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Assessment of Dietary Pattern Among Hospitalized Patients

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Abstract

The present study, entitled "Assessment of Dietary Pattern among Hospitalized Patients," was conducted to assess the dietary habits, food consumption patterns and nutritional status of 50 hospitalized patients. A descriptive research approach was adopted. Data were collected through a structured questionnaire, personal interviews, anthropometric measurements and the 72-hour dietary recall method. Height and weight were recorded to calculate Body Mass Index (BMI), while dietary intake was assessed over three consecutive days. The findings revealed variations in food consumption among patients, influenced by their health conditions and dietary requirements. The study emphasizes the importance of balanced nutrition, individualized therapeutic diets and nutritional counselling to improve nutritional status and support faster recovery among hospitalized patients.

Keywords: Dietary Pattern, Hospitalized Patients, Nutritional Status, BMI, 72-Hour Dietary Recall.

1. Introduction

Food and nutrition play an essential role in maintaining health, supporting normal body function, and promoting recovery from illness. During hospitalization, adequate and appropriate nutrition becomes particularly important because illness, infection, surgery, medication, inflammation, and other clinical conditions can increase nutritional requirements or reduce food intake. Therefore, assessment of the dietary pattern of hospitalized patients is an important component of comprehensive nutritional care.

Hospitalized patients often experience changes in their usual dietary habits. Factors such as poor appetite, nausea, vomiting, pain, altered test, difficulty in chewing or swallowing, gastrointestinal disturbances, dietary restrictions, and psychological stress may influence food consumption. In addition, the type and severity of disease may require modification in the patient's diet, such as low sodium diet, diabetic diet, renal diet, soft diet, liquid diet, or high protein diet.

Inadequate dietary intake during hospitalization may contribute to deterioration of nutrition status, loss of body weight and muscle mass, impaired immune function, delayed wound healing, increased susceptibility to complications, and prolonged recovery. On the other hand, excessive or inappropriate intake may adversely affect patients with conditions such as diabetes mellitus, cardiovascular disease, renal disease, liver disease, and gastrointestinal disorders. Thus identifying the actual dietary pattern of hospitalized patients is important for providing individualized nutritional care.

Dietary assessment methods such as the 24 hour dietary recall, food frequency questionnaire, meal frequency assessment, dietary history and observation of hospital food intake can provide useful

information about the quantity and quality of food consumed. These methods can help identify deficiencies or excesses in energy and nutrient intake and can also provide information about patients food preferences, meal patterns, dietary practices and adherence to prescribed therapeutic diet.

The nutritional requirements of hospitalized patients vary according to age, sex, body weight, disease condition, metabolic status, treatment and level of physical activity. Therefore, a standardized dietary assessment should be combined with relevant anthropometric and clinical information to obtain a better understanding of the patients nutritional conditions.

Assessment of dietary patterns also provides an opportunity to identify barriers that prevent patients from consuming adequate food during hospitalization. These may include poor palatability of hospital food, lack of appetite, financial constraints, cultural food preference, dietary restrictions, lack of nutritional knowledge, and disease related symptoms. Understanding these factors can assist healthcare professionals and dieticians in developing appropriate interventions.

Therefore, the present study, 'Assessment of Dietary pattern among Hospitalized patients', is undertaken to assess the dietary habits, food- group consumption, nutrient intake, meal pattern, adherence to prescribed diets, and factor affecting food intake among hospitalized patients. The findings of the study may help in identifying nutritional inadequacies and developing suitable dietary recommendations to support recovery and improve the overall nutritional care of hospitalized patients.

2. Objectives of The Study

1. To assess the usual dietary pattern and food consumption habits of hospitalized patients.
2. To assess the nutrient intake of hospitalized patients using a 24- hour dietary recall method.
3. To compare the patients dietary intake with their recommended dietary allowances according to age, sex, and disease conditions.
4. To assess the nutritional status of hospitalized patients using anthropometric measurements such as, weight, height and BMI.
5. To assess the relationship between dietary pattern and nutritional status of hospitalized patient.
6. To study the disease condition, duration of hospitalization and prescribed therapeutic diet on dietary intake.

