



(RESEARCH ARTICLE)



Patient's satisfaction regarding food services at Benghazi Medical Center, Benghazi, Libya.

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World Journal of Advanced Research and Reviews, 2024, 24(03), 940–951

Publication history: Received on 23 October 2024; revised on 07 December 2024; accepted on 09 December 2024

Article DOI: <https://doi.org/10.30574/wjarr.2024.24.3.3679>

Abstract

Hospital food service is a crucial aspect of healthcare in hospitals, and providing safe and suitable food is a fundamental right for patients. The quality of food service has a significant impact on overall patient satisfaction. As a result, many hospitals are changing their meal delivery services to prioritize the needs of the patient in order to enhance satisfaction and reduce costs.

Purpose: The study aimed to evaluate patient satisfaction with food services at Benghazi Medical Center (BMC).

Methods: The current study is a cross-sectional study carried out from November 2021 to March 2022 at Benghazi Medical Center in Benghazi, Libya. A total of 141 participants were involved, comprising (83) females and (58) males. The participants were selected from the hospital's wards. Data collection and assessment of participants' satisfaction regarding hospital food services were conducted through interviews using questionnaires

Results: The results of the current study show that most patients were satisfied with the quality of hospital food. There was a significant association ($P=0.026$) between patients' age and their satisfaction level. Approximately (23.4%) of patients over 40 years old reported being more satisfied. However, (16%) of participants were dissatisfied with the taste of hospital food. Most patients expressed satisfaction with the staff and hospital hygiene. Only (6%) of participants were dissatisfied due to flies or insects that prevented them from enjoying their meals. Every patient reported receiving snacks, fruit, and drinks. (64%) of participants were satisfied with mealtimes. (56%) of participants expressed satisfaction with the nutritionists' behavior in the hospital, while (44%) expressed no satisfaction regarding the nutritionist's behavior in the hospital.

Conclusion: This study shows that the majority of patients were satisfied with the food services, food quality of the hospital, staff, and hospital hygiene.

Keywords: Food Services; Food Quality; Patients' Satisfaction; Malnutrition; Hospital

1. Introduction

Nearly (50%) of patients are malnourished when they are admitted to the hospital, and many more suffer from malnutrition while receiving treatment (1). In hospitals, patients of all ages and diagnostic categories frequently experience inadequate nourishment to some degree (2). It might affect several clinical outcomes, such as the immune system's reaction, the healing process, the severity of the disease, the need for extra medication, the danger of infection, the duration of hospital stays, readmission risk, and the likelihood of survival (3, 4). Accordingly, this challenge should be properly addressed due to the physical and psychological well-being of patients and the financial losses (2,4).

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Hospital food service is a crucial component of healthcare administration (5, 6). In addition, it has become an important concern in hospital settings. To accelerate healing, patients require high-quality food, medicinal supplies, and treatments to enhance their health (7, 8). Proper meal plans should not only satisfy nutritional needs but also take into account the age, social, cultural, and religious beliefs of the community as well as the patient's health patterns (9). Several issues, including the absence of feeding assistance, the incapacity to prepare daily nutritious meals, and clinical investigations that prevent patients from eating enough, are linked to inpatients' poor food consumption (10).

Dietary promotion is an essential for accelerating healing, reducing hospital expenses, and raising patient satisfaction (11). Since all patients consume hospital food to meet their nutritional demands, high-quality food is crucial to promoting patient health (4). Hospitals are required by law to have a standard meal plan, even when patient nutritional demands differ widely. These programs must work for every patient and be adaptable with little adjustments (4).

Patient's satisfaction is a customer's experience utilizing a service that elicits favorable emotions (12). Patient feedback has become more important in improving the healthcare system (13). Many accreditations and programs that evaluate hospital services depend on the opinions and perceptions of patients (14). The findings of previous studies reveal that there is a strong association between the overall satisfaction of patients and the quality of food service (1, 5, 15).

Many studies show that satisfaction with hospital food services differs across national borders. In Pakistan, (91%) of the patients were satisfied with the overall quality of food services in hospitals (1). The majority (80%) reported an overall satisfaction of "good" or "very good" in a Swedish study (16). Two studies were carried out in Egypt to determine inpatients' satisfaction with the provided food services in hospitals. The overall satisfaction towards the overall quality of food services was (64.2%) and (55.9%) in Sohag University Hospital and Fayoum Hospital respectively (5,17). However, another study conducted at Minia public hospitals in Egypt indicated that the patients were not satisfied with the meal choices and the serving method (18).

