



# Understanding Patients' Meal Experiences through Staff's Role: Study on Malaysian Public Hospitals

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## Abstract

**Background:** One way to improve hospital food provision is certainly by understanding the management of hospital foodservices, but there is limited detailed information about staff roles in food provision in many hospitals around the world.

**Objective:** The hospital meal experience of patients, a part of the services provided by hospitals, is becoming important. Therefore, the role of various hospital staff members was studied through their behavior, attitudes, and practices so as to understand how the foodservice system works to address patients' food consumption.

**Methods:** This qualitative research used the convenient sampling method. Data was collected by interviewing twenty hospital employees with different job scopes (nurses, doctors, dietitians, foodservice managers, and directors of hospital foodservices) in 6 public hospitals.

**Results:** Themes such as *providing familiar food*, *food as the motivational factor for consumption*, *empathy shown by staff*, and *influences of the eating environment* were identified using content analysis.

**Conclusion:** The viewpoints and experiences of key stakeholders facilitated the understanding of various factors involved in the provision of hospital food which affect patients' decisions to accept and consume food.

**Keywords:** Dietary Services, Health Personnel, Health Care Quality, Hospitalization, In-Patient

## 1. Background

The major concern of hospital food is usually malnutrition, but patients' meal experiences have become an important focus too, mainly because the provision of hospital food is part of the services provided by hospitals.<sup>1,2</sup> Food wastage in hospitals is common,<sup>3-5</sup> and the actions of staff members are related to high wastage.<sup>6</sup> One way to improve hospital food provision is to understand how hospital foodservices are managed. Although various studies have examined hospital foodservices in different countries,<sup>7-10</sup> detailed information about a hospital staff's role in food provision in many hospitals is limited.

The aim of foodservices is to provide patients with exemplary nutritious meals necessary for their recovery and health and tailored to their specific health conditions.<sup>11,14</sup> Quality of service, particularly foodservice, is a concern,<sup>11,15</sup> primarily because nutritional status often deteriorates during hospitalization, especially among those who are malnourished on admission.<sup>16-18</sup> Patients are often malnourished because they do not eat well. Reasons for

compromised food consumption include poor quality or unsuitable food, lack of help during meal times, and failure of staff to identify undernutrition. Some reasons relate to the dietitian and the failure of hospital policies to provide adequate resources for staff training and a suitable eating environment.<sup>11,19-21</sup> Many causes relate to the role of staff in delivering the service.

Unclear staff roles, especially the role of nurses in relation to foodservice, has become a debate. Previously, distributing meals and helping patients eat during meal times were a nurse's responsibility,<sup>22,23</sup> but many hospitals have delegated these duties to ancillary personnel such as kitchen staff.<sup>24,25</sup> During meal times, employees are expected to provide the necessary assistance and monitor the patient's food intake. This task is often hindered by the division of nurse's duties in the ward.<sup>26</sup> The provision of assistance during mealtimes has been compromised by simple administration problems, such as the unclear responsibilities of nurses and kitchen staff.

The roles of staff members are also subject to change

influenced by factors such as the catering system (in-house or outsourced) and the plating system (centralized or decentralized). In Malaysia, in-house refers to the catering system in which the manpower, facilities, and operation of the foodservice are under the hospital's management and decentralized plating system is often practiced, especially when the hospital is of small bed capacity.<sup>27</sup> An outsourced catering system is one in which the hospital contracts with a private catering company, which brings in its own manpower and facilities to operate within the hospital vicinity, often with a large staff who helps deliver and serve food in the wards and involves catering for a large number of patients.<sup>27</sup>

**2. Objective**

The information available on the roles of staff members in public hospitals governed by policy such as the class system (1st, 2nd, and 3rd class foodservices differ according to patient's choice; first class is the most expensive followed by 2nd and 3rd classes) is limited. The class system is a colonial practice introduced in the early 1900s to provide medical and support services. The practice was left by the British and has existed ever since in Malaysian public hospitals.<sup>26</sup> Acknowledging the wide diversity of the foodservice systems used in Malaysian public hospitals, each staff group selected was perceived to have acquired a specific insight on food provision. Some of the questions asked to understand the staffs' roles resulted in the conceptualization of themes and included: *What is the staff's opinion of the current hospital foodservice? What roles do staff members have in providing food to patients? How does the staff address patients' food preferences?* and, *From the staff's perspective, how can patients' consumption of hospital food be improved?*