3. Review of Literature

Kaul et al. (2022)

Kaul and colleagues conducted a prospective study at the All India Institute of Medical Sciences, New Delhi, to assess the nutritional status of hospitalized patients. The study included 89 patients and examined their nutritional intake during hospitalization. The findings revealed that all patients consumed diets deficient in calories and protein. The mean daily energy intake was 819 ± 425 kcal, while the mean protein intake was 22 ± 19 grams. Approximately 74.13% of patients experienced weight loss during hospitalization. The study highlighted the importance of adequate dietary intake and regular nutritional assessment among hospitalized patients.

Sobti et al. (2025)

Sobti and colleagues conducted a scoping review entitled Determinants Influencing Dietary Intake Among Hospitalized Patients: A Multidimensional Scoping Review. The review examined factors affecting dietary intake among hospitalized adults. The researchers identified physiological,

psychological, environmental, institutional and clinical factors as important determinants of food consumption. The findings highlighted that nutritional intake depends not only on the medical condition of patients but also on hospital food services, patient satisfaction and the hospital environment. The researchers recommended integrated and individualized nutritional care to improve dietary intake among hospitalized patients.

4. Methodology of The Study

Research methodology refers to the systematic procedure adopted to the systematic procedure adopted to conduct a research study. It describes the research design, study area, sample selection, data collection methods, tools and techniques used for data analysis. The present study was designed to assess the dietary patterns and nutritional status of hospitalised patients and to identify factors influencing their food consumption.

Research Design

The present study adopted a descriptive cross sectional research design to assess the dietary patterns and nutritional status of hospitalised patients. The study focused on dietary habits, food consumption patterns, anthropometric measurements and disease related dietary requirements.

Study Area

The study was conducted in a selected hospital among patients admitted for different medical conditions. The hospital was selected based on accessibility, availability of patients and feasibility of data collection.

Sample Size

The total of 50 hospitalised patients were selected for the present study. The patients belonged to different age groups, genders and disease categories.

Sampling Technique

A convenient Sampling technique was used to select 50 hospitalized patients who fulfilled the inclusion criteria and were willing to participate in the study.

Method of Data Collection

Data were collected from 50 hospitalised patients using a structured questionnaire and direct interaction with patients or their attender.

The questionnaire included the following sections.

- Age
- Gender
- Type of Disease
- Duration of illness
- Dietary restrictions
- Type of Diet
- Appetite
- Type of treatment
- Daily consumption

- Reason for not consuming properly
- Prescribed Therapeutic Diet
- Height was measured in centimetres
- Weight was recorded in kilograms
- Body Mass Index was calculated using the following formula;

BMI= Weight (KG)/ Height (M)2

- A 72 hours dietary recall method was used to collect information about food consumed during the previous 72 hours.

Statistical Analysis

The collected data were systematically organized, tabulated and analysed using appropriate statistical methods.

The following statistical techniques were used.

1. Frequency And Percentage; To analyse demographic characteristics, disease distribution and dietary patterns.
2. Mean; To calculate the average height, weight and BMI of the selected patients.
3. Standard Deviations; To determine variation in anthropometric measurements.