Additionally, in two studies carried out in Iran, one study reported that the overall satisfaction of the patients with the quality of the hospital food services was (60.8%). The other study indicated that overall food satisfaction was significantly higher in hospital A (contracting food service) compared to hospital B (self-operating food service) (4, 2). Moreover, the findings of the Malaysian study indicated that (53.3%) of patients rated hospital food service as "okay", and (32%) of participants rated hospital food service as either very good or good (8).

The Ethiopia study showed that (33.6 %) of the patients were satisfied with overall food services in the hospitals (6). The Kenya study showed that (64.3%) of inpatients were not satisfied with the overall quality of hospital food. While (96.9%, 76.5%, 71.4%, and 65.3%) of the patients were not satisfied with the variety, type, taste, and appearance of hospital food, respectively (19).

The provision of meals and other food services have a significant impact on how patients view their hospital (20). While elements like food diversity, quality, and flavor should be considered. Criteria such as hospital menus should largely focus on the clinical requirements and patients' preferences. In addition, the hospital setting and the kind, accommodating demeanor of the nursing staff are crucial components of the quality of medical services (21). The impact of meal quality, safety, and organoleptic characteristics on patient's satisfaction is the strongest hospital marker. Pre-packaged spoons for soup, canned fruits in syrup, along with the usage of gloves during meal preparation, all suggested larger and tastier portions. Patients are particularly concerned about meal preparation's hygienic aspects (22). In Libya, there is a lack of scientific publications concerning patients satisfaction with hospital foodservice. The current research question is: Are patients at Benghazi Medical Center, Libya, satisfied with food service? This study assessed patients satisfaction with food intake services in Benghazi Medical Center.

2. Methodology

2.1. Study design and participant selection

The cross-sectional study has been conducted between November 2021 and March 2022 on patients attending Benghazi Medical Center (BMC), located in Benghazi, Libya. A total of 141 participants were consisting of (83) females and (58) males and they were randomly selected from five wards in the hospital. The five wards included wards include internal medicine, surgery, gynecology, hematology, and oncology. Questionnaires were used to interview participants, to collect data and, to assess their level with hospital food services. The inclusion criteria were the ability of the patients to assess the quality of food service with their voluntary, informed acceptance to participate in the study, and the inpatient age being 18 years or older. Exclusion criteria were patients who refused to take part in the research, emergency cases, patients who were deaf or mute and unable to speak, patients on a tube feeding who were undergoing parenteral

nutrition, and patients have mental health issues. Also, patients with unstable emotional states and fasting patients according to doctors' instructions were excluded

2.2. Instrument

An interview questionnaire was used to collect data. The questionnaire was adapted from The Acute Care Hospital Food Service Patient Satisfaction Questionnaire (ACHFPSQ) (23, 24). It is an accurate and reliable tool for measuring patient food service satisfaction. It differentiated food services into four main dimensions or categories, which included: food quality, meal service quality, staff/service and issues, and food hygiene. The questionnaire contains two parts: The first part includes personal information (age, gender, level of education, income, marital state, and length of stay in the hospital). The second part of the questionnaire was used to assess the satisfaction of inpatients with the food quality of the hospital, staff, hospital hygiene, and food services. The patients were required to give their opinions on whether or not they were satisfied with the different items included in the questionnaire by providing three choices (I agree, I partially agree, I don't agree), while some other questions were answered with (yes/no). These responses were assigned the following scores: Yes = 1, No = 2, and also as agree=1, partially agree=2, do not agree =3. The questionnaire was translated into the Arabic language for patients' convenience. To assure the quality of the data, a pre-test of the questionnaire was performed and these participants were not included in the final sample.

2.3. Statistical Analysis

Coded data was analyzed using the Statistical Package for the Social Sciences (SPSS) version 20. Descriptive statistics were used to summarize the socio-demographic characteristics of the patients, the level of satisfaction of patients with food quality, hospital services, and hospital, and staff hygiene were conducted statistically by using the chi-square test to indicate statistical significance. A p-value of less than 0.05 was considered.

2.4. Ethical considerations

This study was approved by the Faculty of Public Health, University of Benghazi. Respect for the participants (autonomy) was kept. The purpose of the research and the expected duration for the participant to complete the interview were communicated. This study kept the confidentiality of the participants and their names were not written on any result (anonymity was ensured).

