

SUMMER INTERNSHIP REPORT

At

**FOOD AND BEVERAGE DEPARTMENT IN
AMRITA HOSPITAL**

(April 4th to June 4th 2022)

A Report

By

VIRAJ MAHAJAN

Enrollment No: PG/21/128

PGDM (Hospital and Health Management)

2021-2023



International Institute of Health Management Research, New Delhi

ACKNOWLEDGEMENT

With Candor and Pleasure I take opportunity to express my sincere thanks and obligation to my esteemed guide **VINAY TRIPATHI**. It is because of his indispensable and mature guidance and co-operation without which it would not have been possible for me to complete my project.

Finally, I gratefully acknowledge the support, encouragement & patience of my family, and as always, nothing in my life would be possible without God, Thank You!

VIRAJ MAHAJAN

Enrollment No: PG/21/128

TABLE OF CONTENTS

	ACKNOWLEDGEMENT	2
	TABLE OF CONTENTS	3
	ACRONYMS/ABBREVIATIONS	4
1	CHAPTER-1	5
	INTRODUCTION TO THE STUDY	
2	CHAPTER-2	17
	MODE OF DATA COLLECTION	
3	CHAPTER-3	19
	DATA COMPILATION, ANALYSIS AND INTERPRETATION	
4	CHAPTER-4	36
	RECOMMENDATIONS AND CONCLUSION	
	REFERENCES	44
	ANNEXURE	46
	TIME SCHEDULE	47
	QUESTIONNAIRE	48

ACRONYMS/ABBREVIATIONS

F&B - Food and Beverage

NIRF- National Institutional Ranking Framework

FSSAI-Food Safety and Standards Authority of India

CHAPTER-1

INTRODUCTION

Food is essential to one's quality of life, but it is also a basic human requirement and essential to one's health, and it should be seen as a fundamental human right. Jeong and Seo (2014) The food services provided by hospitals are an important part of patient care (Jamaluddin et al, 2010). Patient meals should be considered a component of hospital therapy that can aid recovery, especially if patients have no alternative means of obtaining nourishment while in the hospital (Jamaluddin et al, 2010). The patient's comfort in the hospital can cure them right away.

Patient satisfaction is described as an assessment of several aspects of healthcare (Naidu, 2009). Inpatient satisfaction include not just essential health-care services, but also communications, sociability, and food services in the hospital. The use of patient perceptions as a measure of service quality in health care follows trends in other service industries (Sahin et al, 2006). Patients' attitudes on food, which is a part of hospital treatment, are an essential factor in their satisfaction with their stay (Messina et al, 2013).

Customer satisfaction with hospital food service is complex and diverse, especially when each patient has different expectations (Hartwell et al, 2007). Snacks served between meals, at times other than those when the conventional meals are served, appear to improve patient satisfaction (Mentziou et al, 2014). Food and beverage service and consumption help to break up the monotony of a long, boring day and may be an essential factor in improving patient satisfaction (Hartwell et al, 2001). Consumer pleasure, perceived quality, and food-service features are mainly unknown interactions. Knowledge of these relationships appears to be a crucial foundation for assessing the impact of foodservice innovations or tracking client foodservice satisfaction over time (Wright et al, 2006). Every aspect of the patient care process is analysed for potential to improve the quality of care and the presence of a patient-centered approach as hospitals try to improve metrics of service for patients under their care (Cronk, 2013).

On the other hand, Hospital cuisine is frequently seen as cold, tasteless, poorly prepared, and inadequately delivered (Ahmed et al, 2015). Despite the fact that adjustments and improvements in hospital meals and nutritional care can prevent nutritional aggravations that have a negative influence on the length of hospital stay and hospitalisation costs, food and nutrition services are frequently undervalued support services in hospitals (Diez-Garcia, 2012).

F&B ANCILLARY DEPARTMENTS AT AMRITA HOSPITAL

Food and Beverage department relies upon the support of the following departments:

Kitchen Stewarding

The Kitchen Stewarding department attempts to keep the commercial kitchen clean, prepared, and orderly so that the kitchen crew may operate efficiently. It also guarantees that all of the tools and utensils needed for a particular meal or cooking operation have been well cleaned and are ready to use. The kitchen steward serves as a link between the F&B Services department and the commercial kitchen.

Dishwashing

The Dishwashing department is responsible for supplying clean and dry supply of glasses, chinaware, and cutlery for bar, banquet, lounge, and restaurant service.

Laundry

For timely supply of dry-cleaned and wrinkle-free linen, the F&B department relies heavily on the laundry department or outsourced laundry services.

F&B STAFF ATTITUDES AND COMPETENCIES AT AMRITA HOSPITAL

Knowledge

Knowing one's responsibilities and roles, as well as having adequate knowledge of food products, food and beverage pairing, etiquette, and service methods, is a fantastic approach to gain confidence while serving guests.

Appearance

It makes a good first impression on visitors. While on duty, F&B employees must maintain personal hygiene, cleanliness, and a professional look.

Attentiveness

Attentiveness is defined as paying close attention to details, memorizing the wants of the visitors, and meeting those demands as quickly as possible with the highest level of perfection possible.

Body Language

The F&B Services team must have a pleasant, lively, and friendly attitude at all times.

Effective Communication

It is critical when conversing with coworkers and visitors. The use of clear and correct communication, as well as the appropriate language and tone, can help the service workflow go smoothly. It has the potential to provide guests with a truly enhanced experience.

Punctuality

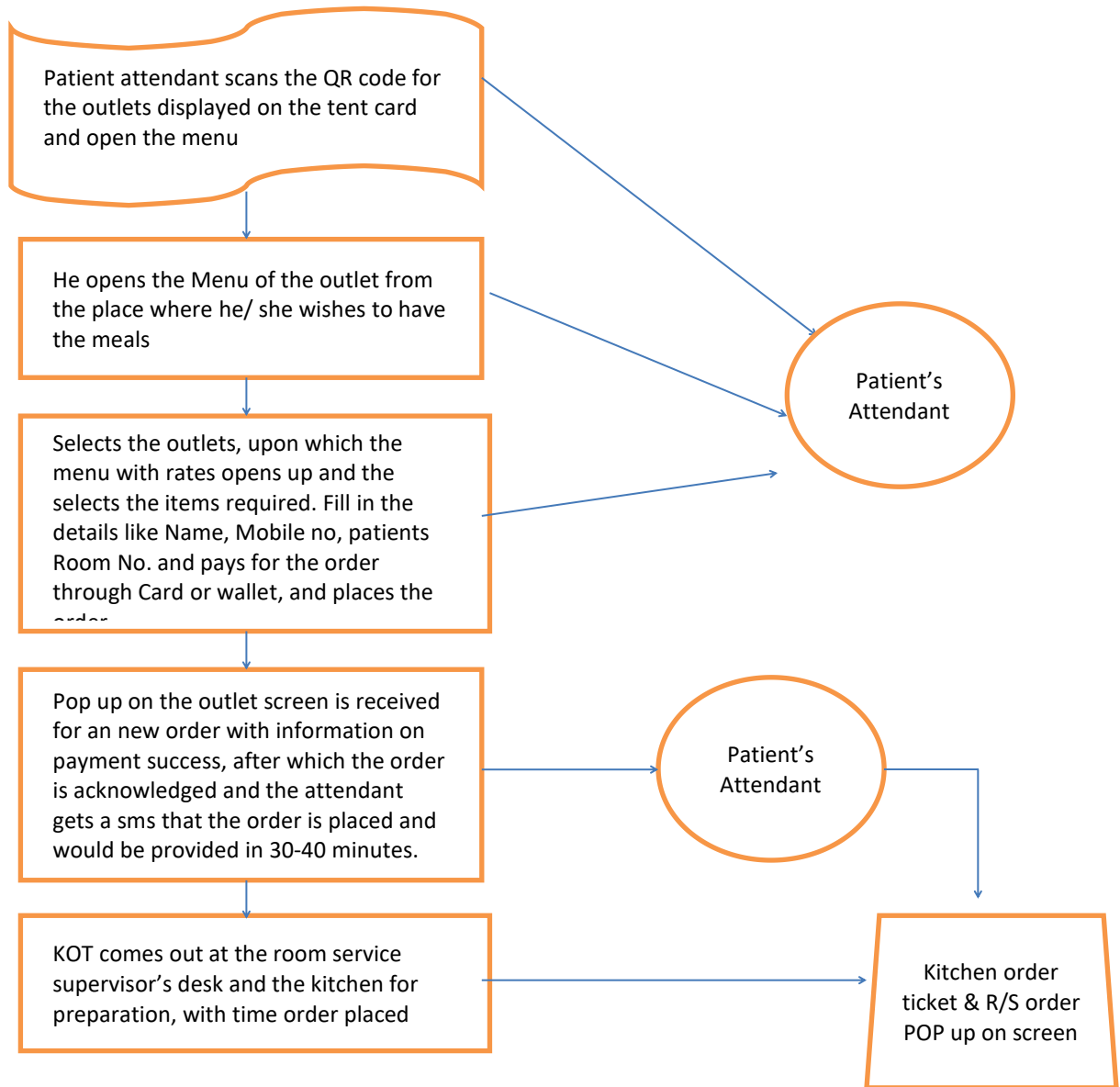
While serving the visitors, the F&B Services employees must understand the value of time. The efficient running of the service workflow is aided by accurate timekeeping and a sense of urgency.

Honesty and Integrity

These two essential values in even a well individual are critical for serving visitors in the hospitality industry.

