

SATISFACTION OF SUSPECTED COVID-19 PATIENTS REGARDING MEAL SERVICES AT A TERTIARY CARE HOSPITAL OF NORTH INDIA

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Abstract

Introduction: Meal services plays a significant role in speedy recovery and increases patient satisfaction.

Objective: Present study was done to assess the satisfaction of suspected COVID-19 patients regarding meal services at a tertiary care hospital of north India.

Methodology: This cross-sectional study in retrospective design was done to understand the factors affecting the satisfaction of suspected COVID-19 patients with respect to meal services. The data was collected for patients admitted from January 2020-June 2020 with the help of a questionnaire with graded responses *i.e* Yes, No or Maybe/Not applicable, gathered from participants after discharge from hospital through 'google forms'.

Results: Out of 160 participants, 159 filled up the questionnaire through 'google form'. Majority of the participants were <30 Years old 46.5%, had university or higher education 52.8%. The study showed 96.9% patients were satisfied and 3.1% were not satisfied with the quality of the meal services provided during the hospital stay. There was no significant association observed between taste of meals and consumption of whole meal with the quality of the meal served ($p = 0.875$, $p = 0.855$ respectively). Although significant association was observed between temperature of meal, time of meal distribution, quantity of water bottles provided, and quality of meal served ($p = 0.000$, $p = <0.001$, $p = 0.000$).

Conclusion: Present study connotes that such types of assessments can help identify the gaps which can be worked on for achieving maximal satisfaction of patients with respect to quality of meal services in the hospital.

Key words: COVID-19 patients; Meal services; Patient Satisfaction; Tertiary care hospital

Introduction

The maintenance of an adequate nutritional intake is vital for a hospitalized patient undergoing treatment. Failure to provide nutrition can lead to poor tolerance of treatment, increased risk of

infectious complications and a potential poorer overall outcome. An appropriate therapeutic care plan with a suitable diet plan helps patients to

recover faster and enhance their quality of life. Diet service is a basic vital part of patient rights.^[1] Proper arrangement of dietary services is an integral part of modern Hospital Management of a hospitalized patient. Dietary services may be the 'humane face' and a 'shop window' for any institution, chief objective of which is to satisfy consumer expectation and to fulfill their nutritional requirements. Quality of Hospital services can be measured by assessing the satisfaction of patients with meal delivered.^[2] And satisfaction levels of patients depend upon their perception of the quality of meal they are served which in turn is dependent on a multitude of factors like meal quantity, time at which meal served, freshness of meal, appearance, taste of different meals served.^[3] There can be a significant decrease in wastage of food if dietary needs of patients are met.

On March 11, 2020 World Health Organization (WHO) declared COVID-19, a PANDEMIC. Globally there have been 140,322,903 confirmed cases of COVID-19, including 3,003,794 deaths till April 19, 2021. Out of which in India alone from January 3, 2020 till April 19, 2021 there have been 14,788,109 confirmed cases of COVID-19 with 177,150 deaths.^[4] There are large number of clinical trials going on to identify and use specific therapies but until date the management is mainly supportive. Out of total deaths occurred the majority of them have involved mainly old age, frail, co-morbid, malnourished with low immunity.

The COVID-19 pandemic has put the spotlight on the important role nutrition has in supporting the immune system in providing protection from viruses such as this. Health care teams are working to comfort and treat patients of novel coronavirus infection while the Dietetics teams have been instrumental in providing nutritional support. Since the current treatment for COVID-19 is largely supportive care in most of the patients, formulating individual nutritional plans as per specific individual requirements becomes an important strategy to help support a patient's immune system. While in hospital, in isolation, the patients are dependent on hospital / institution for

all their needs as they lack the support and availability of their family. So, it becomes the sole duty of the institution to provide with the quality meal.

The present research was conducted with the prime objective to study the factors that determine patients' satisfaction with meal services in a tertiary care hospital of North India.

Material and Methods

Study design, population and setting

This hospital based cross sectional study in retrospective design was carried out at a tertiary care teaching and research Institute of north India for a period of three months *i.e* from July 2020 to September 2020. This Institute caters to population of Union territory of Chandigarh and neighboring states of Punjab, Haryana, Himachal Pradesh, J&K, Bihar and UP. The first suspected COVID-19 patient got admitted in the last week of January 2020 in the Institute. All patients who were admitted as suspects for COVID 19 in the isolation ward of the main hospital from January, 2020 till June, 2020 were taken as the study population. The patients were provided private ward meals in the isolation ward as per the policy decision taken by the Institute.