**3. Methods**

**3.1. Data Collection**

This qualitative research incorporated the inductive approach, an open-ended and exploratory approach which allowed for alternative explanations of what is happening

in a particular context, and therefore focuses on a smaller sample size. The main objective of the study was to understand staff members' attitudes and practices in order to understand patients' meal experiences from the staffs' perspectives. Thus, in-depth semi-structured interviews were conducted.

Data collection took place for approximately 3 months of 2012 in 6 public hospitals in Peninsular Malaysia. Selection of hospitals is indicated in Figure 1. First, a list of public hospitals in Peninsular Malaysia was obtained. Selected hospitals were located in the northern, central, and southern regions of Peninsular Malaysia, as regional influences affect eating habits that often reflect the patients' cultural roots. For example, people in northern Malaysia often consume food with added sugar, and certain communities in southern Peninsular Malaysia usually have fish-based dishes for breakfast.<sup>27</sup> Next, 2 hospitals (1 rural and 1 urban) in each of 3 states were selected which had catering (in-house, outsourced) and plating systems (decentralized, centralized), which often differ according to location (rural or urban).

The concept of data saturation was used to determine sample size; interviews were stopped once no new information was heard or seen. The number of staff was also estimated according to the availability of staff in the hospitals. For example, each hospital had only one or no dietitian on staff. Knowing that the opinions of the dietitians are crucial, rural district dietitians were initially approached; however, they were only involved in clinical dietetics and not foodservice. Therefore, they were excluded from the study. In the absence of a dietitian in particular rural hospitals, the responsibility of managing foodservices fell to the foodservice manager. A total of twenty employees from the general wards, foodservice departments, and the ministry were interviewed (6 nurses, 6 foodservice managers, 3 dietitians, 3 doctors, and 2 ministry officials [the Director and Assistant Director of Hospital Foodservices, Malaysia]). Purposive sampling was used to select the participants because of their role as key informants. Various groups of staff were viewed as

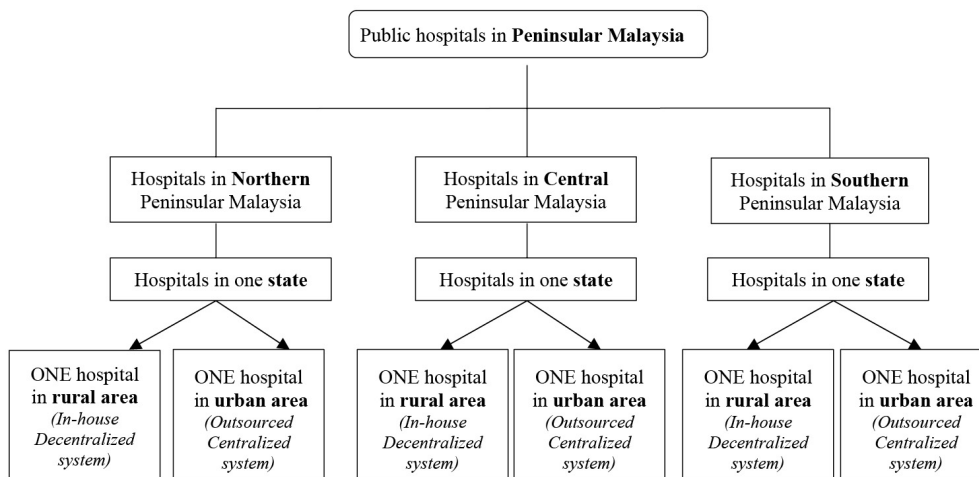


Figure 1. Selection of Hospitals.

those who hold valuable information distinct to their roles in hospital food provision, which were:

*Foodservice managers* – responsible for the operational aspects of foodservices;

*Nurses* – responsible for taking orders and delivering food to patients;

*Dietitian* – responsible for providing advice, especially regarding diet;

*Doctors* – responsible for providing general advice, which also includes dietary advice;

*Ministry of Health, Malaysia staff* – responsible for policies regarding foodservice and nutrition in Malaysian public hospitals.