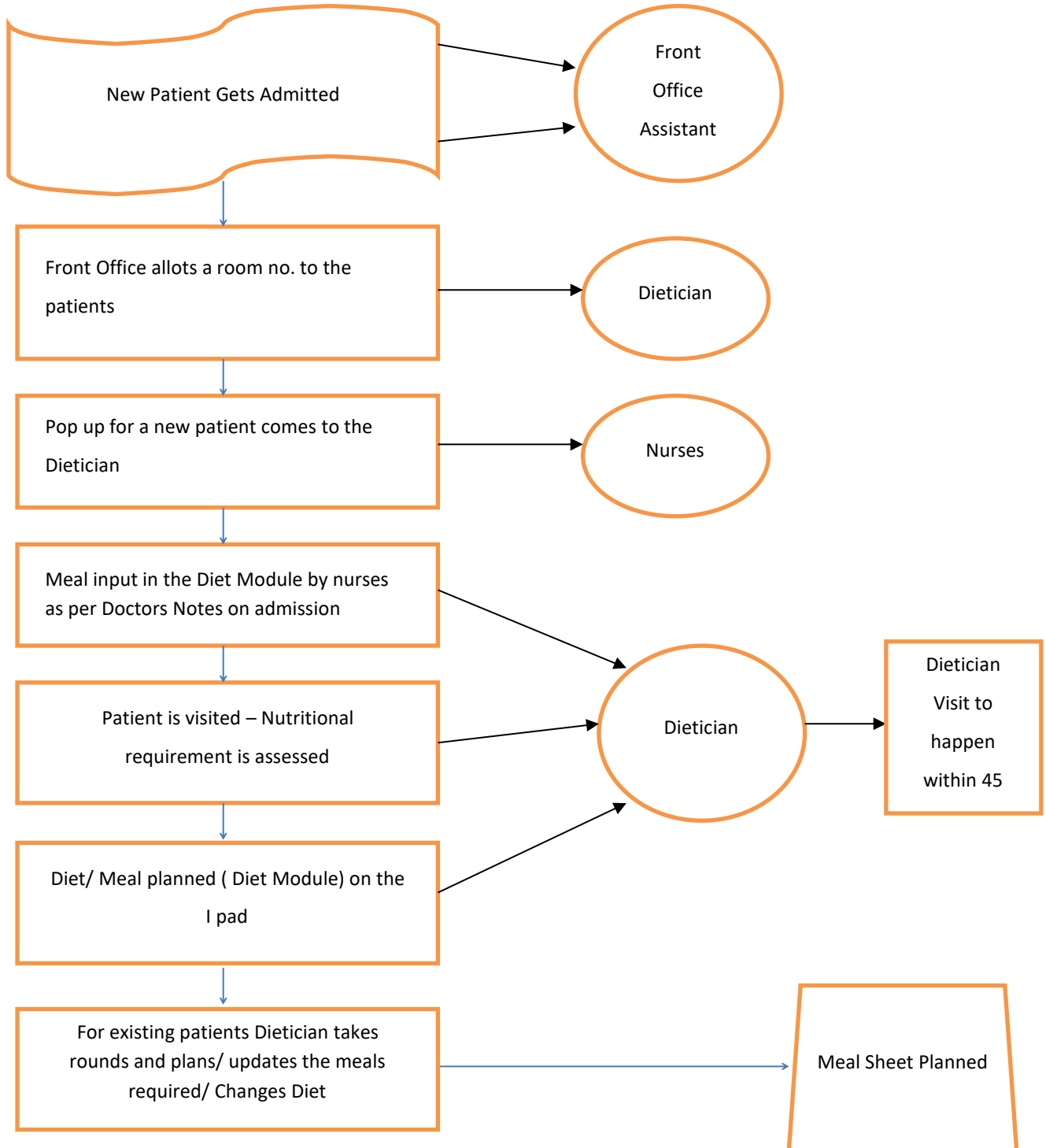
FLOW DIAGRAM

To serve all category of meals to attendants of patients accompanying them in the room on Order and collection of payment



FLOW DIAGRAM

To serve wholesome nutritious meals to all the patients admitted in the Hospital for the treatment of their ailment as per the prescribed diet.



DIET CHART FOLLOWED FOR THE PATIENTS OF AMRITA HOSPITAL

Normal Diet	Diabetic Diet	Low Fat Diet
Bed Time - Tea + biscuits	Tea No Sugar+Biscuit	Tea +Biscuit
Breakfast – Milk/ coffee/ tea omelet , corn flake with milk, veg sandwich, scrambled eggs	Milk, Coffee, Tea, Fruits, Sandwich, Poha, Sprouts	Milk/ Tea/ Coffee, Veg Sandwich, Poha, Sprouts, egg kendila
Lunch- Chapatti, Rice Kadi, Aloo, Chutney, beet root, salad mix vegetables, veg Manchurian, ice cream, Soya Chaap	Chapatti, Rice Kadi (no Pakora) Custard, Veg Manchurian, Chowmein	Chapatti, Rice Kadi (no Pakora), Fruits, Aloo, Curry, Salads, Yogart with Cucumber, Veg Manchurian, Chowmein
Evening- Tea - Biscuits, Milk, Coffee, Tea, Soup - bread Sticks	Tea/ Coffee/ Milk Soup	Tea/Coffee/ Milk Soup
Dinner - Chapati, Rice, Dal, Aloo, Beans, Plain curd, spaghetti bolognese baked, paneer cutlet (grilled,) Kale channe, veg in white sauce	Palak, Salad, Fruits, spaghetti, Curd, Plain Dal Hara Bhara Kabab, Dahike Kabab, Paneer , Methi, Dum Aloo, Paneer	Chappati, Palak, Plain Curd, Fruits, Beans, Palak Paneer, spaghetti bolognese Veg Fried Rice

PATIENT'S NEEDS

When a person is admitted to hospital and assessment is carried out both on admission and on an on-going basis. A care plan is developed, implemented and evaluated

- Eating and drinking likes and dislikes
- Food allergies meant for a diet
- Mealtime requirements
- Physical difficulties while eating and drinking.
- Need for equipment to help with eating and drinking

KITCHEN DEPARTMENT

Total 30,000 sq feet

Dining area	8392sq feet
Dish washing area	351sq feet
Clean dish washing area	372sq feet
Chapati section(Atta , Maida store, ice room kneading area)	1194sq feet
Trolley parking	531 sq feet
Walk-in refrigerator	270 sq feet
Dish wash area + trolley wash area	751 sq feet
Sewing area	13 sq feet
Kitchen	400 sq feet
Dietician	8262.22mm
Hot Food trolley	360 sq feet
Crockery bakery stove	120 sq feet
Wet garbage area	271.75 sq feet
Pot wash area	334.9 sq feet
Dispatch area	334.9 sq feet

MENU PLANNING

- Menu should be planned to ensure that they meet patients' needs and nutritional requirements
- Planning the menu should be carried out by a group of people who bring their own expert knowledge to process.
- Catering manager, dieticians.
- Analysis of nutritional value of each meal.
- Nutritional content in meal
- Balance nutritional in menu
- Kitchens to provide to all sections from the poor to the rich at minimal cost.

Vegetable/ raw material storage is done in receiving area so that it needs proper climate condition.

Planning kitchen, the both areas should be planned well as they are the backbone of operations. For the kitchen to run smoothly for area should be planned:

1. Receiving Boy.
2. Supplies holding room- quality check
3. Store keepers office

4. Microbiology lab
5. Vegetable wash area
6. Walk in refrigerator to store following :
 1. Vegetables
 2. Milk & milk products
 3. Meat & poultry
 4. Fish
7. Storage areas- Provisions & Grocery
 - Cutlery, Crockery and Glassware

ABOUT AMRITA HOSPITAL

Amrita Hospital is India's first and the world's 41st best hospital. A total of 1,406 universities from 106 countries and regions are included in the rankings. As the hospital prepares for the future, Amrita Hospital acknowledges its students, instructors, staff, alumni, and partners who are effecting change both domestically and



globally.

Our interdisciplinary teams, which include doctors, researchers, nurses, paramedics, and other support professionals from many disciplines and are supported by the most cutting-edge technologies and equipment, enable us to provide a comprehensive therapy. We put our founder, Mata Amritanandamayi Devi (also known as AMMA)'s ideal into reality by committing ourselves to providing high-quality, safe, and affordable health care. National regulators rate us highest since our institution meets the highest requirements, thus it's no surprise that the National Institutional Ranking Framework (NIRF) ranks us fifth in India in 2021. Amrita Hospitals uses the resources and research of an entire institution to address the most critical health care concerns encountered by a diverse group of patients who visit us.

HISTORY

Amrita Institute of Medical Sciences (Amrita Hospital) has developed from a 115-bed specialty hospital to a 1100-bed (490 units) super-specialty tertiary care health centre with an affiliated medical college hospital in the twenty-two years since its start in Chennai. In the presence of Her Holiness, Sri Mata Amritanandamayi Devi, the then Prime Minister of India, ShriAtalBihari Vajpayee, inaugurated Amrita Hospital on May 17, 1998.

Our Uniqueness

- High-quality and experienced healthcare workers
- One of India's most modern hospital computer networks
- Owns a fully integrated health-care delivery system
- Teleconnectivity, which links sixty Indian centres with nine overseas centres.

RATIONALE

Hospital meals are an important part of the care provided to inpatients, since they aid recovery and improve patient satisfaction with the entire treatment experience. Every hospital food service should strive to provide nutritionally suitable and microbiologically safe food that fulfils the patient's appetite. This study provides a brief overview of the relevance of nutritional care and hospital food services, as well as the issues faced by hospital food services, various operational processes, and major food service quality and standards indicators. The current food and beverage department at Amrita Hospital health care settings is described, as well as suggested areas for development.

RESEARCH QUESTION

- Q1.What kind of food and beverages are served in Amrita hospital?
- Q2. What diet chart is followed at Amrita Hospital for different types of patients?
- Q3. What should be the flow diagram to serve wholesome nutritious food to the patients admitted in Amrita Hospital?
- Q4. How are the staff attitudes and competencies at Amrita Hospital in food and beverages department?
- Q5.What are the factors that influence the satisfaction level of patients toward food and beverages provided by Amrita Hospital?