3. Results

Table 1 Demographical Characteristics of the Study Sample (N=141)

Variables	Frequency (N)	Percent (%)
Age(years)		
<18-25	31	22 %
25-40	33	23 %
>40	77	55%
Gender		
Male	58	41%
Female	83	59%
Marital status		
Single	41	29%
Married	78	55 %
Divorced	15	11 %
Widowed	7	5 %
Level of education		
Primary	48	34 %

Secondary	64	45 %
University	29	21 %
Income		
Less than 500(LD)	52	37 %
1-500	49	35%
1500-1000	21	15%
More than 1500	19	13%
Length of stay in hospital(Days)		
1-3days	24	17%
4-7 days	35	25 %
>7 days	82	58%

Libyan dinar (LD)

Table (1) displays the subjects' characteristics. The subjects were (141) patients at Benghazi Medical Center that comprised the study sample; (59%) were females and (41%) were males. More than half of the participants (55%) were older than 40 years of age. More than half of the participants (55%) were married. Patients' levels of education varied; (21%) of the participants had a university degree, while (45%) had only a secondary education level. (37%) of the respondents reported earning less than 500 Libyan Dinars, while (58%) of the participants had been admitted for more than one week.

3.1. Patients demographical characteristics and their satisfaction level

The results of the patient's level of satisfaction with their demographic characteristics were shown in Table (2). The age of patients and their level of satisfaction were significantly associated. Approximately (23.4 %) of patients (P=0.026) were older than 40 years old who more satisfied with hospital food services. Whereas, (9.4 %) of patients aged 25- 40 years who less satisfied with hospital food services. There was no association between the other demographic characteristics and the level of satisfaction with hospital food services.

Table 2 Patients demographical characteristics and their satisfaction level

Variables	Bad (%)	Good (%)	Excellent(%)	P value*
Age(years)				
<18-25	0	8.5	13.4	0.026
25-40	2.2	12	9.4	
>40	11.3	19.8	23.4	
Gender				
Male	6.3	19.3	15.6	0.266
Female	7	21.4	30.4	
Educational level				
Primary	6.4	14.2	13.4	0.361
Secondary	2.8	22.6	19.8	
University	1.4	9.9	9.5	
Income (LD)				
Less than 500 (LD)	7.3	12.7	17	0.625

500-100	4.9	17.7	12	
1500-100	0	4.3	10,6	
More than 1500	0.7	4.3	8.5	
Material status				
Single	1.4	13.4	14.3	0.086
Married	7.8	26.9	20.5	
Divorced	0.7	4.9	4.9	
Widow	2.4	1.4	1.4	
Length of stay in hospital (Days)				
1-3days	0.7	6.3	9.8	0.616
4-7 days	4.2	9.9	10.6	
>7days	7.8	24.3	26.4	

Libyan dinar (LD); *Statistical differences *p*. value <0.05 by Chi-Square test.

3.2. Patient's satisfaction toward the food quality of the hospital

The results of this study showed that most patients were satisfied with food quality. The majority (85%) of respondents were satisfied with the amount of food. More than half of the participants were satisfied with the variety of nutrients in meals, pleasant and good flavor, desirable and good texture, and temperature. Whereas, only (16 %) of participants were dissatisfied with the food taste. There was a significant ($p=0,001^*$) association between the amount of food and the satisfaction level of patients. The level of satisfaction and good diversity of nutrients in meals were significantly ($p=0.029^*$) associated. Moreover, there was a significant ($p=0.047^*$) association between drink temperature and satisfaction level. There was no association between the other questions about the food quality of the hospital and the level of satisfaction.

Table 3 Distribution of the patients according to their opinion regarding the food quality of the hospital

Questions	I agree		I partially agree		I don't agree		Satisfaction level
	Frequency	Percent	Frequency	Percent	Frequency	Percent	<i>P</i> value
There is a good diversity of nutrients in meals	106	75	14	10	21	15	0.029*
The food has a pleasant and good flavor	88	63	30	21	23	16	0.104
Food has a desirable and good texture	102	72	24	17	15	11	0.258
The amount of food was sufficient and saturated	120	85	11	8	10	7	0,001*
Hospital food taste bad	23	16	34	24	84	60	0,119
Cold and hot drinks were at right temperature	96	68	15	11	30	21	0.047*

*Statistical differences *p*. value <0.05 by Chi-Square test.