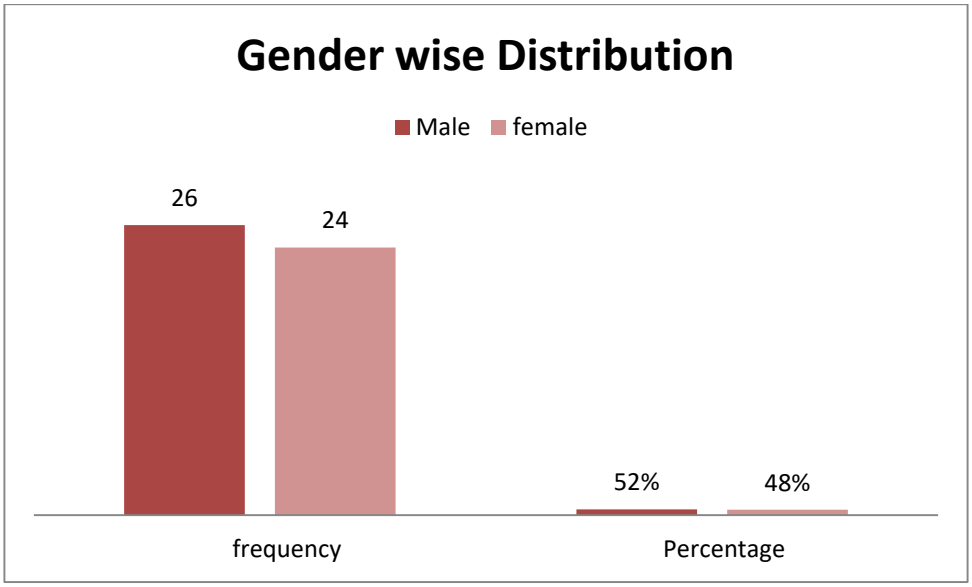
5. Result Discussion

The present study entitled 'Assessment of Dietary Pattern among Hospitalized patients' was conducted among 50 hospitalised patients to assess their dietary habits, food consumptions pattern and nutritional status. The collected information was analysed and presented in the form of tables, frequencies and percentage. Anthropometric measurements such as height, weight, and Body Mass Index(BMI) were considered to evaluate the nutritional status of the patients. The result obtain from the study are discussed under the following heading

Gender Wise Distribution of Hospitalized Patients-

Gender	frequency	Percentage
Male	26	52%
female	24	48%
Total	50	100%

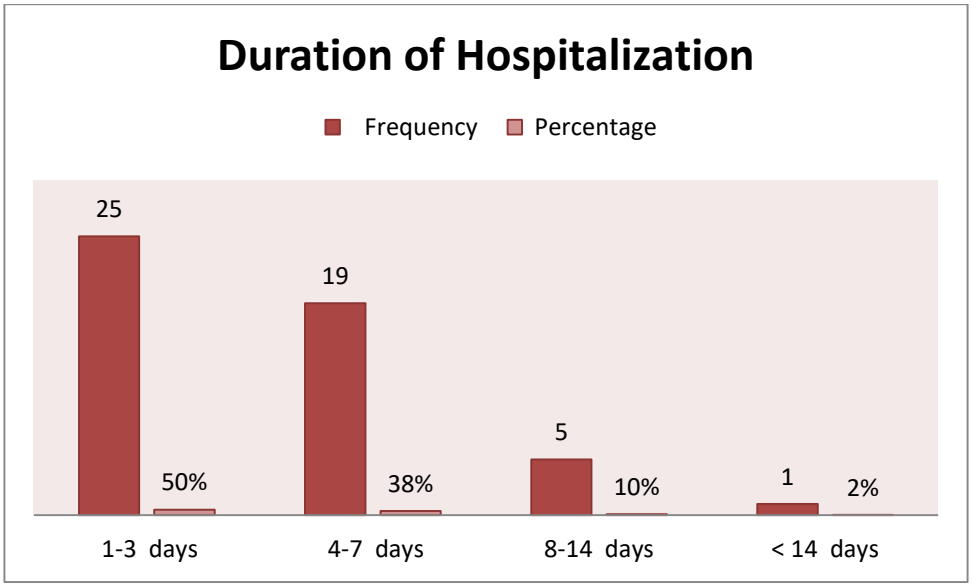
The above table represents the gender-wise distribution of 50 hospitalized patients. Out of the total 50 patients, 26 (52%) were male, while 24 (48%) were female. The findings indicate that male patients constituted a slightly higher proportion of the study population than female patients. The difference between male and female patients was relatively small, indicating an almost equal gender distribution among the selected hospitalized patients.



Distribution Of Hospitalized Patients According To Their Duration Of Hospitalization-

Duration of Hospitalization	Frequency	Percentage
1-3 days	25	50%
4-7 days	19	38%
8-14 days	5	10%
< 14 days	1	2%
total	50	100%

The table illustrates the distribution of 50 hospitalized patients according to their duration of hospitalization. The findings reveal that 25 patients (50%) were hospitalized for1-1–3 days, representing the highest proportion of the study participants. A total of 19 patients (38%) stayed in the hospital for 4–7 days. Furthermore, 5 patients (10%) were hospitalized for 8–14 days, while only 1 patient (2%) had a longer hospital stay. The findings indicate that the majority of hospitalized patients (88%) stayed in the hospital for a period of 1–7 days. Only 12% of the patients required hospitalization for more than 7 days. The study reveals that most patients had a relatively short duration of hospitalization. However, a small proportion required prolonged hospital care, possibly due to the severity of their illness or the need for additional medical management.

