:10.1111/j.1747-0080.2007.00219.x
6. Theurer VA. (2011). Improving patient satisfaction in a hospital foodservice system using low-cost interventions: determining whether a room service system is the next step. Utah State University; All Graduate Plan B and other Reports. 32. https://digitalcommons.usu.edu/gradreports/32
7. Wright ORL, Connelly LB, Capra S. (2006). Consumer evaluation of hospital foodservice quality: an empirical investigation. International Journal of Health Care Quality Assurance Incorporating Leadership in Health Services, 19(2):181–94. doi:10.1108/09526860610651708
8. Tappenden KA, Quatrara B, Parkhurst ML, Malone AM, Fanjiang G, Ziegler TR. (2013). Critical role of nutrition in improving quality of care: an interdisciplinary call to action to address adult hospital malnutrition. Journal of the Academy of Nutrition and Dietetics, 113(9):1219–37. doi:10.1177/0148607113484066
9. Mustapa FD, Muzani M, Ismail F, Ali KN. (2006). Outsourcing in Malaysian healthcare support services: a study on the causes of increased operational costs. International Construction on Construction Industry; p. 1–10. Available from: http://eprints.utm.my/653/
10. Vijayakumaran RK, Eves A, Lumbers M. (2016). Patients emotions during meal experience: understanding through critical incident technique. International Journal of Hospital Research, 5(4):113–21. doi:10.15171/ijhr.2016.21
11. Jenster P V, Pedersen HS. (2000). Outsourcing - facts and fiction. Strategic Change, 9 (3):147–54. doi:10.1002/(SICI)1099-1697(200005)9:3%3C147::AID-JSC456%3E3.0.CO;2-8
12. Roberts J, Henderson J, Olive L, Obaka D. (2013). A review of outsourcing of services in health care organizations. Journal of Outsourcing & Organizational Information Management, Vol. 2013 (2013). doi:10.5171/2013.985197
13. Aminuddin NF, Vijayakumaran RK, Abdul Razak S. (2018). Patient satisfaction with hospital foodservice and its impact on plate waste in public hospitals in east Malaysia. Hospital Practices and Research, 3(3):90-97. http://www.jhpr.ir http://dx.doi.org/10.15171/hpr.2018.20
14. Azeman AR, Adenan H, Ripin A. (2018). Patient's satisfaction towards private hospital's food service in Melaka. Journal of Hospitality and Networks, 1(1):32–6. http://www.kuim.edu.my/journal/index.php/JHN/article/view/370/320
15. Tamby Chik C, Zulkiply NA, Bachok S. (2018). Plate waste in public hospitals foodservice management in Selangor, Malaysia. Indian Journal of Science and Technology. 11(36). 1-5. doi:10.17485/ijst/2018/v11i36/98468
16. Vijayakumaran RK, Eves A, Lumbers M. (2018). Understanding patients' meal experiences through staff's role: study on Malaysian public hospitals. Journal of Hospital Practices and Research, 3(2):50–8. doi:10.15171/hpr.2018.11
17. Vijayakumaran R. (2012). Differences between patients and staff's perception of food provision in malaysian public hospital. Menu, Journal of Food and Hospitality Research, 1:55–66. doi:10.26048/ww6c-cm34
18. Diez-Garcia RW, Japur CC, Medeiros MAT. (2013). Food and nutritional care quality indicators in hospital. Journal of Hospital Administration, 2(3):132. doi:10.5430/jha.v2n3p132
19. Collins J, Huggins CE, Porter J, Palermo C. (2017). Factors influencing hospital foodservice staff's capacity to deliver a nutrition intervention. Nutrition & Dietetics, 74(2):129–37. doi:10.1111/1747-0080.12344
20. Kim K, Kim M, Lee K-E. (2010). Assessment of foodservice quality and identification of improvement strategies using hospital foodservice quality model. Nutrition Research and Practices, 4(2):163. doi:10.4162/nrp.2010.4.2.163
21. Riessman CK. (2005). Narrative analysis. Narrative, Memory and Everyday Life, 1–7. Available from: https://core.ac.uk/download/pdf/58322.pdf
22. Ahmed OM, Rab EJ, Redmond E, Hewedi M, Wingert A, El MG. (2015). Food production and service in UK hospitals. International Journal of Health Care Quality Assurance, 28(1):40–54. doi:10.1108/IJHCQA-07-2013-0092
