"Diet Management, Awareness and its consequences at Max balaji hospital patparganj.New Delhi"

A dissertation submitted in partial fulfillment of the requirements
For the award of

Post-Graduate Diploma in Health and Hospital Management

By

Anushree Jyotishi



International Institute of Health Management Research

New Delhi -110075

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Anushree Jyotishi

Under the guidance of

Ms. Monica Mehra
Senior Manager Service quality
Max hospital patpargunj, New Delhi

Ms. Minakshi Gautam
Assistant Professor
IIHMR, New Delhi



International Institute of Health Management Research

New Delhi -110075

Certificate of Internship Completion

Date:…….

TO WHOM IT MAY CONCERN

This is to certify that Ms. Anushree jyotishi has successfully completed her 3 months internship in our organization from June 7th 2010 to 14th august 2010. During this intern She has worked on topic "Diet management, awareness and their consequences" under the guidance of me and my team at Max Balaji Hospital, Patpargunj New Delhi …….. .....……

(Any positive/negative comment)

We wish him/her good luck for his/her future assignments

Signature

Ms. Monica Mehra

Sr. Manager Service quality – (Max Balaji hospital patpargunj, New Delhi)

Certificate of Approval

The following dissertation titled "**Diet management, awareness and its consequences at Max Balaji Hospital Patparganj.New Delhi** " is hereby approved as a certified study in management carried out and presented in a manner satisfactory to warrant its acceptance as a prerequisite for the award of **Post-Graduate Diploma in Health and Hospital Management** for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

Dissertation Examination Committee for evaluation of dissertation

Name	Signature
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_____	_____
_____	_____

Certificate from Dissertation Advisory Committee

This is to certify that **Ms. Anushree Jyotishi** a participant of the **Post- Graduate Diploma in Health and Hospital Management** has worked under our guidance and supervision. She is submitting this dissertation titled "**Diet management, awareness and its consequences at Max Balaji Hospital Patparganj, New Delhi**" in partial fulfillment of the requirements for the award of the **Post- Graduate Diploma in Health and Hospital Management**.

This dissertation has the requisite standard and to the best of our knowledge no part of it has been reproduced from any other dissertation, monograph, report or book.

Ms. Minakshi Gautam
Assistant Professor
IHMR
New Delhi
Date

Ms. Monica Mehra
Senior Manager (Service Quality)
Max Balaji Hospital
Patpargunj, New Delhi
Date

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Introduction to organization



Max Super Speciality Hospital, Patparganj, New Delhi is a premier state of art ISO 9001:2000 certified multi specialty facility for diagnosis and treatment of advanced and complex diseases. The hospital provides world class care with a service focus and setting unparalleled standards of medical and service excellence with super specializations in the disciplines of Cardiac Care, Cancer Care, Neurosciences, Urology and Kidney transplants.

Infrastructure - Max Super Specialty Hospital, Patparganj is conveniently located amidst the serene environment of East Delhi, approximately 15 kilometers away from New Delhi Railway Station and 35 kilometers away from the domestic airport. It is easily accessible from all the satellite townships of NCT, Delhi.

Services & Facilities - Max Super Speciality Hospital, Patparganj is a centrally air-conditioned hospital with a total bed capacity of 250 beds with Classic Deluxe, Single Deluxe, Standard (twin sharing) and Economy (5 beds).

OTs & ICUs - Max Super Speciality Hospital, Patparganj, New Delhi. has one super-specialty Cardiac OT, one dedicated Neuro and Ortho OT, two Transplant OTs and three modular operation theatres, one cardiac cath lab with DYNA CT which is first in Delhi, fully equipped with coronary care unit, Neuro ICU, Transplant ICU, Medical ICU High Dependency Unit, Surgical ICU and Paediatric ICU, Neonatal ICU and Nursery.

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HISTORY

The Journey: Max healthcare

Max healthcare is a part of Max India group

Max India limited started with a factory in Mohali manufacturing "barrier plastics"-a special kind of plastic packaging that is used in biscuit packets.

Max India limited announced its foray into the healthcare sector. As a part of this foray, company planned to set up a unique and comprehensive healthcare model, servicing all three levels of healthcare- primary, secondary and tertiary-within one system. Max med centre at Panchsheel Park and greater kailash clinic were set up in line with this initiative.

Today, Max India limited has 555 offices backed by an employee base of more than 92000 people.

"The customer or the patient does not care how much we know …they only know how much we care". This is the essence of our corporate philosophy in the words of our chairman Mr.Analjit Singh.