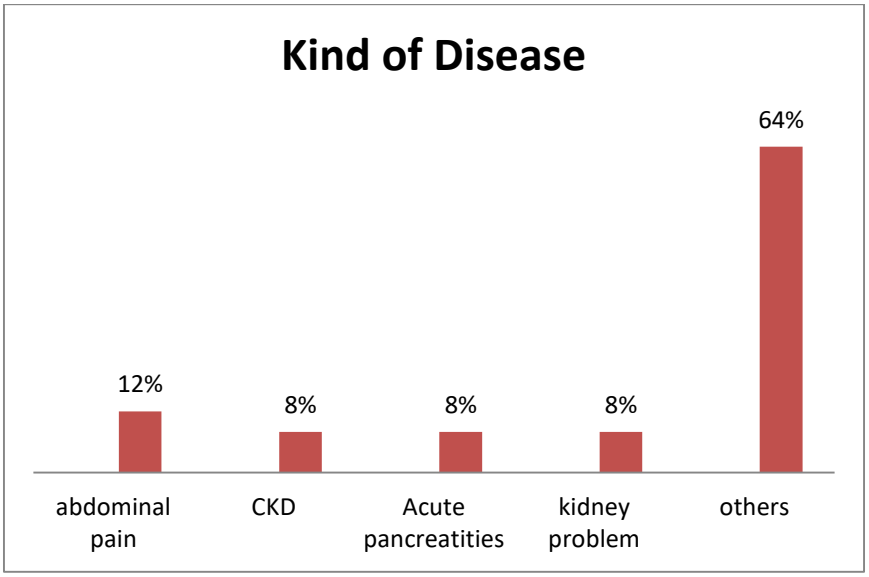


Distribution of Patients According To Their Disease-

Kind of Diseases	Frequency	Percentage
Abdominal pain	6	12%
CKD	4	8%
Acute Pancreatitis	4	8%
Kidney Problem	4	8%
Others	32	64%
total	50	100%

The table presents the distribution of 50 hospitalized patients according to their different disease conditions. The findings indicate that the majority of patients, (64%), were suffering from various other diseases not separately categorised in the table. Abdominal pain was reported in patients (12%), while chronic kidney disease (CKD) , acute pancreatitis, and other kidney-related problems were each reported in patients (8%). The findings reveal that the highest proportion of hospitalized patients belonged to the 'Others' category (64%), indicating a wide range of other medical conditions among the study participants. Abdominal pain was the second most commonly reported condition (12%). CKD, acute pancreatitis, and kidney problems accounted for relatively smaller proportions, with each representing 8% of the total patients.

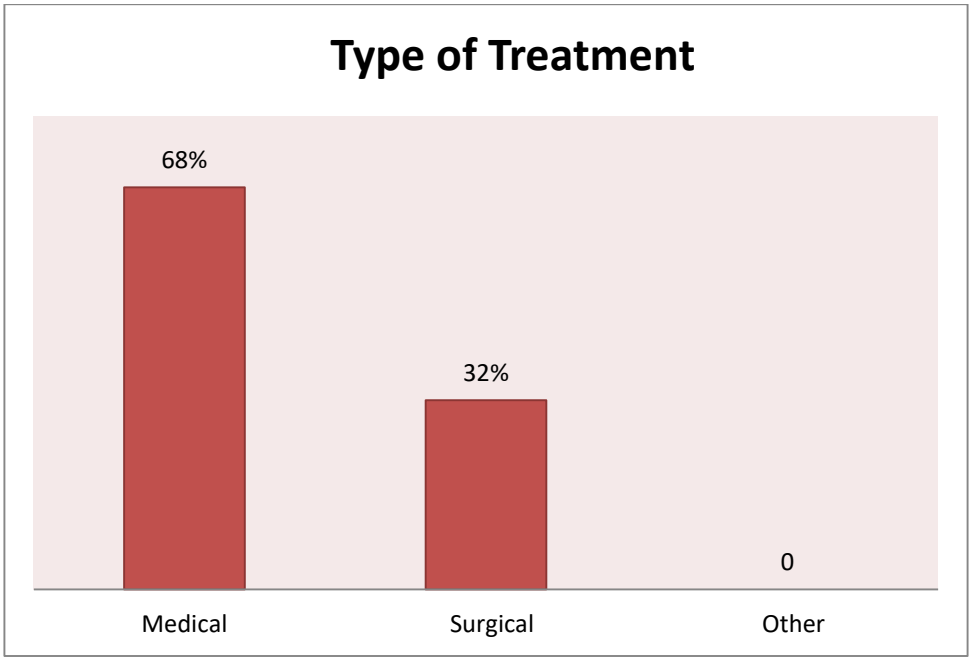
The table indicates that the study population consisted of patients with diverse health conditions, with a considerable proportion belonging to diseases other than those specifically listed.