OBJECTIVES

The main objectives of this study are

1. To evaluate various factors such as age, gender, type of catering system in Food and beverages department in Amrita Hospital.
2. To analyse various food and safety features of Food and beverages department in Amrita Hospital.
3. To investigate patient satisfaction with foodservices provided by Food and beverages department in Amrita Hospital.
4. To study the relationships between patient satisfaction and plate wastage in Amrita Hospital.

HYPOTHESIS

H0: There is no significant impact of services provided by the food and beverages department on the patients of the Amrita Hospital.

H1: There is the significant impact of services provided by the food and beverages department on the patients of the Amrita Hospital

CHAPTER-2

MODE OF DATA COLLECTION

RESEARCH DESIGN: -Descriptive research design is used in the current study.

DATA COLLECTION METHODS:

Primary and secondary sources are used for data collection.

PRIMARY DATA: Questionnaire was developed for collecting primary data. These questionnaires were distributed to respondents for interviews.

SECONDARY DATA: Newspaper, Magazines, websites and journals were used to collect secondary data.

SIZE OF SAMPLE: 25

UNIVERSE:

Universe refers to the total of the units in field of inquiry. Our universes were selected through random method among patients of Amrita Hospital.

CONVENIENT SAMPLING: This is a sort of sampling in which the researcher chooses the sample based on his or her personal preferences.

TECHNIQUE OF SAMPLING: A handy sampling procedure was adopted; 25 respondents were conveniently selected from the target population in Delhi. These respondents are the patients who were admitted in Amrita Hospital and taken the services from Food and Beverages Department of the Hospital.

STATISTICAL TOOLS:

MS-EXCEL was used to make pie charts and graphs, and MS-WORD was utilized to write the complete project report.

DATA ANALYSIS AND INTERPRETATION - Classification and tabulation converts raw data received from surveys into useful information by ordering and gathering the bits

of data contained in each questionnaire, namely observations and replies, into clear and organized statistics.

- Counting the number of answers and determining the percentage using simple data tabulation with tally marks.

- The formula was as follows: $(\text{total responses} / \text{number of responses}) * 100$

Pie charts, bar graphs, and other visual aids are used in graphical analysis.

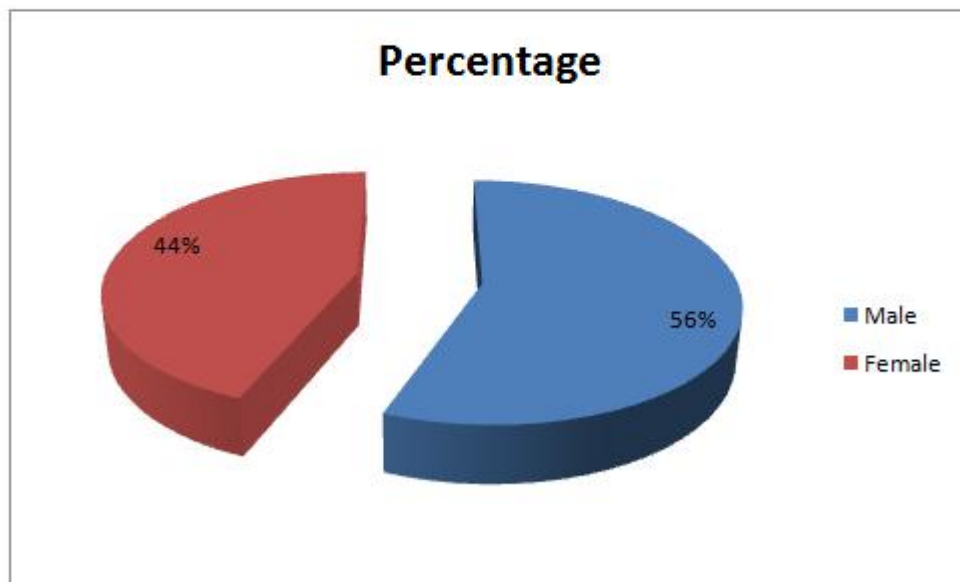
CHAPTER-3

DATA COMPILATION, ANALYSIS AND

INTERPRETATION

Gender

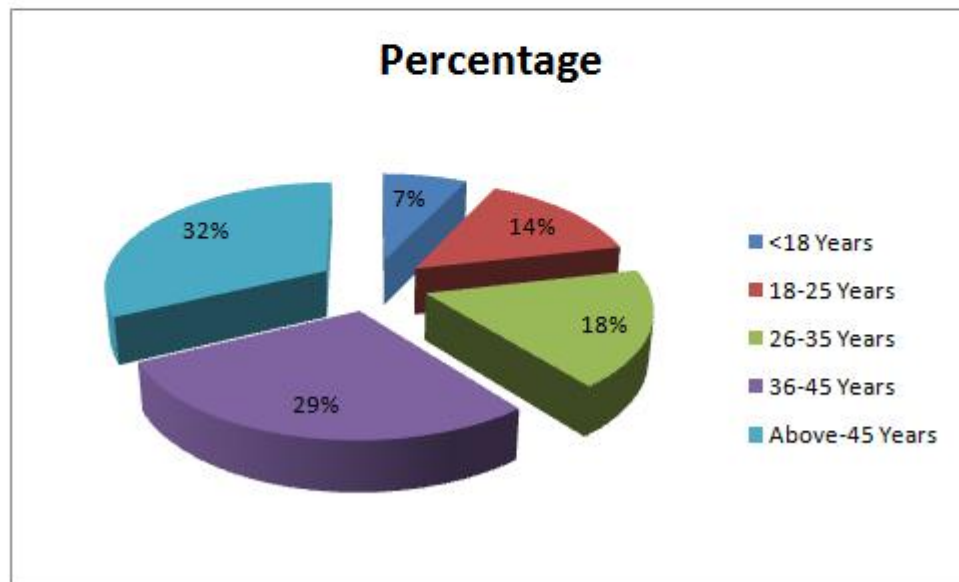
Criteria	Frequency	Percentage
Male	14	56%
Female	11	44%



Analysis: As per given in the above pie chart 56% of the respondents are male and 44% of the respondents are female.

Age

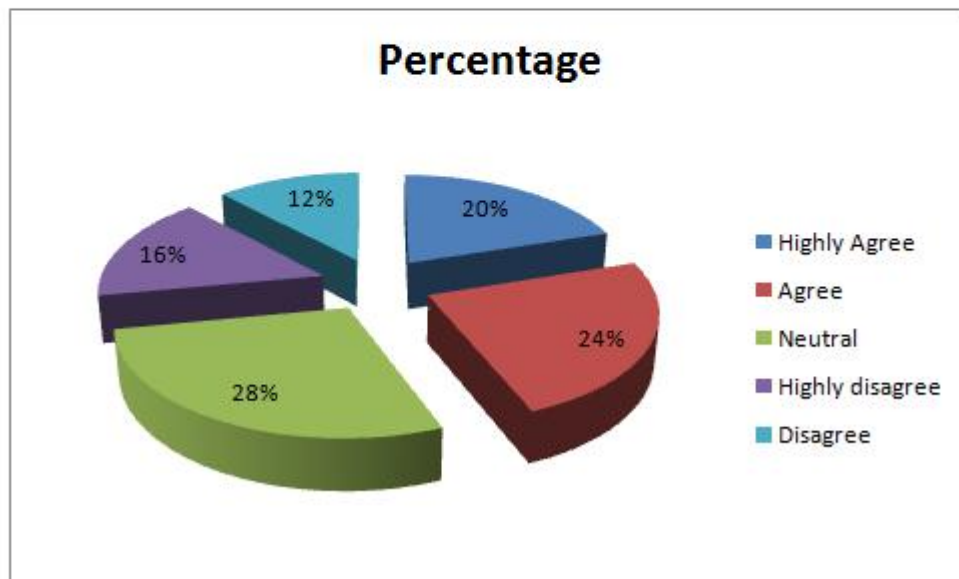
Criteria	Frequency	Percentage
<18 Years	2	7%
18-25 Years	4	14%
26-35 Years	5	18%
36-45 Years	8	29%
Above-45 Years	9	32%



Analysis: As per given in the above pie chart 7% of the respondent's age <18 Years, 14% of the respondent's age 18-25, 18% of the respondent's age 26-35, 29% of the respondent's age 36-45 and 32% of the respondent's age Above 45 Years.

Meals are served at times that suit me.

Criteria	Frequency	Percentage
Highly Agree	5	24%
Agree	6	20%
Neutral	7	28%
Highly disagree	4	16%
Disagree	3	12%

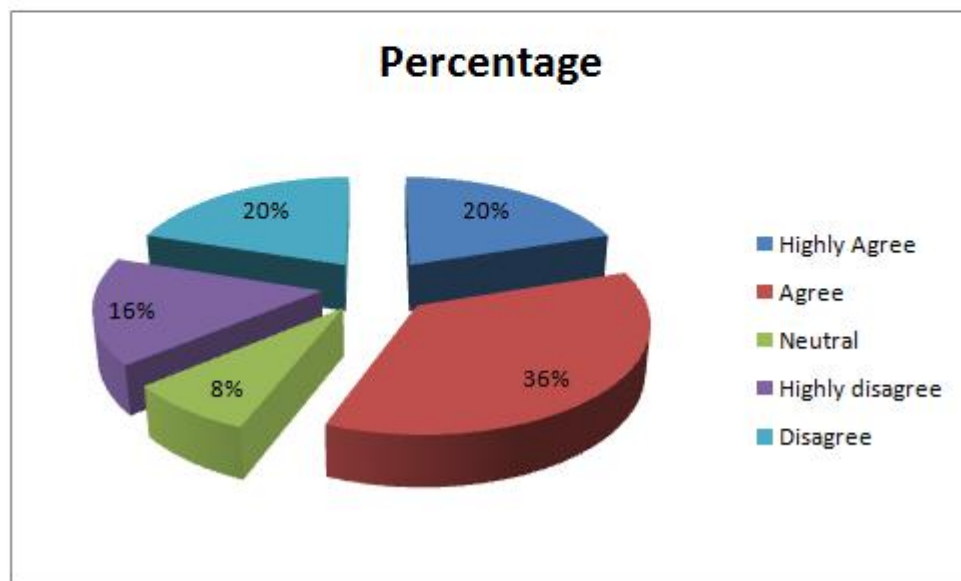


ANALYSIS

As per shown in above graph, 20% of the respondents are highly agree that Meals are served at times that suit me, 24% of the respondents are agree, 28% of the respondents are neutral and 16% of the respondents are highly disagree with above statement.