The patients were informed about the study and those who accepted to participate were included in the study. The patients who did not gave the consent and those who were unable to complete the questionnaire were excluded from the study. At last a convenient sample of 160 patients was included in the study. The identity of the patients was kept confidential and was not divulged in any form during data compilation and publication of results.

Data Collection

Data were collected with the help of an interview questionnaire. The questionnaire was adapted from a study by Abdelhafez AM et al.^[5] The questionnaire was used to identify the factors affecting the satisfaction of the patients with meal services after discharge through 'google forms'. The questionnaire constituted of demographic

details six (06) and specific questions (10) with respect to satisfaction regarding meal services with graded responses i.e Yes, No or Maybe/Not applicable. A total of 160 patients participated in the study.

Statistical analysis

Data was analyzed by using Statistical Package for Social Science (SPSS) version 16.0. Descriptive statistics and χ^2 were used to evaluate the socio-demographic characteristics of the patients, satisfaction levels, and quality of meal services.

Ethics policy

The study protocol was reviewed and approved by the Institute Ethics Committee of the Institute on July 24, 2020 (approval number: INT/IEC/2020/SPL-939). The participants were informed about the study and those who accepted to participate were included in the study.

Results:

This study was conducted to assess the satisfaction of the suspected COVID 19 patients about the meal services offered to them at a tertiary care institute of North India admitted between January 2020 to June, 2020. The data was collected and analyzed from July to September 2020. A total of 160 patients were included in the study, who were admitted in the isolation ward of this hospital. Out of them 159 were willing to participate in the study and filled up the questionnaire that was administered to them through 'google form'.

Majority of the participants were <30 Years old 74 (46.5%), followed by 31-50 years 66 (41.5%) and then >50 years 19 (11.9%). Male and female participants distribution was 84 (52.8%) and 75 (47.2%) respectively. A total of 84 (52.8%) of participants had university or higher education, 44 (27.7%) were the ones having secondary level of education, 16 (10.1%) with primary education and 15 (9.4%) no formal education.

Out of the responses received only 33 (20.8%) patients reported that they were hospitalized earlier whereas 126 (79.2%) were the ones who were never hospitalized before for any ailment.

The study showed 96.9% were satisfied with the quality of the meal services provided during the hospital stay however 3.1% were not satisfied with the quality of meal services.

The number and percentage of responses which came in response to the specific questions in terms of the satisfaction of the patients regarding the meal services is depicted in table 1. As shown in the table 1, it was observed that 40 (25.2%) participants agreed that this institute serves better quality meal in comparison to other hospitals (33 out of 40 participants tasted the food in the hospital as patients and 7 participants tasted the food in the hospital when they accompanied their patient as attendant) and 119 (74.8%) participants felt that this question is not applicable for them. All participants were satisfied with the amount and appearance of meals served, and with the cleanliness of spoons & dishes provided. Out of 159 participants, 19 (11.9%) reported that the quantity of water bottles provided was not enough, 27 (17%) participants were not satisfied with the timing of meal served and 21 (13.2) were not satisfied with the temperature of meal served. Only 132(83%) participants were able to finish the entire meal served to them. There were no responses to suggest that the quality of meal service was not good.

The patients from different streams of occupation such as healthcare workers, students, housewives, business personnel, drivers, government officials, police officers, teachers, laborers, retired officials; participated in the study. Table 2 describes the comparison of patient demographics with their satisfaction index/response on overall quality of meal services. The observations of the current study indicate that there was no significant association between patient specific characteristics such as age, sex, level of education with overall satisfaction regarding quality of meal served ($p > 0.05$).

The comparison of quality of meals with individual variables like amount, taste, appearance and temperature of meals served, time of distribution of meals, cleanliness of spoons and dishes provided, quantity of meals and water bottles provided is reflected in table 3. There was

no significant association observed between taste of meals and consumption of whole meal with the quality of the meal served ($p = 0.875$, $p = 0.855$ respectively). Although significant association was observed between temperature of meal, time of meal distribution, quantity of water bottles provided, and quality of meal served ($p = 0.000$, $p = <0.001$, $p = 0.000$)

Out of 159 responses 100% of them were satisfied with the quantity of meal, appearance of the meal served and with the cleanliness of the spoon and dishes provided to them. However, out of those

100% of responses, 96.9% responses were satisfied with the quality of the meal served whereas 3.1% were not satisfied with the quality of the meal served. There was no significant association observed between taste of meals and consumption of whole meal with the quality of the meal served ($p = 0.875$, $p = 0.855$ respectively). Although significant association was observed between temperature of meal, time of meal distribution, quantity of water bottles provided, and quality of meal served ($p = 0.000$, $p = <0.001$, $p = 0.000$).