The interview protocols were developed based on the literature and information gathered by a prior telephone interview with the Head of Hospital Services (Ministry of Health, Malaysia). The interview protocol focused on aspects such as *their role in food provision, their perception of service provision, authority, meal service routines, catering operations, and procedures*. The interview protocols for the ministry staff and hospital staff were similar, except for such issues as *policy issues and overall administration of the foodservice system in Malaysian public hospitals*. The interview protocol was tested prior to data collection; 2 nurses were interviewed to identify any ambiguities, words, or terms which were unclear. Data collection commenced approximately one week after the pilot testing.

Study information and consent forms were provided each participant before the interview session. Most participants were identified and recruited with the help of the hospital director's office staff (doctors and dietitian) or ward sister (nurses). They were later approached by the researchers, who conducted the interview sessions if they satisfied the inclusion/exclusion criteria and were willing to participate voluntarily. The interview sessions were carried out in the staff room during the employees' free time, and each interview lasted approximately 20-30 minutes. Interviews were completed once the aspects were covered and data saturation was achieved (when participants gave identical answers). Overall, data collection was carried out by the researchers for one month. Interviews were digitally recorded, transcribed verbatim, and then translated (from other languages to English) before the data was analyzed.

### 3.2. Data Analysis

NVivo software was used to organize, explore, integrate, and finally interpret the data. Content analysis was used because of its advantages of making valid inferences from text and describing attitudinal and behavioral responses in conversations.<sup>27</sup> Initially, results were classified according to the research questions before further analysis and reduced to emerging themes.

## 4. Results

### 4.1. Profile of the Participants

The profiles of staff members interviewed are presented in [Table 1](#). The number of participants in each staff group was

based on the availability of hospital employees during data collection. For example, in rural hospitals, there were no dietitians, so a dietitian's viewpoints could not be obtained. A total of 6 foodservice managers, 6 nurses, 3 doctors, 3 dietitians, and 2 ministry officials were interviewed. The foodservice managers were all females aged 29-51 years, with more than a secondary school education, and more than 5 years of work experience in all 3 classes (1st, 2nd, and 3rd). All 6 nurses were also female, aged between 21-53 years old, with diploma qualifications, and more than 4 years of work experience in all 3 classes (1st, 2nd, and 3rd). Three doctors (one male and 2 female) aged between 26-28 years with degree qualifications and 2-4 years of work experience in all 3 classes (1st, 2nd, and 3rd) participated. All 3 dieticians were female, aged between 25-45 years, had degree qualifications, and 2-17 years of work experience in all 3 classes (1st, 2nd, and 3rd). The dietitians were currently working in urban hospitals where catering was outsourced to catering companies; hence, centralized plating was used. The ministry officials participating in the current study were the Director and Deputy Director of Hospital Foodservice in Malaysia, males aged 45 and 37 years, with degree qualifications and 20 and 14 years work experience, respectively.

### 4.2. Role of Staff in Food Provision

The results were classified into 4 emergent themes: *providing familiar food, food quality as the motivational factor for consumption, empathy shown by staff, and influences of eating environment*. A summary of the codes, categories, and themes is presented in [Table 2](#). The themes were obtained after the interview answers were analyzed at various stages. [Figure 2](#) is a conceptualization of the main themes and various sub-themes which affect patient's food consumption according to the staffs.

1. When providing *familiar food, ethnic food* or *local dishes* enhanced the patients' food consumption, while an *absence of menu* resulted in choosing food from outside the hospital.
2. Food was seen as a *motivating factor* when *presentation, temperature, and taste* were satisfactory, but these aspects were influenced by the *catering system* (centralized/decentralized), which often differed according to the hospital location (rural or urban).
3. The *empathy shown by staff*, often determined by *assistance* and *encouragement* received from the staff to eat, also affected patients' food consumption, and *rudeness* of staff towards patients often had a negative impact on the patients' food consumption.
4. The *eating environment* also played a crucial role; *eating on the bed* and the *ambiance (sound and smell)* of the ward were seen as uncomfortable. Hence, a *separate dining area* within the ward was suggested to enhance patients' food consumption.