3.3. Patients’ satisfaction toward staff and hospital hygiene

Table (4) shows that most patients were satisfied with the staff and hospital hygiene. (91%) of participants were satisfied with the appearance of meal- serving staff. (89%) and (80 %) of respondents were satisfied with the meal appearance and hospital environment, respectively. However, only (6 %) of participants were dissatisfied with flies or insects that prevented them from enjoying their meals. There was a significant (p=0.038*) association between the meal appearance and hospital environment and the satisfaction level of patients. The level of satisfaction and the staff appearance who provided meals were significantly (p=0,048*) associated. There was no association between the other questions about staff and hospital hygiene and the level of satisfaction.

Table 4 Distribution of the patients according to their opinion regarding staff and hospital hygiene

Questions	I agree		I partially agree		I don't agree		Satisfaction level
	Frequency	Percent	frequency	Percent	frequency	Percent	P value
The hospital environment is suitable for you to enjoy your meal	113	80	15	11	13	9	0.038*
There were flies or insects that prevented me from enjoying my meal	9	6	15	11	117	83	0.954
The meal was presented in neat and clean manner	126	89	10	7	5	4	0.169
The worker who brought my meal was clean in appearance	129	91	8	6	4	3	0,048*

*Statistical differences p. value <0.05 by Chi-Square test.

3.4. Patients’ satisfaction toward food service at the hospital

Results of Table (5) indicates that snacks, fruits, and drinks were given to all participants. (64%) of participants were satisfied with mealtimes. More than half (56%) of participants expressed satisfaction with the behavior of the nutritionists in the hospital compared to (44%) of participants who expressed no satisfaction.

Table 5 Distribution of the patients according to their opinion regarding food services

Questions	Yes		NO		Satisfaction Percentage for each question
	Frequency	Percent	Frequency	Percent	
Do the hospital service the snack?	141	100	0	0	100%
Is there a delay in meal time?	51	36	90	64	64%
Do the hospital serves fruits?	141	100	0	0	100%
Do the hospital serves drinks?	141	100	0	0	100%
Are you satisfied with the behavior of the nutritionists in the hospital?	79	56	62	44	56%

3.5. Patients’ satisfaction toward food services according to different hospital departments

Table (6) presents the views of patients about nutrition services in comparing between wards of the hospital (surgery, internal medicine, blood, and other wards). There were no differences in these criteria.

Table 6 Distribution of the patients according to their opinion regarding food services according to different hospital departments

Questions	Surgery		Internal medicine		Blood		Others	
	Yes	No	Yes	No	Yes	No	Yes	No
Do the hospital service the snack?	0 (0%)	55 (39%)	0 (0%)	39 (28%)	0 (0%)	29 (20%)	0 (0%)	18 (13%)
Is there a nutritionist who deals with the condition?	21 (15%)	34 (24%)	17 (12%)	22 (16%)	6 (4%)	23 (16%)	2 (1%)	16 (11%)
There is a delay in meal time	37 (26%)	18 (13%)	30 (21%)	9 (6%)	22 (16%)	7 (5%)	16 (11%)	2 (1%)
Do the hospital serves fruits?	55 (39%)	0 (0%)	39 (28%)	0 (0%)	29 (20%)	0 (0%)	18 (13%)	0 (0%)
Do the hospital serves drinks?	55 (39%)	0 (0%)	39 (28%)	0 (0%)	29 (20%)	0 (0%)	18 (13%)	0 (0%)
Are you satisfied with the behavior of the nutritionists in the hospital?	28 (20%)	27 (19%)	24 (17%)	15 (11%)	18 (13%)	11 (8%)	8 (5%)	10 (7%)

4. Discussion

The current study's findings indicated a significant association between patients' ages and their level of satisfaction with food services. These findings agreed with a previous study confirming a significant association between satisfaction level and age (5). Additionally, an earlier study reported an association between age and satisfaction level (16). However, the findings of the previous study demonstrated that age and total food service satisfaction are not significantly associated (1). The explanation of the difference between the results of these studies was that the flavors tasted differently among age groups. The present study found there was no association between gender, income, education level, and satisfaction level. Similar results were found in the previous studies (1, 19). A previous study conducted in Malaysia indicated no association between gender and satisfaction level (8). On the other hand, the findings of an earlier study showed a strong positive association between patients' low monthly income and higher levels of satisfaction (25). When compared to the current outcome, this could be explained by the possibility that patients' low incomes made them satisfied with any services that they were provided. Even the current study reported that there was no association no association between gender; however, females showed more satisfaction than males. This finding was similar to previous research showing that hospital food was perceived as more satisfactory by women than by men (5).