Temperature of the food and beverages served is well maintained.

Criteria	Frequency	Percentage
Highly Agree	5	20%
Agree	9	36%
Neutral	2	8%
Highly disagree	4	16%
Disagree	5	20%

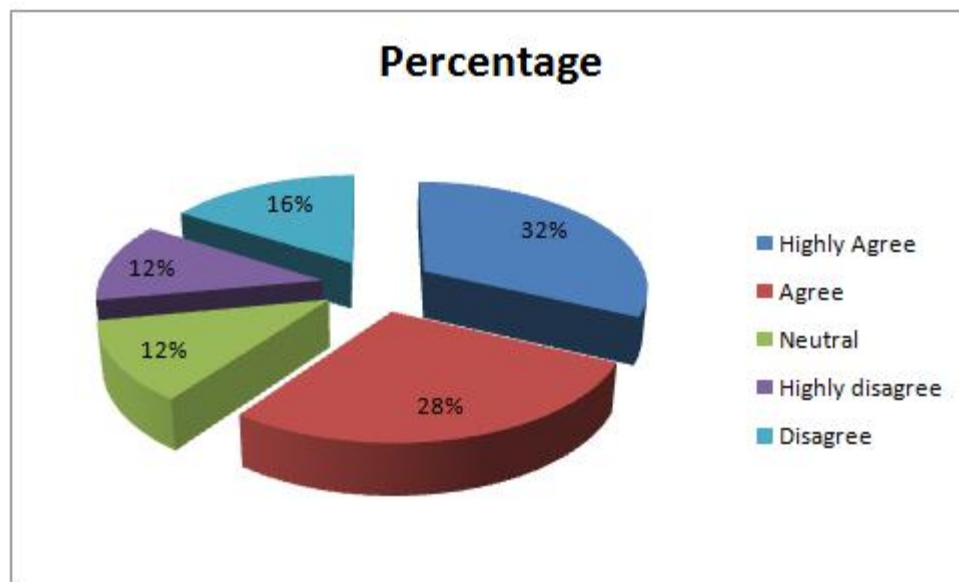


ANALYSIS

As per shown in above graph, 20% of the respondents are highly agree that Temperature of the food and beverages served is well maintained, 36% of the respondents are agree, 8% of the respondents are neutral and 16% of the respondents are highly disagree with above statement.

Food and beverages are nutrition.

Criteria	Frequency	Percentage
Highly Agree	8	32%
Agree	7	28%
Neutral	3	12%
Highly disagree	3	12%
Disagree	4	16%

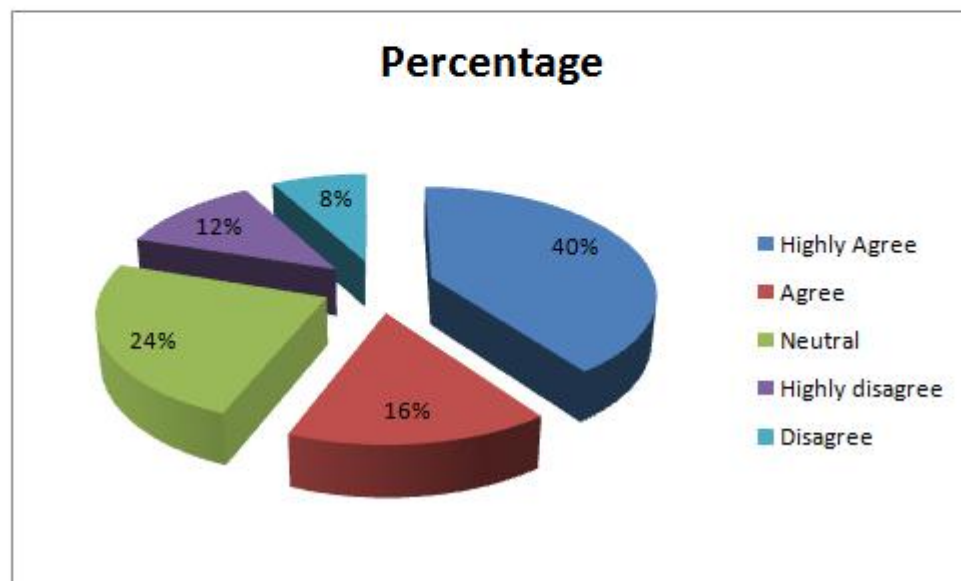


ANALYSIS

As per shown in above graph, 32% of the respondents are highly agree that food and beverages are nutrition. 28% of the respondents are agree, 12% of the respondents are neutral and 12% of the respondents are highly disagree with above statement.

Food and beverages prepared at Amrita Hospital are Hygienic.

Criteria	Frequency	Percentage
Highly Agree	10	40%
Agree	4	16%
Neutral	6	24%
Highly disagree	3	12%
Disagree	2	8%

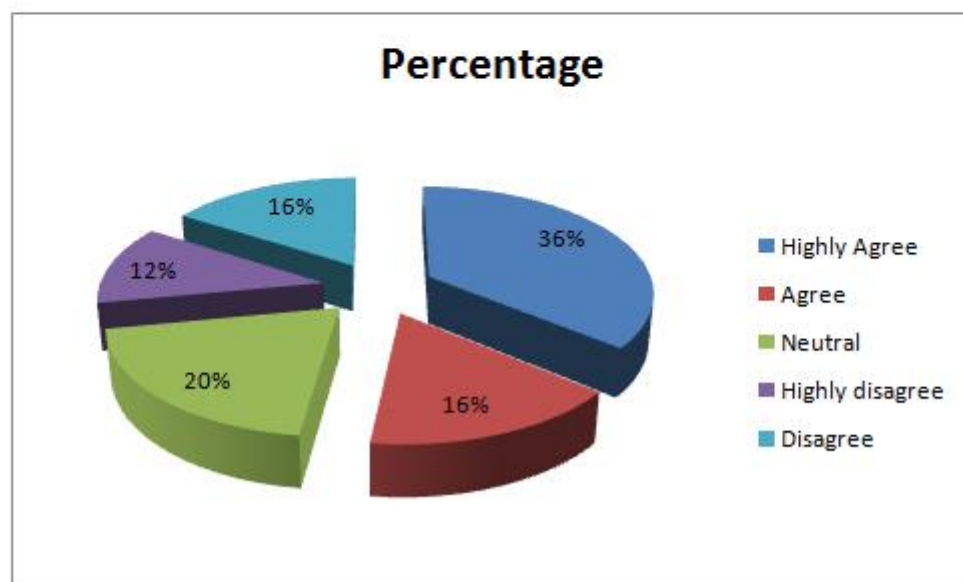


ANALYSIS

As per shown in above graph, 40% of the respondents are highly agree that food and beverages prepared at Amrita Hospital are Hygienic, 16% of the respondents are agree, 24% of the respondents are neutral and 12% of the respondents are highly disagree with above statement.

The food and beverages served by Amrita Hospital are according to the prescription given by doctors.

Criteria	Frequency	Percentage
Highly Agree	9	36%
Agree	4	16%
Neutral	5	20%
Highly disagree	3	12%
Disagree	4	16%

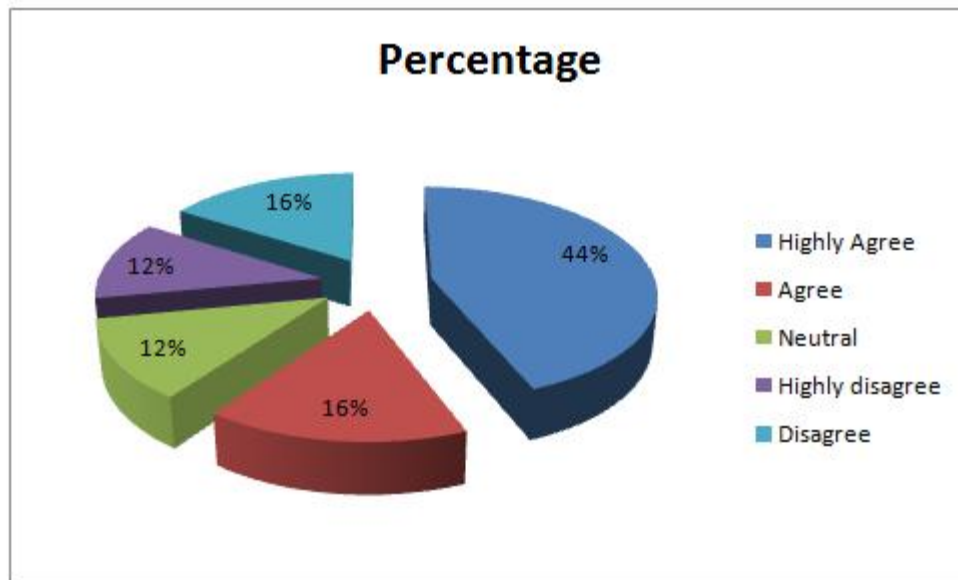


ANALYSIS

As per shown in above graph, 36% of the respondents are highly agree that the food and beverages served by Amrita Hospital are according to the prescription given by doctors, 16% of the respondents are agree, 20% of the respondents are neutral and 12% of the respondents are highly disagree with above statement.

The meal served is fresh.