Distribution of Patients According to Their Treatment

The above table represents the distribution of 50 hospitalized patients according to the type of treatment received. Out of the total 50 patients, the majority, 34 patients (68%), were receiving medical treatment, whereas 16 patients (32%) were undergoing surgical treatment. None of the patients (0%) belonged to the other treatment category. The findings indicate that the majority of hospitalized patients were receiving medical treatment, while a comparatively smaller proportion required surgical intervention. This suggests that medical management was more common among the patients included in the study.
The study reveals that 68% of the hospitalized patients received medical treatment and 32% received surgical treatment.

Type of Treatment	Frequency	Percentage
Medical	34	68%
Surgical	16	32%
Other	0	0
total	50	100%

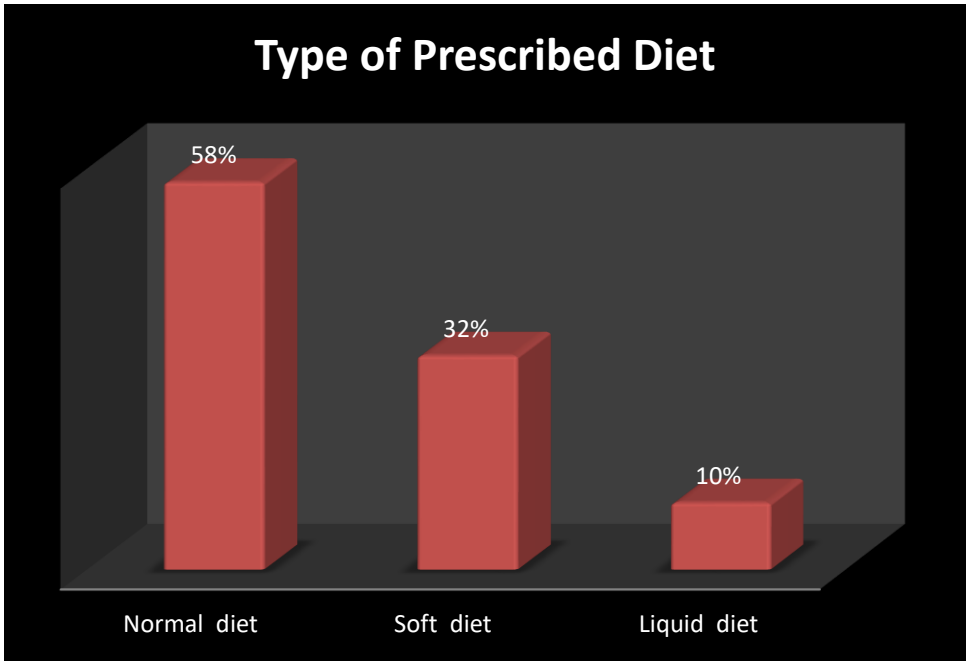


Distribution of Patients According to Their Prescribed Diet-

Type of Prescribed Diet	Frequency	Percentage
Normal diet	29	58%
Soft diet	16	32%
Liquid diet	5	10%
Total	50	100%

The above table represents the distribution of 50 hospitalized patients according to the type of diet prescribed during their hospital stay.Out of the total 50 patients, the majority, 29 patients (58%), were prescribed a normal diet. A total of 16 patients (32%) received a soft diet, while only 5 patients (10%) were prescribed a liquid diet.The findings indicate that most hospitalized patients were able to consume a normal diet, whereas a considerable proportion required a soft diet. A smaller percentage of patients required a liquid diet, possibly due to their medical conditions or dietary restrictions.