Table 1: Satisfaction Level of patients regarding meal services.

S. No.	Aspects attached to hospital meal and meal services	Yes		No		Maybe		Not Applicable	
		n	%	n	%	n	%	n	%
1.	Were you satisfied overall with the quality of meal services?	154	96.9	05	3.1	00	00	00	00
2.	Were you satisfied with the amount of meal served?	159	100	00	00	00	00	00	00
3.	Were you satisfied with the taste of meal served?	158	99.4	01	0.6	00	00	00	00
4.	Were you satisfied with the appearance of meal served?	159	100	00	00	00	00	00	00
5.	Were you satisfied with temperature of meal served?	138	86.8	21	13.2	00	00	00	00
6.	Were you satisfied with the time of meal distribution?	131	82.4	27	17	01	0.6	00	00
7.	Were you satisfied with the cleanliness of spoon and dishes provided?	159	100	00	00	00	00	00	00
8.	Did you eat the whole meal?	132	83	27	17	00	00	00	00
9.	Do you think the quantity of water bottles provided to you was enough?	140	88.1	19	11.9	00	00	00	00
10.	Can you say that this hospital (or at this time) serves more quality meal services compared to other hospitals, or than in private hospitalizations?	40	25.2	00	00	00	00	119	74.8

Table 2: Comparison of overall satisfaction with quality of meal and demographic profile of patients.

Variable	Responses n	Were you satisfied overall with the quality of meal services?		P value
		Yes	No	
		n (%)	n (%)	
<i>Age (years)</i>				
<30	74	73 (98.6)	1 (1.4)	0.476
31-50	66	63 (95.5)	3 (4.5)	
>50	19	18 (94.7)	1 (5.3)	
<i>Gender</i>				
Male	84	81 (96.4)	3 (3.6)	0.744
Female	75	73 (97.3)	2 (2.7)	
<i>Level of Education</i>				
No formal education	15	15 (100)	0 (0)	0.262
Primary	16	15 (93.8)	1 (6.3)	
Secondary	44	41 (93.2)	3 (6.8)	
University or Higher	84	83 (98.8)	1 (1.2)	

Table 3: Comparison of overall satisfaction with quality of meal with individual variables.

Variable	Response (Yes/No) Number (%)	Were you satisfied overall with the quality of meal services?		P value
		Yes n (%)	No n (%)	
Were you satisfied with the amount of meal served?	Yes: 159 (100)	154 (96.9)	5 (3.1)	
	No: 0 (0)	0 (0)	0 (0)	
Were you satisfied with the taste of meal served?	Yes: 158 (99.4)	153 (96.8)	5 (3.2)	0.857
	No: 01 (0.6)	1 (100)	0 (0)	
Were you satisfied with the appearance of meal served?	Yes: 159 (100)	154 (96.9)	5 (3.1)	
	No: 0 (0)	0 (0)	0 (0)	
Were you satisfied with temperature of meal served?	Yes: 138 (86.8)	138 (100)	0 (0)	0.000
	No: 21 (13.2)	16 (76.2)	5 (23.8)	
Were you satisfied with the time of meal distribution?	Yes: 131 (82.4)	131 (100)	0 (0)	<.001
	No: 27 (17)	22 (81.5)	5 (18.5)	
	May be: 01 (0.6)	1 (100)	0 (0)	
Were you satisfied with the cleanliness of spoon and dishes provided?	Yes: 159 (100)	154 (96.9)	5 (3.1)	
	No: 0 (0)	0 (0)	0 (0)	
Did you eat the whole meal?	Yes: 132 (83)	128 (97)	4 (3)	0.855
	No: 27 (17)	26 (96.3)	1 (3.7)	
Do you think the quantity of water bottles provided to you was enough?	Yes: 140 (88.1)	140 (100)	0 (0)	0.000
	No: 19 (11.9)	14 (73.7)	5 (26.3)	
Can you say that this hospital (or at this time) serves more quality meal services compared to other hospitals, or than in private hospitalization?	Yes: 40 (25.2)	40 (26)	0 (0)	0.005
	No: 0 (0)	0 (0)	0 (0)	
	Not Applicable: 119 (68.6)	114 (95.8)	5 (4.2)	