Criteria	Frequency	Percentage
Highly Agree	11	44%
Agree	4	16%
Neutral	3	12%
Highly disagree	3	12%
Disagree	4	16%

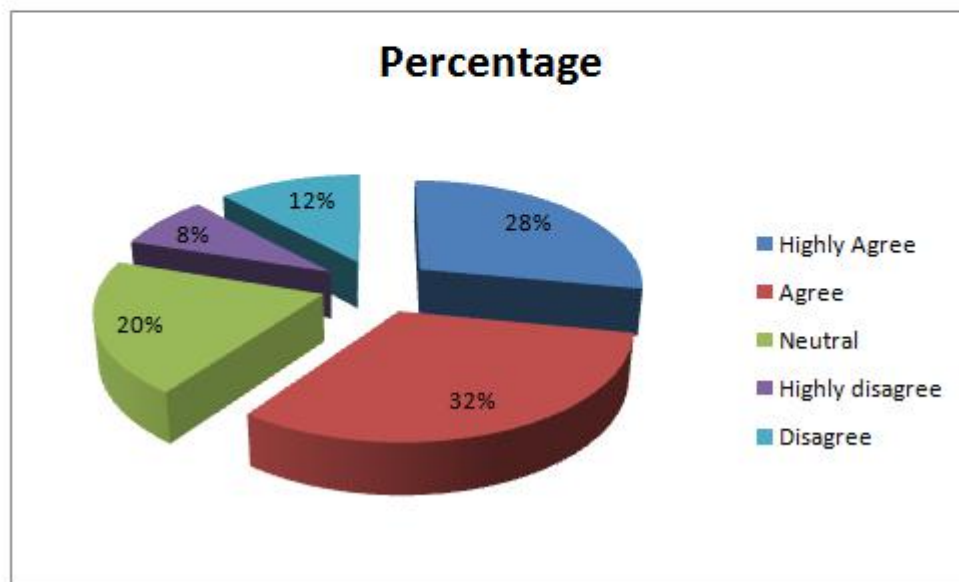


ANALYSIS

As per shown in above graph, 44% of the respondents are highly agree that the meal served is fresh, 16% of the respondents are agree, 12% of the respondents are neutral and 12% of the respondents are highly disagree with above statement.

Taste, smell, appearance of food is good.

Criteria	Frequency	Percentage
Highly Agree	7	28%
Agree	8	32%
Neutral	5	20%
Highly disagree	2	8%
Disagree	3	12%

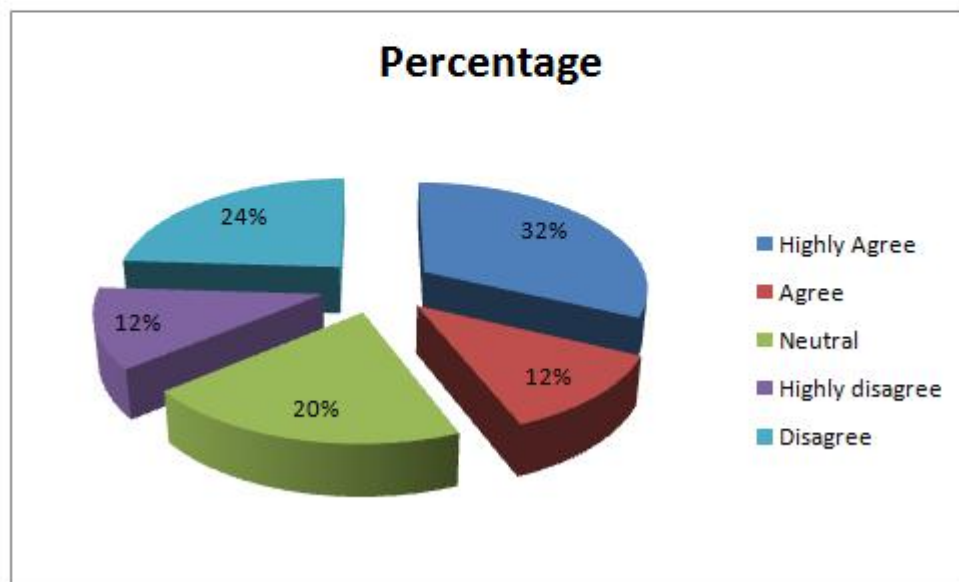


ANALYSIS

As per shown in above graph, 28% of the respondents are highly agree that taste, smell, appearance of food is good, 32% of the respondents are agree, 20% of the respondents are neutral and 8% of the respondents are highly disagree with above statement.

Menu of the food is customized.

Criteria	Frequency	Percentage
Highly Agree	8	32%
Agree	3	12%
Neutral	5	20%
Highly disagree	3	12%
Disagree	6	24%

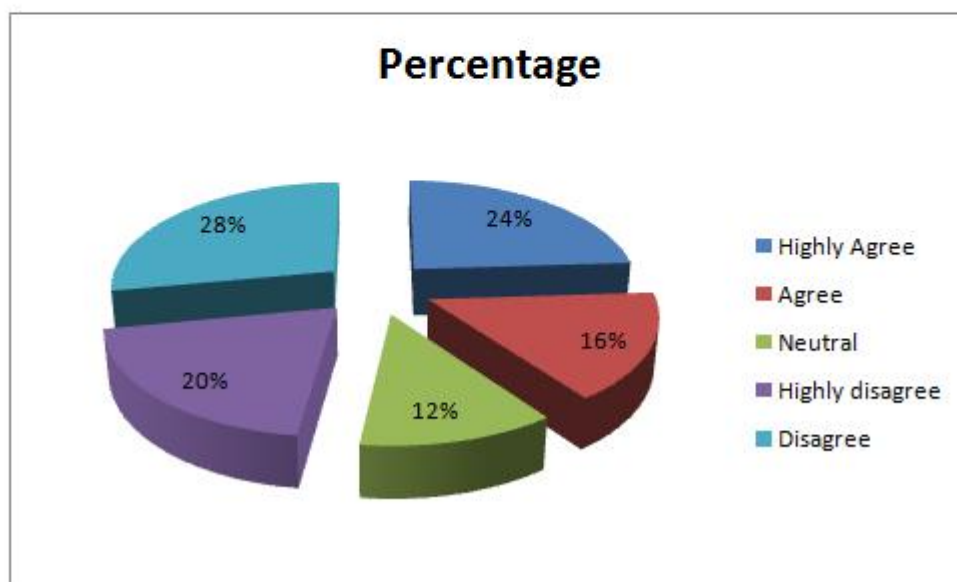


ANALYSIS

As per shown in above graph, 32% of the respondents are highly agree that the menu of the food is customized. 12% of the respondents are agree, 20% of the respondents are neutral and 12% of the respondents are highly disagree with above statement.

Kitchens where food is cooked for the patients is inspected regularly by the higher authorities.

Criteria	Frequency	Percentage
Highly Agree	6	24%
Agree	4	16%
Neutral	3	12%
Highly disagree	5	20%
Disagree	7	28%

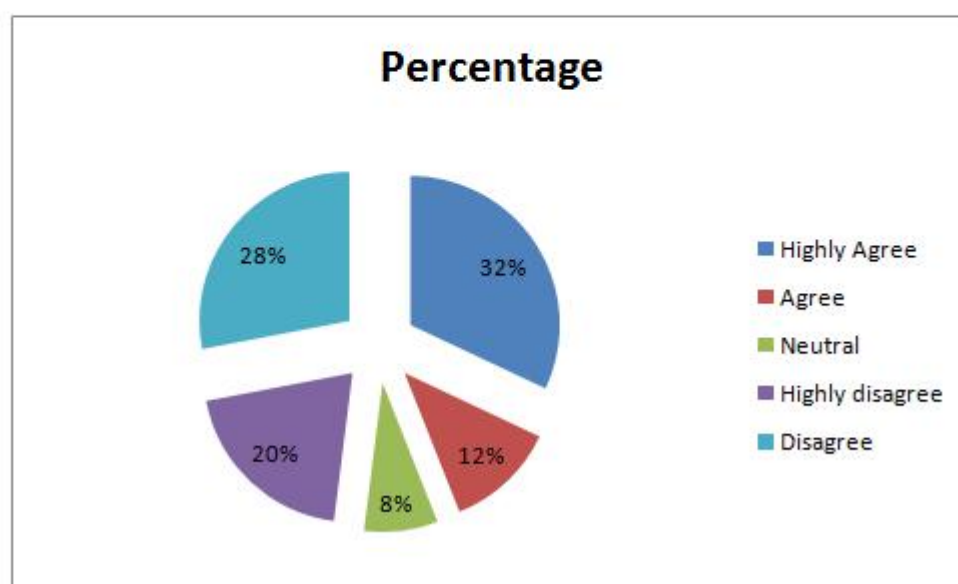


ANALYSIS

As per shown in above graph, 24% of the respondents are highly agree that kitchen where food is cooked for the patients is inspected regularly by the higher authorities, 16% of the respondents are agree, 12% of the respondents are neutral and 20% of the respondents are highly disagree with above statement.

For FSSAI-Food safety license Registration is done by the Amrita Hospital as it is very much mandatory document in order to address the legal requirement as per food safety act.