The study reveals that 58% of patients received a normal diet, 32% received a soft diet, and 10% received a liquid diet.



Distribution of Patients According To Their Appetite

Appetite of the patients	Frequency	Percentage
Good	19	38%
Moderate	12	24%
Poor	15	30%
Very poor	4	8%
total	50	100%

The above table illustrates the distribution of 50 hospitalized patients according to their appetite status. Out of the total 50 patients, 19 patients (38%) had a good appetite, while 12 patients (24%) had a moderate appetite. Furthermore, 15 patients (30%) reported poor appetite, whereas 4 patients (8%) had a very poor appetite. The findings indicate that although the largest proportion of patients had a good appetite, a considerable number experienced poor or very poor appetite. Reduced appetite among hospitalized patients may be associated with their underlying medical conditions, medication, illness-related discomfort, and changes in dietary habits.

The study reveals that 38% of patients had a good appetite, 24% had a moderate appetite, 30% had a poor appetite, and 8% had a very poor appetite.

Distribution Of Patients According To Their Diet-

Types of Diet	Frequency	Percentage
Veg	35	70%
Non- veg	15	30%
total	50	100%

The table presents the distribution of 50 patients according to their dietary habits. Out of the total 50 patients, 35 patients (70%) were vegetarian, whereas 15 patients (30%) were non-vegetarian.The findings indicate that the majority of the patients followed a vegetarian dietary pattern. Only 30% of the patients consumed a non-vegetarian diet. This shows that vegetarian food habits were more common among the study participants.

Distribution of Patients According to Their Daily Consumption-

Daily consumption	Frequency	Percentage
25%	11	22%
50%	15	30%
75%	5	10%
100%	19	38%
total	50	100%

The table illustrates the distribution of 50 patients according to their daily food consumption levels. 25% consumption: 11 patients (22%) reported consuming approximately 25% of their daily food requirements. 50% consumption: 15 patients (30%) consumed approximately 50% of their daily food requirements. 75% consumption: 5 patients (10%) consumed approximately 75% of their daily food requirements. 100% consumption: 19 patients (38%) consumed their complete daily food requirements.
The findings indicate that the highest proportion of patients, 38% (19 patients), consumed 100% of their daily food requirements. However, 30% consumed only 50%, while 22% consumed just 25% of their daily food requirements. Only 10% consumed 75% of their daily requirements.

Distribution of Patients According to Their Food Intake That Affected by Symptoms-

Proper food intake of the patients	Frequency	Percentage
Yes	29	58%
No	21	42%
total	50	100%

The table illustrates the distribution of 50 hospitalized patients according to whether they were receiving proper food intake. Out of the total 50 patients, 29 patients (58%) reported having proper food intake, whereas 21 patients (42%) did not receive or consume adequate food. The findings indicate that the majority of the patients (58%) had proper food intake. However, a considerable proportion (42%) experienced inadequate food intake.
The findings suggest that although more than half of the hospitalized patients had proper food intake, a substantial number experienced inadequate dietary consumption. This may be associated with disease conditions, loss of appetite, digestive problems, dietary restrictions and other illness-related factors.

Distribution of Patients According to Consumption Of Types Of Normal Diet-

Types of normal diet	Frequency	Percentage
Diabetic	9	31%
Renal	4	13%
Normal	16	55%
total	29	100%

The table presents the distribution of patients according to the types of diet provided or consumed among the 29 patients who reported proper food intake.
The findings are as follows:
Diabetic diet: 9 patients (31%) were consuming a diabetic diet to manage their blood glucose levels.
Renal diet: 4 patients (13%) were following a renal diet to meet their dietary requirements associated with kidney-related conditions.
Normal diet: 16 patients (55%) were consuming a normal diet without specific therapeutic dietary restrictions.
The findings reveal that the majority of patients (55%) were consuming a normal diet. Approximately 31% were following a diabetic diet, while 13% were consuming a renal diet.
The findings indicate that normal diets were the most commonly consumed dietary pattern among

Distribution Of The Patients According To Their 72 Hours Dietary Recall Method (Day-1, Day-2,Day-3)-

Lunch Consumption	Day-1		Day-2		Day-3	
	N	%	N	%	N	%
25%	13	26%	11	22%	11	22%
50%	14	28%	15	30%	13	26%
75%	10	20%	11	22%	7	14%
100%	13	26%	13	26%	19	38%
Total	50	100%	50	100%	50	100%

The table presents the lunch consumption pattern of 50 hospitalized patients on the third day, assessed using the 72-hour dietary recall method. Out of the 50 patients, 11 patients (22%) consumed 25% of their lunch, while 13 patients (26%) consumed 50% of their meal. Similarly, 7 patients (14%) consumed 75% of their lunch, whereas 19 patients (38%) consumed their complete meal (100%).