Regarding the present study, no significant association was found between education level and food service satisfaction. This is in agreement with another previous study that found the degree of satisfaction of postgraduates was lower, but the satisfaction of undergraduate/junior college was higher (26). However, some studies found that patients with higher education levels could understand the hospital's operating rules and treatment procedures (27, 28). Furthermore, educated individuals were more satisfied because of their greater understanding and cognitive abilities. Higher educated individuals have higher expectations and requirements for the quality of outpatient services compared to those with lower levels of education. The difference in results could be explained by patients with primary education being the higher percentage in the present study than in the previous studies.

In addition, the current study indicated no association between length of stay in hospital and overall satisfaction with food services. This is in line with a previous study (29). However, our findings were in contrast to earlier research that found a negative association between total satisfaction with hospital food

services and the length of stay in hospital (30, 20). The explanation of the difference between the results could be due to the type of hospital and population.

According to the findings of the current study, the majority of patients were satisfied with food quality, good diversity of nutrients in meals, the food having pleasant and good flavor, the food having desirable and good texture, and the amount and temperature of food. The result agreed with previous research that found (76%) of patients were pleased with the quality and variety of the lunch meal, amount, taste, appearance, and temperature of food (5). An earlier study finding showed that the majority of the patients appeared to be not satisfied with the quality and variety of the meals, which was not in line with our results about food quality (18). The explanation for this may be due to different settings. The previous study was conducted in a rural region (18), so food quality may differ in a rural area compared to an urban one. Another study inverse to the current result found that patients were less satisfied with food quality (16). The explanation for this may be that the length of hospital stay in this study is longer than the length of hospital stay in the current study. Another reason was that the sample of the previous study was large and it included more than one hospital.

As a result of the current study, the majority of patients were pleased with the food services in the hospital. This was in agreement with earlier studies, which showed that respondents were very satisfied with the hospital food service (4, 8, 25). However, the present finding, in contrast with an earlier study, showed that patients were not satisfied with food service (18). The possible justification for the difference might be the difference in socioeconomic and cultural characteristics between our study area and earlier study.

More than half (56%) of the current participants expressed satisfaction with the food services staff who provide meal delivery in the wards and hospital hygiene. The findings of the current research were in accordance with previous studies that found that patients were satisfied with hospital staff and hygiene (6, 16, 31). Recently, a Chinese study reported that patients were satisfied with nurses (26).

An Indian study reported that (50%) of patients were satisfied with the cleanliness of the hospital (32). Whereas, another earlier Indian study found dissatisfaction among one-third of the respondents when asked about the cleanliness of the hospital (33). However, this was in contrast to the findings of a study conducted in Kenya, which reported that the majority of the patients were not satisfied with the staff serving hospital food (19). The current results revealed that all patients received fruit, snacks, and drinks during hospitalization. These results are in agreement with previous studies (4, 6).

Regarding meal time, (64 %) of patients were satisfied with the time of meals. This result agreed with a previous study that reported that (68.6%) of patients were satisfied with mealtime (6, 17, 15). Moreover, in agreement with our finding, a previous study found that patients were dissatisfied with mealtime (5, 34). The explanation for this finding could be a large sample size and type of study (5, 34).

Furthermore, the patients from the surgical ward were more satisfied compared to internal medicine, blood, and other wards. This was in agreement with a previous study that found that the patients from surgical wards are more satisfied compared to other wards such as cardiology, medical, and neurology wards (1). The current study has some limitations. The study only included one government hospital that offered meal services. The sample was taken exclusively from five wards.

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6. Conclusion

The current study concluded the majority of patients were satisfied with food services, food quality, staff, and hygiene in the hospital. There was a significant association between a satisfaction degree for food services and the age of patients. Larger sample sizes must be used in future studies. Dieticians should play a prominent role in patient nutrition by organizing menus with patients, learning about their preferences through meetings, and providing information on various healthful foods that are appropriate for their conditions.

Compliance with ethical standards

Acknowledgments

The authors express their gratitude to thank all patients who participated in this research and provided the researchers with their time and attention.

Disclosure of conflict of interest

The authors declare no conflicts of interest.

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