Criteria	Frequency	Percentage
Highly Agree	8	32%
Agree	3	12%
Neutral	2	8%
Highly disagree	5	20%
Disagree	7	28%

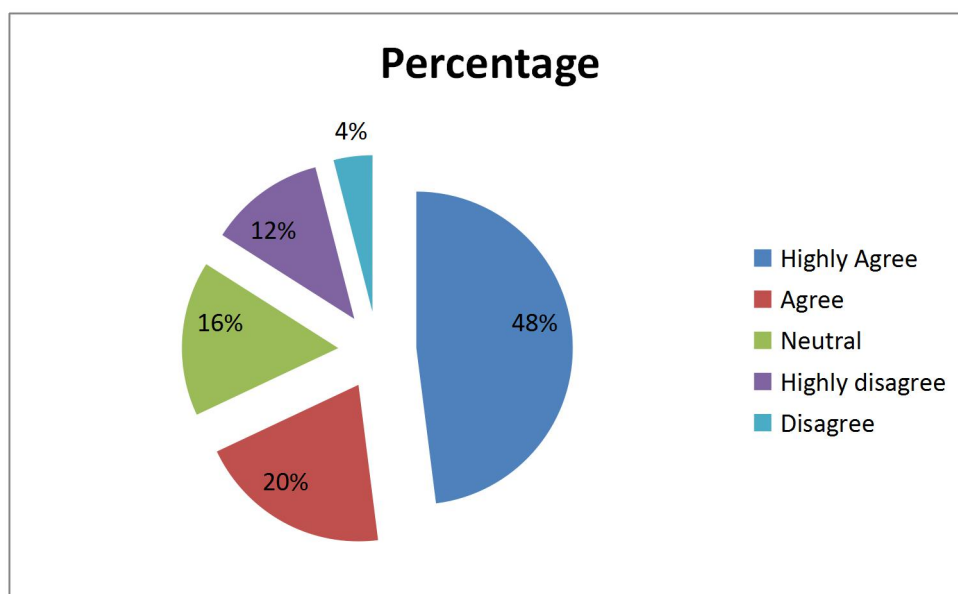


ANALYSIS

As per shown in above graph, 32% of the respondents are highly agree that FSSAI-Food safety license Registration is done by the Amrita Hospital as it is very much mandatory document in order to address the legal requirement as per food safety act. 12% of the respondents are agree, 8% of the respondents are neutral and 20% of the respondents are highly disagree with above statement.

There is the significant impact of services provided by the food and beverages department on the patients of the Amrita Hospital.

Criteria	Frequency	Percentage
Highly Agree	12	48%
Agree	5	20%
Neutral	4	16%
Highly disagree	3	12%
Disagree	1	4%

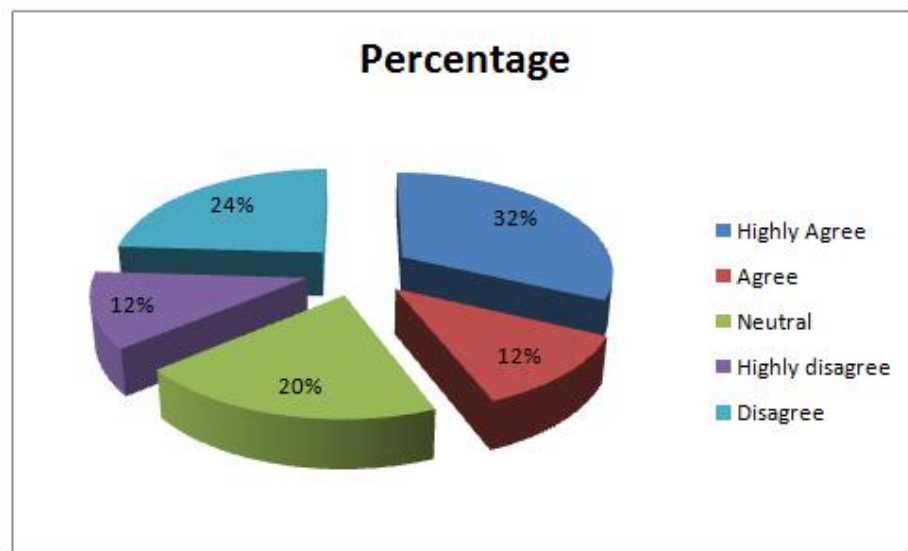


ANALYSIS

As per shown in above graph, 48% of the respondents are highly agree that significant impact of services provided by the food and beverages department on the patients of the Amrita Hospital. 20% of the respondents are agree, 16% of the respondents are neutral and 12% of the respondents are highly disagree with above statement.

Staff of Food & Beverages department of the Amrita Hospital Communicate in clear and correct manner.

Criteria	Frequency	Percentage
Highly Agree	8	32%
Agree	3	12%
Neutral	5	20%
Highly disagree	3	12%
Disagree	6	24%

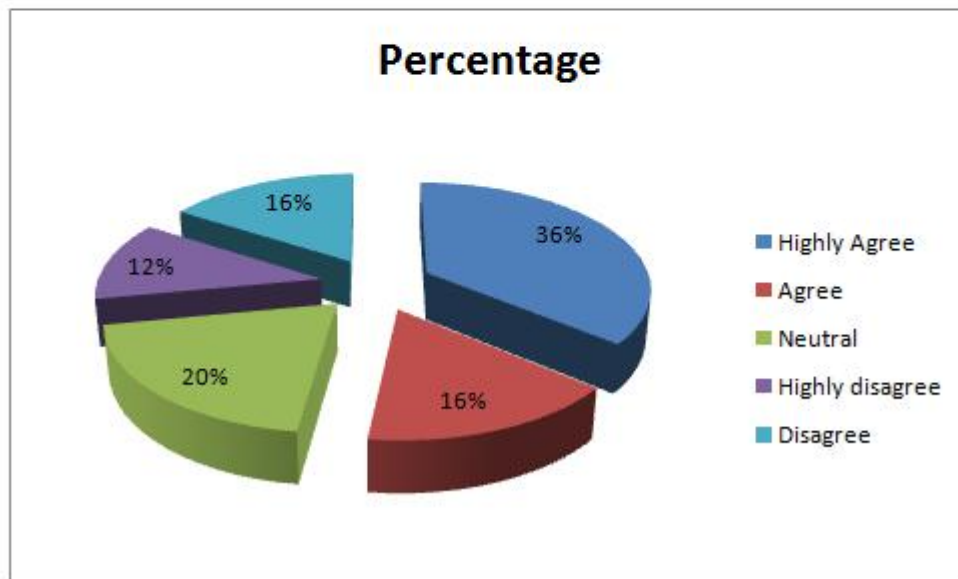


ANALYSIS

As per shown in above graph, 32% of the respondents are highly agree that Staff of Food & Beverages department of the Amrita Hospital Communicate in clear and correct manner, 12% of the respondents are agree, 20% of the respondents are neutral and 12% of the respondents are highly disagree with above statement.

Motivation is given to the patient about how diet plays a major role in the treatment of various diseases.

Criteria	Frequency	Percentage
Highly Agree	9	36%
Agree	4	16%
Neutral	5	20%
Highly disagree	3	12%
Disagree	4	16%

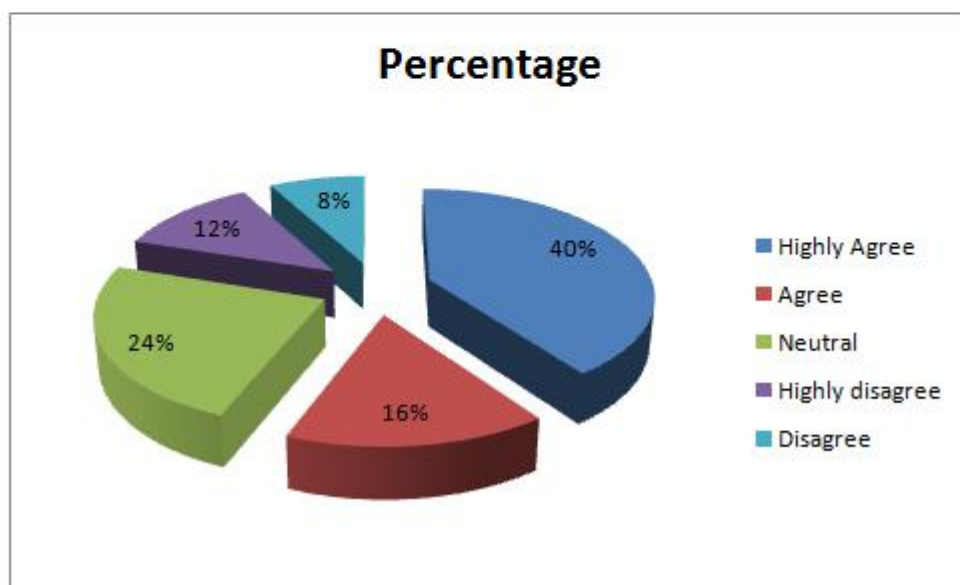


ANALYSIS

As per shown in above graph, 36% of the respondents are highly agree that the Patient diet plays a major role in the treatment of various diseases, 16% of the respondents are agree, 20% of the respondents are neutral and 12% of the respondents are highly disagree with above statement.

The dietary department of Amrita Hospital meet therapeutic needs of the patients.

Criteria	Frequency	Percentage
Highly Agree	10	40%
Agree	4	16%
Neutral	6	24%
Highly disagree	3	12%
Disagree	2	8%

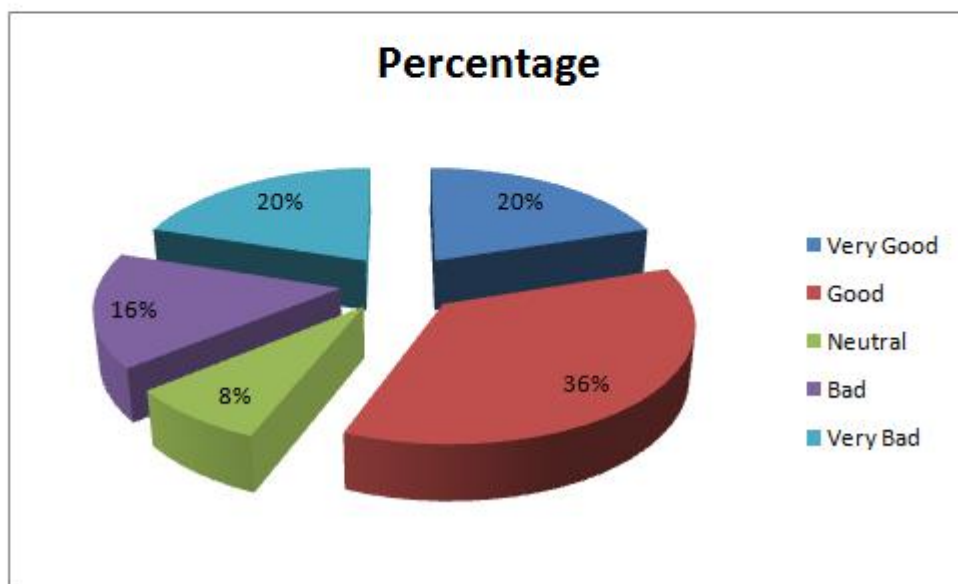


ANALYSIS

As per shown in above graph, 40% of the respondents are highly agree that the dietary department of Amrita Hospital meet therapeutic needs of the patients, 16% of the respondents are agree, 24% of the respondents are neutral and 12% of the respondents are highly disagree with above statement.