Discussion:

Patient satisfaction is the highest priority in any kind of healthcare setup and meal, or the dietary services plays a great role in the overall experience of the hospital stay.^[6] It is also an important component in assessing the quality of services provided by healthcare. Further studies like these can recognize the elements or practices of the institute that raises the satisfaction and utilization which further lead to advantageous outcomes especially during pandemic situations.

The results of the study showed 96.9% were satisfied overall with the quality of the meal services provided during the hospital stay however 3.1% were not satisfied overall with the quality of meal services.

It was observed that the socio -demographic profile of the patients who participated, did not determine the outcome or the satisfaction with overall quality of meal services provided. The fact that during COVID 19 pandemic, the patients were required to stay in isolation, shifted their interest to the meals provided.

The results of our study are comparable with the studies done before the pandemic. The findings in our study that age does not affect the level of satisfaction among patients is similar to the findings of study done by M. Abdelhafez, et al.^[5] On the contrary, Sahin et al.,2006 found that the satisfaction was substantially more in younger age groups.^[7] However, some other reports showed that overall satisfaction of patients who were more than 70 years old was significantly lower than younger consumers ($p < 0.01$).^[8] Alternatively, a study to evaluate services of hospital in Kuwait determined that age is an imperative variable for overall satisfaction.^[9] A study in Kenya suggested that patients without formal education were more satisfied with meal services than those with tertiary education.^[10] On the contrary in our study the patients with formal education were more

satisfied with meal services than without any formal education.

One study which was done in Sri Lanka specified that level of satisfaction was substantially low in 21-50 years group^[11] where a research in China stated that patients are more unsatisfied in elder groups.^[9]

Meals provided by hospitals is part of treatment and important for speedy recovery of patients. However, meal wastage needs to be kept at a minimum level. In the present study 83% of participants ate their meals which is better in comparison to observations of study by Barton and colleagues in which 40% of the meal delivered was not consumed and hospital resources were wasted by the remainder meal disposal.^[12] In another study on an elderly population by Hamilton and colleagues it was found that 59% of the patients consumed all their meal.^[13] Another study conducted by Kowanko and his colleagues, reported that only one third of the patients consumed 50% of hospital meal.^[14] The consumption of meal served to the patients was better in our study which may be due to the fact that balanced diet was served to the patients with a different menu on each day of the week adding variety.

The observations made by Qadri SS et al^[15] in their study suggested that 18.5% participants were dissatisfied with the canteen/meal facilities. Whereas in our study only 3.1% of the participants were dissatisfied with the overall quality of meal services.

In a study by Miyoba N and Ogada I, ^[16] there was no significant association between variables of age, sex, education level, and overall satisfaction ($p > 0.05$) with the meal served which is similar to the finding in our study. 64.3% of surgical orthopaedic inpatients in the study were not satisfied with overall quality of hospital meal. Further, 65.3 and 71.4% of the patients were not satisfied with appearance and taste of hospital meal

respectively. However, in our study only 3.1% patients were not satisfied with the overall quality of meal services and, 99.4% and 100% of the patients were satisfied with appearance and taste of meals provided by the hospital respectively. In their study, satisfaction rates in terms of portion size temperature and time of meal distribution were 67.3, 94.9 and 56.1% respectively whereas in our study 100% patients who participated in the study were satisfied with the amount of meal and 86.8% and 82.4% patients were satisfied with the temperature and time of meal distribution, respectively.

Conclusion:

Though most of the patients were satisfied with the overall quality of hospital meal, there were some who felt that there was a scope of improvement with respect to temperature of the meals, meal distribution time and quantity of the water served. Present study helped us to identify the gaps in providing expected quality meals to the patients during such pandemics. Such type of assessments can help identify the gaps which can be worked on for achieving maximal satisfaction of patients with respect to quality of meal services in the hospital.

Limitation:

The study was done for a period of six months only with feedback from 159 participants. The study would have been better with more sample size.

Conflict of Interest: No potential conflicts of interest with respect to research, authorship and/or publication of this article.

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