23. Chon K, Maier, TA. (2009). Welcome to Hospitality: An Introduction. 3rd ed. New York: Delmar Cengage Learning. ISBN: 9781428321489
24. Puckett RP. (2004). Food service manual for health care institutions. 3rd ed. San Francisco, CA: John Wiley & Sons. ISBN: 978-0-787-96468-9
25. Gregoire MB. (2017). Foodservice organizations: a managerial and systems approach. 9th ed. New Jersey, NJ: Pearson Prentice Hall. ISBN-13: 9780134017723
26. Payne-Palacio J, Theis M. (2009). Introduction to Foodservice. 11th ed. New Jersey, NJ: Pearson Prentice Hall; 714 p. ISBN-13: 9780135008201
27. Azadi F, Azami SR, Ghaziasgar M, Pakdaman M, Ansari B, Zadeh NS. (2014). The quality of food services through three various methods among selected hospitals affiliated to Tehran University of Medical Sciences, Based on the Servqual Model. Journal of Health Policy and Sustainable Health, 1(4):115–20. https://civilica.com/doc/443699/
28. Silverman MR, Gregoire MB, Lafferty LJ, Dowling RA. (2000). Current and future practices in hospital foodservice. Journal of the American Dietetic Association, 100 (1), p. 76–80. doi:10.1016/S0002-8223(00)00023-7
29. Yang I-S, Park S-Y, Kim H-A, Park M-K, Shin

S-Y, Lee H-Y. (2003). Strategic planning for the contract-managed hospital foodservice through QFD methodology. Korean Journal of Community Nutrition, 8(5):744–5. https://www.kci.go.kr/kciportal/ci/sereArticleSearch/ciSereArtiView.kci?sereArticleSearchBean.artiId=ART001188464

30. Hartwell H, Edwards JSA. (2001). A preliminary assessment of two hospital food service systems using parameters of food safety and consumer opinion. The Journal of the Royal Society for the Promotion of Health, 4(121):236–42. doi:10.1177/146642400112100407
31. Hartwell HJ, Edwards JSA, Beavis J. (2007). Plate versus bulk trolley food service in a hospital: comparison of patients' satisfaction. Nutrition, 23(3):211–8. doi:10.1016/j.nut.2006.12.005
32. Jamaluddin R, Manan NAA, Basri AM, Karim MSA. (2010). Patients' satisfaction with the bulk trolley system in a government hospital in Malaysia. Leadership in Health Services, 27(4):229–315. doi:10.1108/17511871011061073
33. Drain M. (2001). Quality improvement in primary care and the importance of patient perceptions. Journal of Ambulatory Care Management, 24(2):30–46. doi:10.1097/00004479-200104000-00005
34. Capra S, Wright O, Sardie M, Bauer J, Askew D. (2005). The Acute Hospital Foodservice Patient Satisfaction Questionnaire: the development of a valid and reliable tool to measure patient satisfaction with acute care hospital foodservices. Foodservice Research International, 16(1–2):1–14. doi:10.1111/j.1745-4506.2005.00006.x
35. Assaf A, Matawie KM, Blackman D. (2008). Operational performance of health care foodservice systems. International Journal of Contemporary Hospitality Management, 20(2):215–27. doi:10.1108/09596110810852186
36. Edwards D, Carrier J, Hopkinson J. (2017). Assistance at mealtimes in hospital settings and rehabilitation units for patients (>65 years) from the perspective of patients, families and healthcare professionals: A mixed methods systematic review. International of Nursing Studies, 69:100–18. doi:10.1016/j.ijnurstu.2017.01.013
37. Walton K, Williams P, Tapsell L. (2006). What do stakeholders consider the key issues affecting the quality of foodservice provision for long-stay patients? Journal of Foodservice, 17(5–6):212–25. doi:10.1111/j.1745-4506.2006.00039.x
38. Worker Productivity Measures. (2016). Center of Disease Control and Prevention. https://www.cdc.gov/workplacehealthpromotion/model/evaluation/productivity.html
39. Fernando GHS, Wijesinghe CJ. (2017). Quality and standards of hospital food service; a critical analysis and suggestions for improvements. Galle Medical Journal, 22(2):17. doi:10.4038/gmj.v22i2.7970
40. Fernando GHS, Wijesinghe CJ. (2016). Patient perceptions on hospital food service at Teaching Hospital, Karapitiya. Galle Medical Journal, 20(2):13. doi:10.4038/gmj.v20i2.7933