### 4.3. Providing Familiar Food

From the perspective of staff members, familiar food was

**Table 1.** Staff Profile According to Job Positions (N = 20)

Gender	Age	Education Level	Occupation Title	No. of Years Working	Catering/ Plating System	Hospital Area	Classes Worked In
F	31	Diploma	Foodservice Manager	12	In-house (Decentralized)	Rural	1st, 2nd, 3rd
F	35	Secondary	Assistant Foodservice Manager	12	In-house (Decentralized)	Rural	1st, 2nd, 3rd
F	51	Diploma	Foodservice Manager	28	Outsourced (Centralized)	Urban	1st, 2nd, 3rd
F	29	Diploma	Foodservice Manager	7	In-house (Decentralized)	Rural	1st, 2nd, 3rd
F	28	Degree	Foodservice Manager	4	Outsourced (Centralized)	Urban	1st, 2nd, 3rd
F	42	Secondary	Assistant Foodservice Manager	25	Outsourced (Centralized)	Urban	1st, 2nd, 3rd
F	53	Diploma	Nurse	21	In-house (Decentralized)	Rural	1st, 2nd, 3rd
F	31	Diploma	Nurse	5	In-house (Decentralized)	Rural	1st, 2nd, 3rd
F	21	Diploma	Nurse	5	Outsourced (Centralized)	Urban	1st, 2nd, 3rd
F	52	Diploma	Head nurse (ward sister)	27	Outsourced (Centralized)	Urban	1st, 2nd, 3rd
F	28	Diploma	Nurse	5	In-house (Decentralized)	Rural	1st, 2nd, 3rd
F	27	Diploma	Nurse	4	Outsourced (Centralized)	Urban	1st, 2nd, 3rd
F	27	Degree	Doctor	3	In-house (Decentralized)	Rural	1st, 2nd, 3rd
M	28	Degree	Doctor	4	In-house (Decentralized)	Rural	1st, 2nd, 3rd
F	26	Degree	Doctor	2	Outsourced (Centralized)	Urban	1st, 2nd, 3rd
F	45	Degree	Dietician	17	Outsourced (Centralized)	Urban	1st, 2nd, 3rd
F	25	Degree	Dietitian	2	Outsourced (Centralized)	Urban	1st, 2nd, 3rd
F	26	Degree	Dietitian	3	Outsourced (Centralized)	Urban	1st, 2nd, 3rd
M	37	Degree	Ministry Staff	14	-	-	-
M	45	Degree	Ministry Staff	20	-	-	-

the key strategy to reducing patients' aversion toward hospital food. Apart from doctors, other staff members were aware of variations in preferences, based particularly on the location of the hospital (influenced by locally available food and eating practices). Patients' preferences for local dishes were addressed by foodservice managers, but only in rural hospitals.

*"Among the patients here, they must have fish ... fish cakes, fish grilled with coconut ... they don't like chicken. Everything has to be fish."* (Foodservice manager 2,

rural hospital, decentralized catering, in-house).

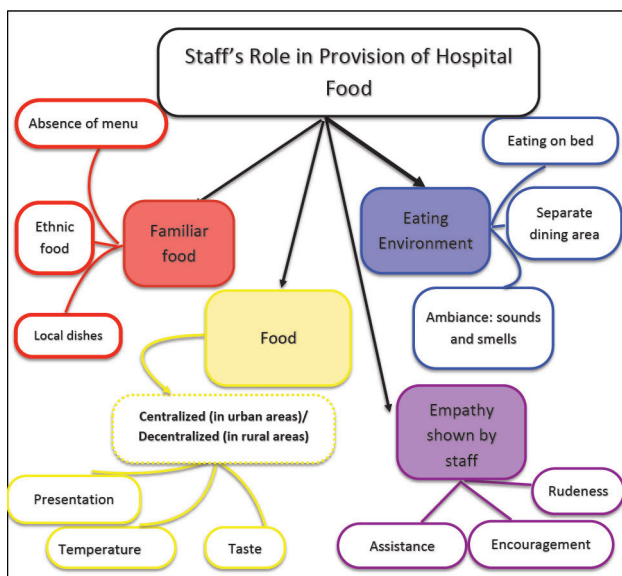
*"I have to make sure food is prepared for general consumption, and it must be healthy, not following particular eating habits."* (Dietitian 2, urban hospital, centralized catering, outsourced).