Finally, Rating of food and beverages department of Amrita Hospital.

Criteria	Frequency	Percentage
Very Good	5	20%
Good	9	36%
Neutral	2	8%
Bad	4	16%
Very Bad	5	20%



ANALYSIS

As per shown in above graph, 20% of the respondents are very good rating of food and beverages department of Amrita Hospital, 36% of the respondents are Good, 8% of the respondents are neutral and 16% of the respondents are Bad with above statement.

CHAPTER-4

RECOMMENDATIONS AND CONCLUSION

FINDINGS:

- 56% of the respondents are male and 44% of the respondents are female.
- 7% of the respondent's age <18 Years, 14% of the respondent's age 18-25, 18% of the respondent's age 26-35, 29% of the respondent's age 36-45 and 32% of the respondent's age Above 45 Years.
- 20% of the respondents are highly agree that Meals are served at times that suit me, 24% of the respondents are agree, 28% of the respondents are neutral and 16% of the respondents are highly disagree with above statement
- 20% of the respondents are highly agree that Temperature of the food and beverages served is well maintained, 36% of the respondents are agree, 8% of the respondents are neutral and 16% of the respondents are highly disagree with above statement.
- 32% of the respondents are highly agree that food and beverages are nutrition. 28% of the respondents are agree, 12% of the respondents are neutral and 12% of the respondents are highly disagree with above statement.
- 40% of the respondents are highly agree that food and beverages prepared at Amrita Hospital are Hygienic, 16% of the respondents are agree, 24% of the respondents are neutral and 12% of the respondents are highly disagree with above statement.
- 36% of the respondents are highly agree that the food and beverages served by Amrita Hospital are according to the prescription given by doctors, 16% of the respondents are agree, 20% of the respondents are neutral and 12% of the respondents are highly disagree with above statement.
- 44% of the respondents are highly agree that the meal served is fresh, 16% of the respondents are agree, 12% of the respondents are neutral and 12% of the respondents are highly disagree with above statement.
- 28% of the respondents are highly agree that taste, smell, appearance of food is good, 32% of the respondents are agree, 20% of the respondents are neutral and 8% of the respondents are highly disagree with above statement.

- 32% of the respondents are highly agree that the menu of the food is customized. 12% of the respondents are agree, 20% of the respondents are neutral and 12% of the respondents are highly disagree with above statement.
- 24% of the respondents are highly agree that kitchens where food is cooked for the patients is inspected regularly by the higher authorities, 16% of the respondents are agree, 12% of the respondents are neutral and 20% of the respondents are highly disagree with above statement.
- 32% of the respondents are highly agree that FSSAI-Food safety license Registration is done by the Amrita Hospital as it is very much mandatory document in order to address the legal requirement as per food safety act. 12% of the respondents are agree, 8% of the respondents are neutral and 20% of the respondents are highly disagree with above statement.
- 48% of the respondents are highly agree that significant impact of services provided by the food and beverages department on the patients of the Amrita Hospital. 20% of the respondents are agree, 16% of the respondents are neutral and 12% of the respondents are highly disagree with above statement.
- 32% of the respondents are highly agree that Staff of Food & Beverages department of the Amrita Hospital Communicate in clear and correct manner, 12% of the respondents are agree, 20% of the respondents are neutral and 12% of the respondents are highly disagree with above statement.
- 36% of the respondents are highly agree that the Patient diet plays a major role in the treatment of various diseases, 16% of the respondents are agree, 20% of the respondents are neutral and 12% of the respondents are highly disagree with above statement.
- 40% of the respondents are highly agree that the dietary department of Amrita Hospital meet therapeutic needs of the patients, 16% of the respondents are agree, 24% of the respondents are neutral and 12% of the respondents are highly disagree with above statement.
- 20% of the respondents are very good rating of food and beverages department of Amrita Hospital, 36% of the respondents are good, 8% of the respondents are neutral and 16% of the respondents are bad with above statement.

HYPOTHESES TESTING

H1: There is the significant impact of services provided by the food and beverages department on the patients of the Amrita Hospital.

12 respondents were highly agreed, 5 respondents were agreeing that there is significant impact of services provided by the food and beverages department on the patients of the Amrita Hospital. 4 respondents were neutral with the statement and 1 respondent were disagree with the above statement. It is found that chi-square value 14 is greater than table value 9.488 at 5% level of significance. Thus from the following results **the null hypothesis is rejected.**

Observed(O)	Expected(E)	O-E	(O-E) ²	(O-E) ² /E
12	5	7	49	9.8
5	5	0	0	0
4	5	-1	1	0.2
3	5	-2	4	0.8
1	5	-4	16	3.2
25				14

Degree of freedom(df)	4
Chi-square value	14
Table Value	9.488
A	0.5

Chi-Square value is greater than the table value. Thus from the above survey results, the null hypothesis is rejected.

Quality of Food and Beverages served	N	1	2	3	4	5	Mean	Rank
Taste	25	3	2	5	8	7	3.56	3
On Time	25	3	4	7	6	5	3.24	6
Customized Menu	25	6	3	5	3	8	3.16	8
According to diet plan	25	4	3	5	4	9	3.44	5
Hygienic	25	2	3	6	4	10	3.68	1
Maintained Temperature	25	5	4	2	9	5	3.2	7
Freshness	25	4	3	3	4	11	3.6	2
Daily Inspected	25	7	5	3	4	6	2.88	9
Nutritious	25	4	3	3	7	8	3.48	4

It has been observed that, the Quality of Food and Beverages served was the best as it was Hygienic, Freshness was 2nd rank, Taste was 3rd rank, Nutritious was 4th rank, According to diet plan was 5th rank, On Time was 6th rank, Maintained Temperature was 7th rank, Customized Menu was 8th rank and Daily Inspection was on 9th rank.

RECOMMENDATIONS:

1. PERSONALIZED ORDERS THAT ARE PERFECT

In hospitals, personalized tray delivery stands out as a foodservice concept that's become a patient preference. Cook-to-order alternatives depending on patient dietary preferences can help you fine-tune your practise.

2. PAY ATTENTION TO PRESENTATION

Improve plate presentation to increase the positive response to your facility's foodservice options. Instruct kitchen personnel to provide the finishing touches that turn a dish into a visual feast. The plan is a rapid and low-cost way to improve the hospital's image among patients and visitors.

3. RE-TEST EVERYTHING'S TASTE

Set up taste-testing sessions with the kitchen crew on a regular basis. Hospital nutritionists and other interested workers should be included. Experiment with fresh ideas, but stick to the tried-and-true menu options. Small adjustments can have a major impact on patient satisfaction.

Use the sessions to explore ideas to improve the cuisine at your facility on a regular basis. Make sure to take suggestions from your food ambassadors' patient visits into consideration.

4. CHANGE THE LOOK OF THE SALAD BAR

Make the salad bar in the hospital cafeteria a healthy eating destination. Provide new reasons for visitors and employees to visit the renowned cold station. Tempt them with homemade dressings and healthy garnishes. Classics like savoury Caesar salads, creamy pasta combinations, and rotisserie chicken salads should all be on the menu.

5. CONTINUE TO PLAY THE SEASONS

Your newly remodelled salad bar is an ideal spot to display fresh fruits and vegetables. Apply the same rotation to menu items to improve the quality of hospital foodservice.

For a range of healthful recipes, look for high-quality food. Create diet-specific recipes based on healthy options that honour the seasons. Changing out the veggie sides, plant-based entrees, and fresh fruit desserts on hospital menus may keep things interesting all year.

6. TAKE CARE OF THE YOUNGER PATIENTS

Create recipes that will allow young hospital patients to eat healthier versions of their favourite dishes. Make grilled cheese sandwiches using healthy grain breads from the bakery. Pizzas should be topped with fresh vegetables and pesto. Healthy hospital cuisine that keeps little appetites robust can delight kids and put parents' worries at ease.

7. PROVIDE HEALTHY COOKING COURSE

Through on-site cooking lessons, assist patients and their families in discovering healthful routes to greater health. It's a great method to improve the patient experience while also lowering readmissions. Work with the dietitians at your hospital to create different classes aimed at achieving certain patient recovery goals.

CONCLUSION

Food safety is a scientific restraint describing handling, preparation, and storage of food in ways that prevent foodborne illness. This includes a number of routines that should be followed to avoid potentially severe health hazards. This study concluded that Food and Beverages department of Amrita Hospital is following all the guidelines provided by WHO. Food safety system prevents infection and keeps food safe. Unsafe food and water means that they have been exposed to harmful substances, physical, chemical and biological hazards, that can cause infections and diseases. The assessment was done with in the patients of Amrita Hospital, they are fully satisfied with the key principles of food hygiene followed in this hospital that are essential to implement in any hospital catering sections. The Kitchen area, washing areas, storage area, dishwashers etc. all are modular and up to date. Keeping our hands clean is not enough. There are a number of other factors to keep in mind to make sure that you serve fresh and healthy food to your loved ones. Even the rags or spoon holders that we use in the kitchen are a storehouse of germs. The food menus and services are according to the diet chart provided to the patients by their doctors. The Food Standards and Safety Authority of India (FSSAI) is the supreme authority which is responsible for regulating and supervising the food safety. Amrita Hospital has also taken FSSAI Basic Registration as per the law.