The findings reveal that the highest proportion of patients (38%) consumed their entire lunch, followed by 26% who consumed half of their meal. Meanwhile, 22% consumed only 25% of their lunch, and 14% consumed 75% of the meal.

The findings indicate that on the third day, the majority of hospitalized patients (38%) consumed their complete lunch, representing an improvement in meal consumption compared with the first and second days, when only 26% of patients consumed their entire lunch.

This improvement may indicate better food acceptance, appetite or tolerance towards hospital-provided meals. However, 62% of patients still consumed less than their complete lunch, suggesting that inadequate food intake remained a concern among hospitalized patients.

Mean and Standard Deviation of Antropometric Measurement of the Patients-

Anthropometric parameters	Mean	Standard Deviation
Height(CM)	159.94	7.69
Weight(KG)	62.04	10.39
BMI(KG/M2)	24.17	4.27

The anthropometric assessment revealed that the mean height of the patients was 159.94+7.69 cm, while the mean body weight was 62.04+10.37 kg, the BMI was found to be 24.17+ 4.27 kg/m2.

The findings indicate variations in the anthropometric measurements among the hospitalized patients. The mean BMI falls within the normal BMI range according to WHO adult BMI classification, although individual patients may belong to different nutritional categories.

6. Summary, Conclusion and Recommendation

Summary of The Study

The present study entitled "Assessment of Dietary Pattern among Hospitalized Patients" was undertaken to assess the dietary habits, food consumption patterns and nutritional status of hospitalized patients. Nutrition plays a vital role in maintaining health, preventing nutritional deficiencies and promoting recovery from various diseases. Hospitalized patients often experience changes in their dietary intake due to illness, medication, reduced appetite, digestive disturbances and disease-specific dietary restrictions. Therefore, assessment of dietary patterns is an important component of nutritional care.

The study was conducted among 50 hospitalized patients to understand their dietary practices and nutritional status. The study aimed to identify the relationship between dietary patterns, disease conditions and nutritional status among the selected patients.

A structured questionnaire was used to collect relevant information from the patients. Data regarding socio-demographic characteristics, medical history, disease conditions, food habits and dietary practices were collected through direct interaction with patients and, wherever necessary, their caregivers.

Anthropometric measurements, particularly height and body weight, were recorded to assess the nutritional status of the patients. Body Mass Index (BMI) was calculated using the following formula:

BMI = Weight (kg) / Height (m^2)

The calculated BMI values were used to assess the nutritional status of the selected patients.
The collected data were systematically classified, tabulated and analysed using appropriate statistical methods. Descriptive statistics, including frequency, percentage, mean and standard deviation, were considered for presenting the findings. The study also considered different disease conditions, including abdominal pain, chronic kidney disease, acute pancreatitis, kidney-related problems and other medical conditions. These conditions were examined in relation to the dietary practices of the patients to understand the importance of disease-specific nutritional requirements.
The assessment of height, weight and BMI provided information about the nutritional status of the selected patients. The study highlighted the importance of regular nutritional monitoring, appropriate food selection and individualized dietary planning during hospitalization.
Overall, the study emphasizes that dietary assessment is an essential part of hospital-based nutritional care. Proper nutritional management, therapeutic diet planning and nutrition education can help address the nutritional needs of hospitalized patients and support their recovery.
The findings of the study are intended to provide useful information regarding dietary practices and nutritional status among hospitalized patients and to emphasize the importance of integrating nutritional care with medical treatment.