Moreover, in line with providing familiar foods to patients, *spicy, non-spicy, or vegetarian* menu options were introduced in government hospitals, but this strategy was regarded as unsuccessful. Foodservice managers attributed the failure of this plan to the nurses' unwillingness to provide available menus to patients, as patients were not made aware of the choices prior to mealtimes. The nurses' attitude of not indicating choices available (*spicy, non-spicy, or vegetarian*) was condemned by other staff, particularly by the dietitian, who believed that the options could have addressed the issue of familiar and ethnic-based foods, especially in a diverse ethnic-based community such as Malaysia. However, nurses defended their actions by saying inadequate staffing and the urgency to do other tasks hindered them from carrying out foodservice-related tasks.

*"By asking them to make the decision on what they want to eat ... I'm sure they will appreciate it."* (Foodservice manager 5, urban hospital, centralized catering, outsourced).

*"I would suggest that we should give patients a menu. Give them some privilege. Let them decide."* (Dietitian 3, urban hospital, centralized catering, outsourced).

*"I prefer it if patients are given a menu ... it makes them happy. They can choose what they want."* (Foodservice



**Figure 2.** Understanding Patients' Meal Experiences through Staff's Role



**Table 2.** Themes, Categories and Codes in Research

No.	Themes	Categories	Codes
1.	Familiarity of Food	1.1 Ethnic based food	FAM – ETH
		1.2 Favourite food	FAM – FAV
		1.3 Food Choices	FAM – CHO
		1.4 Menu	FAM – MEN
		1.5 Portion Size	FAM – SIZ
2.	Food Quality	2.1 Freshness	FOO – FRES
		2.2 Presentation	FOO – PRE
		2.3 Temperature	FOO – TEM
		2.4 Ingredients used	FOO-ING
		2.5 Taste	FOO – TAS
3.	Staffs' Attitude (Empathy)	3.1 Assistance	STA – ASI
		3.2 Encouragement	STA – EMC
4.	Environment	4.1 Dining Area	ENV – ARE
		4.2 Unpleasant sound and smell	ENV – SOU

manager 2, rural hospital, decentralized catering, in-house).

In other countries, the issue of choices is often related to the menu provided for patients, such as the menu not being elaborate enough, not providing vegetarian options, inadequate portion sizes, and the menu not being electronic.<sup>8,19,24,29</sup> In Malaysia, however, the argument was whether patients should be allowed to choose their food or not. Perhaps providing a menu would be beneficial, as it is an important tool to improving patients' food consumption.<sup>19,27</sup>

#### 4.4. Food Attributes as a Motivational Factor for Consumption (Taste, Presentation, and Temperature)

All participants agreed that 3 main food attributes (*presentation, taste, and temperature*) influenced patients' food consumption. Presentation differed according to the catering system (centralized or decentralized) from the perspectives of foodservice managers and dietitians. However, nurses believed that priority was based on the class system (e.g., foods in first class were well-presented compared with other classes). In their view, overcooked food often nauseated patients because of the compromised texture and color. Doctors did not know much about the influences of food attributes, as their involvement in patient mealtimes was limited.