LIMITATIONS

The measurement and quantification of foodservice satisfaction is difficult, as it is highly subjective and influenced by many variables. In Amrita Hospital, this is not unexpected given the nature of the experience for patients. It is difficult to establish criterion validity, as there is no gold standard measure of hospital food and beverage service satisfaction. In addition, the tool was not tested for use with chronic care patients and may be unsuitable for this group

REFERENCES

- Jeong, J., & Seo, S. (2014). Importance of satisfaction with food for older adults' quality of life. *British Food Journal*.
- Jamaluddin, R., AbdManan, N. A., Basri, A. M., & AbKarim, M. S. (2010). Patients' satisfaction with the bulk trolley system in a government hospital in Malaysia. *Leadership in Health Services*.
- Naidu, A. (2009). Factors affecting patient satisfaction and healthcare quality. *International journal of health care quality assurance*.
- Sahin, B., Demir, C., Celik, Y., & Teke, A. K. (2006). Factors affecting satisfaction level with the food services in a military hospital. *Journal of medical systems*, 30(5), 381-387.
- Messina, G., Fenucci, R., Vencia, F., Niccolini, F., Quercioli, C., & Nante, N. (2013). Patients' evaluation of hospital foodservice quality in Italy: what do patients really value?. *Public health nutrition*, 16(4), 730-737.
- Hartwell, H. J., Edwards, J. S., & Beavis, J. (2007). Plate versus bulk trolley food service in a hospital: comparison of patients' satisfaction. *Nutrition*, 23(3), 211-218.
- Mentziou, C., Delezos, A., Nestoridou, and G. Boskou, "Evaluation of food services by the patients in hospitals of Athens in Greece," *Heal. Sci. J.*, vol. 8, no. 3, pp. 383–392, 2014
- Hartwell, H., & Edwards, J. S. A. (2001). A preliminary assessment of two hospital food service systems using parameters of food safety and consumer opinion. *The journal of the Royal Society for the Promotion of Health*, 121(4), 236-242.
- Wright, O. R., Connelly, L. B., & Capra, S. (2006). Consumer evaluation of hospital foodservice quality: an empirical investigation. *International Journal of Health Care Quality Assurance*.
- Cronk, C., & Medeiros, D. J. (2013). Development of Operational Strategies for On-Demand Meal Delivery in Healthcare. In *IIE Annual Conference. Proceedings* (p. 1747). Institute of Industrial and Systems Engineers (IISE).

- Ahmed, M., Jones, E., Redmond, E., Hewedi, M., Wingert, A., & El Rab, M. G. (2015). Food production and service in UK hospitals. *International journal of health care quality assurance*.
- Diez-Garcia, R. W., de Sousa, A. A., Proença, R. P. D. C., Leandro-Merhi, V. A., & Martinez, E. Z. (2012). Gauging food and nutritional care quality in hospitals. *Nutrition Journal*, 11(1), 1-10.
- <https://www.google.com/>
- <https://amritahospitals.org/>

ANNEXURE

a)._Time Schedule

S.No	Name of the Department	Date(s) of Visit	% of Time Spent	Interacted with (Name and Designation)

b). Data Collection: Data was collected through mail. Following Questionnaire were distributed to 25 patients.

QUESTIONNAIRE

Dear Respondent,

I am the student of **PGDM (Hospital and Health Management)** doing our project **“FOOD AND BEVERAGES DEPARTMENT IN AMRITA HOSPITAL”** Your feedback to this questionnaire would be helpful for me to analyze my research study. Also do forward it to your friends and colleagues who could be prospective respondents for this research study. Please co-operate to fill this questionnaire.

Name :

Address :

Contact No. :

Q1.Gender

- Male
- Female

Q2. Age

- <18 years
- 18-25 years
- 26-35 years
- 36-45 years
- Above 45 years

Q3.Meals are served at times that suit me.

- Highly agree
- Agree
- Neutral
- Highly disagree
- Disagree

Q4. Temperature of the food and beverages served is well maintained.

- Highly agree
- Agree
- Neutral
- Highly disagree
- Disagree

Q5. Food and beverages are nutrition.

- Highly agree
- Agree
- Neutral
- Highly disagree
- Disagree

Q6. Food and beverages prepared at Amrita Hospital are Hygienic.

- Highly agree
- Agree
- Neutral
- Highly disagree
- Disagree

Q7.The food and beverages served by Amrita Hospital are according to the prescription given by doctors.

- Highly agree
- Agree
- Neutral
- Highly disagree

- Disagree

Q8.The meal served is fresh.

- Highly agree
- Agree
- Neutral
- Highly disagree
- Disagree

Q9.Taste, smell, appearance of food is good.

- Highly agree
- Agree
- Neutral
- Highly disagree
- Disagree

Q10.Menu of the food is customized.

- Highly agree
- Agree
- Neutral
- Highly disagree
- Disagree

Q11.Kitchens where food is cooked for the patients is inspected regularly by the higher authorities.

- Highly agree
- Agree
- Neutral
- Highly disagree
- Disagree

Q12.For FSSAI-Food safety license Registration is done by the Amrita Hospital as it is very much mandatory document in order to address the legal requirement as per food safety act.

- Highly agree
- Agree
- Neutral
- Highly disagree
- Disagree

Q13.There is the significant impact of services provided by the food and beverages department on the patients of the Amrita Hospital.

- Highly agree
- Agree
- Neutral
- Highly disagree
- Disagree

Q14.Staff of Food & Beverages department of the Amrita Hospital Communicate in clear and correct manner.

- Highly agree
- Agree
- Neutral
- Highly disagree
- Disagree

Q15.Motivation is given to the patient about how diet plays a major role in the treatment of various diseases.

- Highly agree

- Agree
- Neutral
- Highly disagree
- Disagree

Q16.The dietary department of Amrita Hospital meet therapeutic needs of the patients.

- Highly agree
- Agree
- Neutral
- Highly disagree
- Disagree

Q17.Finally, Rating of food and beverages department of Amrita Hospital.

- Very Good
- Good
- Neutral
- Bad
- Very Bad

CHI-SQUARE TABLE

Degrees of Freedom	Chi-Square (χ^2) Distribution Area to the Right of Critical Value									
	0.995	0.99	0.975	0.95	0.90	0.10	0.05	0.025	0.01	0.005
1	—	—	0.001	0.004	0.016	2.706	3.841	5.024	6.635	7.879
2	0.010	0.020	0.051	0.103	0.211	4.605	5.991	7.378	9.210	10.597
3	0.072	0.115	0.216	0.352	0.584	6.251	7.815	9.348	11.345	12.838
4	0.207	0.297	0.484	0.711	1.064	7.779	9.488	11.143	13.277	14.860
5	0.412	0.554	0.831	1.145	1.610	9.236	11.071	12.833	15.086	16.750
6	0.676	0.872	1.237	1.635	2.204	10.645	12.592	14.449	16.812	18.548
7	0.989	1.239	1.690	2.167	2.833	12.017	14.067	16.013	18.475	20.278
8	1.344	1.646	2.180	2.733	3.490	13.362	15.507	17.535	20.090	21.955
9	1.735	2.088	2.700	3.325	4.168	14.684	16.919	19.023	21.666	23.589
10	2.156	2.558	3.247	3.940	4.865	15.987	18.307	20.483	23.209	25.188
11	2.603	3.053	3.816	4.575	5.578	17.275	19.675	21.920	24.725	26.757
12	3.074	3.571	4.404	5.226	6.304	18.549	21.026	23.337	26.217	28.299
13	3.565	4.107	5.009	5.892	7.042	19.812	22.362	24.736	27.688	29.819
14	4.075	4.660	5.629	6.571	7.790	21.064	23.685	26.119	29.141	31.319
15	4.601	5.229	6.262	7.261	8.547	22.307	24.996	27.488	30.578	32.801
16	5.142	5.812	6.908	7.962	9.312	23.542	26.296	28.845	32.000	34.267
17	5.697	6.408	7.564	8.672	10.085	24.769	27.587	30.191	33.409	35.718
18	6.265	7.015	8.231	9.390	10.865	25.989	28.869	31.526	34.805	37.156
19	6.844	7.633	8.907	10.117	11.651	27.204	30.144	32.852	36.191	38.582
20	7.434	8.260	9.591	10.851	12.443	28.412	31.410	34.170	37.566	39.997
21	8.034	8.897	10.283	11.591	13.240	29.615	32.671	35.479	38.932	41.401
22	8.643	9.542	10.982	12.338	14.042	30.813	33.924	36.781	40.289	42.796
23	9.260	10.196	11.689	13.091	14.848	32.007	35.172	38.076	41.638	44.181
24	9.886	10.856	12.401	13.848	15.659	33.196	36.415	39.364	42.980	45.559
25	10.520	11.524	13.120	14.611	16.473	34.382	37.652	40.646	44.314	46.928
26	11.160	12.198	13.844	15.379	17.292	35.563	38.885	41.923	45.642	48.290
27	11.808	12.879	14.573	16.151	18.114	36.741	40.113	43.194	46.963	49.645
28	12.461	13.565	15.308	16.928	18.939	37.916	41.337	44.461	48.278	50.993
29	13.121	14.257	16.047	17.708	19.768	39.087	42.557	45.722	49.588	52.336
30	13.787	14.954	16.791	18.493	20.599	40.256	43.773	46.979	50.892	53.672
40	20.707	22.164	24.433	26.509	29.051	51.805	55.758	59.342	63.691	66.766
50	27.991	29.707	32.357	34.764	37.689	63.167	67.505	71.420	76.154	79.490
60	35.534	37.485	40.482	43.188	46.459	74.397	79.082	83.298	88.379	91.952
70	43.275	45.442	48.758	51.739	55.329	85.527	90.531	95.023	100.425	104.215
80	51.172	53.540	57.153	60.391	64.278	96.578	101.879	106.629	112.329	116.321
90	59.196	61.754	65.647	69.126	73.291	107.565	113.145	118.136	124.116	128.299
100	67.328	70.065	74.222	77.929	82.358	118.498	124.342	129.561	135.807	140.169