Max India Limited is a multi –business corporate, driven by the spirit of enterprise and focused on people and service oriented business.

It cares for life through its healthcare company, Max healthcare, a subsidiary of Max India Limited.

Max Healthcare is the country's first comprehensive provider of standardized, seamless and world-class healthcare services. It is committed to the highest standards of medical and service excellence, patient care, scientific and medical education.

Max Healthcare operates eight Centers in Delhi and NCR, offering services in over 30 medical disciplines. It has state-of –art tertiary care facilities at Saket in south Delhi and Patpargunj in East Delhi; secondary care hospitals at Pitampura, Gurgaon and noida, an outpatient facility – max med centre, and a specialty centre focused on eye and dental care at Panchsheel Park.

At Max Healthcare, our vision is "to deliver international class healthcare with a total service focus, by creating an institution committed to the highest standards of medical and service excellence, patient care, scientific knowledge, research and medical education.

The vision of Max Healthcare rests on two pillars: Medical excellence and Service excellence. At Max Healthcare, we have partnered with various medical associations in the global arena in specific domains, and we follow their clinical best practices and use the latest medical technology.

Our philosophy of service excellence seeks to match our services delivery standards with the changing needs of the customer.

The vision mission model states that we want to create unparalleled standards of medical and service excellence. These are, in fact, two pillars on which the model rests.

For all healthcare requirements of patients, Max healthcare wishes to be their care provider of first choice.

Objective

The Objective set by my study are:

- To understand the diet management, awareness and its consequences in the department of dietetics in Max Hospital Patparganj.New Delhi.
- To identify the awareness level among the nursing staff & kitchen stewards about the hospital diet subjected to the patient.
- To identify the waiting time of delivery of food and the clearance time with respect to each floors and to know the patient satisfaction level about the diet & their services in the hospital through patient feedback.

Research Design:

- Data collection: Primary as well as secondary source of Data Collection
- Study Type – Observational, Descriptive & Qualitative type
- Area covered: Max Balaji Hospital Patparganj, New Delhi.
- Time duration: From 7th of June to 14th of august 2010

Research Question

The study will help us understand

- The awareness level among the nursing staff, kitchen staff/stewards about the dietary knowledge subjected to the patients. Thereby a feedback from the dieticians.
- The waiting time of delivery of diet to be served from the kitchen to the respective floors and its clearance time.
- The patient satisfaction level about the diet & their services in the hospital through patient feedback.

Management perspective:

Study will show:

- The awareness level among food service workers /kitchen staff about how to enforce sanitary and safety regulations in kitchen premises.
- How to maintain hygiene and safety regulations in the F&B (food and beverage) department.

- How to hire, train, and direct other staff and food service workers.
- Study will lead to quality improvement in dietetics services.

Methodology

- The primary source of data collection was through a small pilot survey with the help of few set of questionnaire done for the three categories (nursing staff, kitchen stewards and dieticians) during my dissertation process at Max Balaji Hospital Patparganj.

- By interviewing the dieticians, nursing staff and kitchen stewards about the dietary awareness and feedback of the hospital processes.

- By collecting the data on the waiting time of delivery of food till its clearance.

- Secondary source of data collection was through various historical data, documents, patient feedback and from dietary files of the patients which include the floor diet sheet, dietetics record sheet, input output chart of the patient, nutritional assessment tool sheet of the patient and thereby clearing my doubts with respect to the functioning of each department/floor.

- The methodology tool used for calculating the level of awareness and waiting time of food service delivery and its clearance was done by structured questionnaires and check list. Analysis of the data collected was done using Ms excel.

Sample size

The sample size is mention below:

Category	Sample size	Total number of staff	% of staff interviewed
Nursing staff	**25**	**100**	**25 %**
Kitchen staff/stewards	**30**	**100**	**30 %**
Dieticians	**7**	**10**	**70 %**
Patients	**114**	**114**	**100 %**

LITERATURE REVIEW

Introduction:

Diet plays an important role in the patient's health. As we know that 50% of the treatment is dependent on medication and rest 50 % on diet, exercise and lifestyle modifications.

Foods contain vital nutrients that aid our body's metabolic function. However, a lack of consumption of these nutrients or feeding upon the wrong kinds of food leads to an accumulation of toxins within the body, resulting in chronic diseases in the long run. A nutritious diet while ensuring overall well being, helps to maintain a healthy Body Mass Index (BMI), reduces the risk of several debilitating diseases like cancer, cardiovascular ailments, diabetes, osteoporosis and stroke. Thus a nutritious diet is important in the prevention and cure of various diseases.