*"When centralized plating is used, the presentation is excellent; the food looks tempting."* (Foodservice Manager 3, urban hospital, centralized catering, outsourced)

*"1st class food is always nicely plated compared to others and at times garnished to make it interesting and attractive to eat."* (Nurse 2, rural hospital, decentralized catering, in-house)

*"Due to the number of patients in 3<sup>rd</sup> class, the presentation of food is often compromised ... the food in 3<sup>rd</sup> class doesn't look good to eat."* (Dietitian 3, urban hospital, centralized catering, outsourced)

In addition to presentation, the taste of food was much discussed. The majority of participants felt that taste was compromised when the hospital's catering was

outsourced. This is mainly because foodservice managers tend to have limited control over food preparation in an outsourced system. Initially, dietitians supported the idea of outsourcing, convinced that taste would be improved, but they were disappointed.

*"About 2 weeks ago, a patient complained that the fried rice was tasteless. The patient just left the food, didn't take it at all. This is common in outsourced food."* (Dietitian 1, urban hospital, centralized catering, outsourced).

*"Patients have complained that food is not tasty ... it has been an issue since we outsourced!"* (Foodservice Manager 3, urban hospital, centralized catering, outsourced)

*"Patients here are happy with the taste ... no complaints. This is because the amount that we prepare is not too much, so we can control the food quality."* (Foodservice Manager 1, rural hospital, decentralized catering, in-house).

In hospitals using the centralized plating system, a substantial amount of time was spent plating the foods, and often the distance between the kitchen and the wards made it necessary to have temperature-controlled food carts. The limited number of temperature-controlled food carts were often used to deliver food to patients in first class first, because such equipment is costly. According to foodservice managers and dietitians, in hospitals where such trolleys were used, food consumption was above satisfactory, as hot food inspired patients to eat. The centralized plating system improved presentation, but foods were often served cold in many wards.

Food attributes are considered as driving factors in both satisfaction<sup>7,24,27,30</sup> and food consumption.<sup>30,31</sup> Although some researchers have argued that service elements were more pertinent,<sup>32,33</sup> the role of the food itself in persuading patients to eat is equally crucial. In other countries, both satisfaction<sup>13,24</sup> and energy intake<sup>16,34</sup> improved when decentralized plating was practiced. Hence, further exploration is essential to determine the most suitable plating system or to improve the centralized plating system in Malaysia.

#### 4.5. Empathy Showed by Staff

Empathy in the form of *encouragement* and *assistance* emerged when the role of the staff was explored. Nurses felt that their relationship with patients was very good, but their perception was not confirmed by other staff members.

*"A nurse's relationship with patients here is very close; those who have stayed more than 3-4 days are like friends to us."* (Nurse 1, rural hospital, decentralized catering, in-house).

*"Patients complained that the staff does not greet them. They just leave the tray and go. Some nurses are rude to them when they ask about food."* (Foodservice Manager 5, urban hospital, centralized catering, outsourced).

*"[laughing] ... I don't think there is much empathy for patients, though there are some good nurses ... very few."* (Ministry Staff).

Encouragement was regarded as essential, as eating in the hospital was regarded as a "lonely" experience. Nurses were expected to provide encouragement, because they had the closest contact with patients, and patients followed the nurses' advice. Other studies have reported that staff can be so busy that they neglect their responsibilities.<sup>19,23,35</sup> Most staff members felt that they neglected patients due to their busy schedule,<sup>36</sup> indicating the need to reconsider their role during mealtimes. Similar to the current research, studies have reported that when patients expressed their needs/preferences, not only are they ignored or denied, but they tend to be treated rudely.<sup>37,38</sup>

The patients in this study needed assistance such as pushing the table nearer to them, adjusting the bed higher or lower, and feeding. In rural (smaller) hospitals, patients had to raise their hands to be noticed by nurses, which was usually effective owing to the small wards. In urban (bigger) hospitals, patients had to ring a hand bell to get help, but they often had to wait a long time. Help was generally insufficient and not provided promptly by nurses. As a solution, the dietitians suggested that those patients needing help should be identified before mealtimes.