7. Coclusion of The Study

The present study entitled "Assessment of Dietary Pattern among Hospitalized Patients" was conducted among 50 hospitalized patients to assess their dietary habits, food consumption patterns and nutritional status. The study aimed to understand the importance of dietary practices in relation to different disease conditions and nutritional health.
Nutrition plays a significant role in maintaining health, preventing nutritional deficiencies and promoting recovery from illness. Hospitalized patients often experience changes in their dietary patterns due to various medical conditions, medication, loss of appetite, digestive disturbances and specific therapeutic dietary restrictions.
The study highlights the importance of assessing dietary patterns and nutritional status through anthropometric measurements such as height, weight and Body Mass Index (BMI). BMI assessment provides useful information regarding the nutritional status of patients and helps identify individuals who may be underunderweight, overweight or within the normal weight range.
Different disease conditions, such as abdominal pain, chronic kidney disease, acute pancreatitis and other medical problems, may influence food intake and nutritional requirements. Therefore, providing a uniform diet to all hospitalized patients may not fulfil their individual nutritional needs. Disease-specific therapeutic diets and individualized nutritional care are essential for effective nutritional management.
The study emphasizes that adequate intake of carbohydrates, proteins, fats, vitamins and minerals is necessary for maintaining nutritional health. Special attention should be given to patients who require dietary modifications because of their medical conditions.
It can be concluded that proper dietary assessment, regular nutritional monitoring and individualized diet planning are important components of comprehensive hospital care. Nutrition education and counselling should also be provided to patients and their caregivers to improve dietary practices and promote healthy eating habits.

Finally, the study concludes that nutrition is not merely a supportive component of medical treatment but an essential part of patient care. Appropriate nutritional intervention, together with medical management, can help improve nutritional well-being and support the recovery of hospitalized patients.

Recommendations

1. Regular Nutritional Assessment: All hospitalized patients should undergo nutritional screening at the time of admission to identify nutritional deficiencies and the risk of malnutrition.
2. Individualized Diet Planning: Diet plans should be prepared according to the patient's age, health condition, nutritional status and individual dietary requirements.
3. Disease-Specific Therapeutic Diet: Patients suffering from chronic kidney disease, acute pancreatitis, diabetes, hypertension and other medical conditions should receive appropriate therapeutic diets under professional supervision.
4. Adequate Protein Intake: Sufficient protein should be provided according to individual requirements, particularly for patients who need tissue repair and recovery. Protein intake should be modified in conditions such as chronic kidney disease.
5. Balanced Diet: Hospital meals should contain adequate amounts of carbohydrates, proteins, fats, vitamins, minerals and dietary fibre according to individual requirements.
6. Regular BMI Monitoring: Height, body weight and BMI should be assessed regularly to monitor changes in nutritional status during hospitalization.
7. Nutrition Education: Patients and their caregivers should receive proper nutrition education regarding healthy food choices, balanced diets and disease-specific dietary restrictions.
8. Adequate Fluid Intake: Fluid intake should be maintained according to individual requirements and medical advice, particularly among patients with kidney and cardiac disorders.
9. Improvement in Hospital Food Services: Hospitals should ensure the quality, hygiene, nutritional adequacy and palatability of food served to patients.
10. Monitoring of Dietary Intake: Regular monitoring of food consumption, appetite and meal acceptance should be encouraged to identify patients with inadequate dietary intake.
11. Further Research: Similar studies should be conducted among a larger number of hospitalized patients in different healthcare settings to obtain a broader understanding of dietary patterns and nutritional status.

Reference

1. Gibson, R. S. (2005). Principles of Nutritional Assessment. 2nd Edition. Oxford University Press.
2. World Health Organization (2024). Guidance for Monitoring Healthy Diets Globally.
3. Gopalan, C., Rama Sastri, B. V., & Balasubramanian, S. C. (2017). Nutritive Value of Indian Foods. National Institute of Nutrition, ICMR.
4. Mahan, L. K., & Raymond, J. L. (2017). Krause's Food & the Nutrition Care Process. 14th Edition. Elsevier.
5. Srilakshmi, B. (2018). Nutrition Science. New Age International Publishers.
6. ESPEN (2021). ESPEN guideline on hospital nutrition. Clinical Nutrition.
7. Wunderle, C., et al. (2024). ESPEN practical guideline: Nutritional support for polymorbid medical inpatients. Clinical Nutrition, 43(3), 674–691.