More than half of the patients admitted usually needed some kind of assistance during meal times.<sup>39</sup> It was confirmed that providing assistance is an effective way to prevent malnutrition and improve food consumption.<sup>39,40</sup> In general, patients in all hospitals felt that assistance from nurses was generally limited, because they had to wait a long time. Waiting was an issue also reported in other studies.<sup>41,42</sup> Therefore, patients turned to their family members or other patients when they needed help, similar to this study. Mealtime assistance is crucial, as it enhances nutritional intake, clinical outcomes, and the patient experience.<sup>43</sup>

#### 4.6. Influences of Eating Environment

All staff members except nurses agreed that a separate dining area was necessary, as the current environment was not conducive to eating. Patients often made the bedding dirty when they ate on the bed. Nurses disagreed because of the additional responsibility of transporting frail and

less mobile patients to and from the proposed separate dining area. Dietitians and doctors saw a separate dining area as an opportunity for patients to interact and improve their consumption. It can also provide some form of exercise as patients usually have restricted movement. The ministry staff considered eating on the bed unhygienic, but they stressed that the current setting in wards may not be suitable for accommodating a separate dining area. Moreover, the renovation of wards was only possible with substantial evidence depicting the need for change.

*"In some countries, there is a specific dining area in each ward. As patients eat, they have conversations with other patients, listen to music, and watch movies. However, this means the transformation of the wards, which needs more money and changes in policies, which needs proof."* (Ministry Staff).

*"I would suggest a separate dining area as it encourages patients to move around, be active. They come to meet others and interact as well."* (Doctor 2, rural hospital, decentralized catering, in-house).

*"I don't think we should have a separate dining area. We nurses will have more work."* (Nurse 6, urban hospital, centralized catering, outsourced).

Studies have found that creating a more home-like environment may provide an opportunity to promote feelings of belonging and togetherness, which, in turn, will support the rehabilitation process while aiding pragmatic operational practice.<sup>7,19,44</sup> Certainly, some changes to the eating setting will improve patients' food consumption as studies suggest that providing a group dining facility would enable a more efficient, prompt, and effective foodservice and be welcomed by patients.<sup>19</sup>

Two main things were used to describe ambiance: smells and sounds. Sounds such as coughing, crying in pain, and vomiting were considered very disturbing during meal times, making it hard for patients to eat. Compared to sounds, smells were even harder to tolerate, especially the medicinal smell of the disinfectants used to clean, which made the patients perceive the food as tasting like medicine.

*"No matter how tasty we cook and how well we present, patients will not eat because the smells in the ward are strong."* (Foodservice manager 3, urban hospital, centralized catering, outsourced).

*"Some can't stand the smell of the liquid used to clean the floor. Patients who are admitted for the first time may feel very uncomfortable, but after a few days they will get used to it. If you ask the patients, they will say that they have learned to put up with it."* (Nurse 6, urban hospital, centralized catering, outsourced).

*"If patients beside them are vomiting etc. ... for sure when they hear the sound they cannot eat right!"* (Doctor 1, rural hospital, decentralized catering, in-house).

The ambiance of the ward was found by other researchers to affect patients' consumption, especially the smells and sounds in the wards.<sup>7,44</sup> Although it is difficult to

eliminate the elements of sound and smell during patients' mealtimes, research has suggested that a separate dining area can reduce the effects of unpleasant smells and sounds during mealtimes.<sup>19</sup>

## 5. Discussion

In general, staff members were able to identify many of the factors that influenced patients' food consumption. Previous studies have indicated that nurses, being the closest personnel to patients, tend to understand their preferences better,<sup>23,42,45</sup> but foodservice managers and dietitians in this study were also aware of patients' preferences and eating behaviors.

Overall, in terms of *familiar food*, several attempts to encourage better consumption had been implemented (e.g., the provision of *spicy, non-spicy* and *vegetarian foods*), but the efforts proved to be unsuccessful, particularly because of staff attitudes. Patients' preferences remained unaddressed, as there was no proper communication channel between the medical and foodservice teams. Experts have indicated that there is lack of engagement with leadership and management in hospital foodservice.<sup>13</sup> In many hospitals around the world, patients' preferences remain unaddressed<sup>3,13</sup>; hence, innovative and practical solutions are necessary. Providing food choices or menus should not be an issue, as many countries no longer discuss the provision of food choice, but constantly adjust their menus as an effective communication tool between patients and the hospital kitchen.<sup>8,24,47</sup>

The food itself was seen as a *motivating factor*, but it was closely associated with the catering (outsourced/in-house) and plating systems (centralized/decentralized) that were used. When outsourcing was introduced in Malaysia, hospital staffs viewed it as a way to improve food provision as a whole. Views changed over time, mainly because the taste was considerably compromised. In addition, foodservice managers believed that their role was undermined in an outsourced system. In terms of the plating system, it was difficult to determine which system was regarded as most suitable. The centralized plating system improved food presentation, but foods were often served cold. Staff members were unwilling to use any system that compromised presentation, taste, and temperature of food, as these factors affected patients' food consumption, often prompting patients to turn to food brought from outside. Moreover, practicing the class system, especially by differentiating in the provision of food, was not welcomed by most staff members, as it has implications not only for their workflow, but also on patients' acceptance and consumption. Since the class system has been around for a long time, it needs to be evaluated and revised if necessary to reduce the negative implications on patients' food consumption and staff members' responsibilities.

*Empathy shown by staff* was crucial, but the nurses were unaware that they were often regarded as rude and not providing sufficient encouragement and assistance during

## Research Highlights

### What Is Already Known?

In many hospitals, especially in Malaysia, food is served primarily by nurses, because of the limited number of foodservice employees. The role of staff in food provision is one of the factors affecting patients' food consumption and, consequently, their nutritional status. Nurses and foodservice employees who are involved in food provision play a crucial role in ensuring that patients are well-nourished. However, there is little detailed information about employees' roles in food provision in Malaysia. Therefore, the current research is valuable in elucidates the situation of hospital meal provision in Malaysian public hospitals, especially where a class system is practiced in providing services (mainly food).

### What This Study Adds?

This research highlights the role of hospital staff in food provision and explores staff attitudes and practices during patients' mealtimes. Viewpoints and experiences of key stakeholders facilitated the achievement of an understanding of various factors involved in the provision of hospital food which affect patients' decisions to accept and consume food.

mealtimes. This is a quite common phenomenon. Studies have reported that the attitude of staff was often regarded negatively.<sup>37,38</sup> In some studies, nurses were aware that they neglected patients due to their busy schedule.<sup>36</sup>

Changes to the *eating environment* were regarded as essential, but it was subject to approval from a higher authority because of renovation costs. The impact of an environment conducive to eating should not be underestimated, however, as features of the physical environment, such as table setting and lighting, and social factors, such as interaction during eating and social activities associated with eating, especially in the hospital environment, have been found to be barriers to food consumption.<sup>7,19,44</sup> Furthermore, an environment conducive to eating has resulted in improved food consumption.<sup>24</sup>

## 6. Conclusion

Aspects uncovered in this research add to the literature on how the role of staff affects patients' food consumption. It is even more valuable for public hospitals in Malaysia to improve the provision of hospital food, especially by educating and training the staff involved in food provision. Similar to this study, past studies have indicated that plating system (centralized or decentralized) and catering system (outsourcing or in-house) have an impact on patients' food consumption. Furthermore, class system is related to patients' food consumption, mainly because of the impact it has on food quality from the staff's perspective. Employees lacked initiative and people skills, while overall foodservice operations lacked allocation and authority to introduce



changes. The qualitative approach allowed researchers to achieve an understanding of issues with hospital food provision a staff usually faces, but the patients' perspective is also vital to bringing in any positive changes. Hence, a quantitative approach to measure the enormity of issues related to patients' food consumption will be useful. Future studies should also focus on other types of hospitals, such as private ones (unsubsidized by the government), to understand differences in foodservice practices and their implications on patients' food consumption.

### Authors' Contributions

Study design: AE, ML, RKV; Data Collection: RKV; Manuscript writing: RKV, AE, ML.

### Conflict of Interest Disclosures

The authors declare that they have no conflicts of interest.

### Ethical Approval

Prior to data collection, ethical approval from the National Medical Research Registry (research ID:8761), and approval from both the Ministry of Health, Malaysia, and each hospital were obtained.

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