Nutrition is the basic necessity for all human being Nutrition basically comes from the diet which we eat & drink. In today fast lifestyles nutrition is becoming a problem. Nutrition related diseases are growing high inspite of people becoming so health conscious. Modern lifestyle has given way to fast food, junk food & moreover people are so busy in their corporate lifestyle, they hardly have time to eat. So whatever comes in the way they just try to grab it. Instead of regular balanced meals, they are taking erratic unbalanced meals, which are leading to different health ailments. Same is happening with children and adolescent, which is leading to problems at a very young age. A nutritious & adequate diet can be planned in many ways keeping in mind the RDA (Recommended dietary allowances) for each age group.

General dietary services:

- Dietary Services is responsible for meal distribution to the respective floors.
- Physicians/doctors are responsible for patient diet orders along with the coordination with the dieticians.
- Kitchen Staff/stewards coordinates with the dietician's to deliver specific meal plans to the respective patients

1. A meal is offered to each patient three (3) times daily. These meals are identified as breakfast, lunch and dinner.
2. Patient meals are prepared and served according to physician order and dietitian formulated menu. General diets will be procured and served to appropriate patients and for all staff. Therapeutic diets will be prepared by trained diet cooks and served correspondingly to the respective patients at the hospital
3. Meals are packaged according to service requirement.
4. In delivering the dietary services, the most critical elements of food distribution are time and temperature.
5. Foods are then transported to the respective floors and served as close to preparation time.

Good dietary service based on the application of optimum nutritional requirements contributes significantly to the care and recovery of patients and to the well-being of personnel at the hospital. In addition to the obvious function of providing for the nutritional needs, such a dietary service program is an adjunct to therapy. Further, it is an element in the hospital's public relations program which may influence morale and patient and staff attitudes.

Coordination of the dietary service with the total hospital operations is the dual responsibility of the hospital administrator and the dietitian of hospital. To assure that the dietary service program conforms to the framework of the overall program, the administrator and dietitian must provide guidelines covering the ISO & NABH standards.

Dietary Services for different Category is mention below:

a) **Dietary Services during infancy**: This is the first stage of life. As we say roots should be strong to be grown into a healthy full-fledged tree. When a child's basic training start from infancy, the infant need a healthy and a nourishing diet.

   Areas of concern for Infant diets

   - Weaning

- Complimentary feeding
- Supplementary feeding
- Developing taste
- Developing good eating habit by providing nutritious & healthy options.

b) **Dietary Services during preschool**: Children are growing & developing bone, teeth, muscles & blood, they need more nutritious food. In proportion on to their size than do adults. This is the age group when the child starts to socialize & learn new things. Requirements in terms of energy, protein & other vital nutrition's like calcium, iron, vitamin A & B complex, Vitamin C, play a major role. Child is staying away from home & is indulging in lot of physical exercises & this is the time when your child is most prone to infections.

Areas of concern for preschool diets

- Childhood obesity
- Anemia
- Malnutrition
- Infections
- Nutritional deficiencies
- Mood fluctuations
- Healthy & nutritious Tiffin

c) **Dietary Services during adolescents:** It is the period of transition from childhood to adulthood. It usually lies between 13-19 years of age. During this period there is a lot of physiological & Psychological changes. Hence nutrition plays a very important role.

Nutrition requirements also increase among males & females because of variations in growth rate & Physical activity.

Areas of concern from childhood to adulthood:

- Obesity
- Under nutrition
- Bulimia
- Anemia
- Eating Disorders

d) **Therapeutic Diets:** Therapeutic diets are based on a general, adequate diet which has been modified as necessary to provide for individual requirements such as digestive & absorptive capacity elevation or arrest of a disease process & psychosocial factors.

Different Therapeutic Diet:

- Obesity
- Under nutrition
- Diabetes
- Heart diseases
- Renal diseases
- Liver diseases
- Hypertension

- Diet for elderly
- Parkinson's Stroke
- Ketogenic diet
- Paedriatic diets
- Tube feeding for coma patients
- Pregnancy
- Lactation
- Osteoporosis

Outpatient Nutrition Services

The dietitians of Hospital offer several outpatient services:

- Infant or toddler feeding problems
- Failure to thrive
- Special formulas
- Special diets for children with
- Diabetes
- Kidney failure
- Cystic fibrosis
- Cancer treatment

- Elevated cholesterol levels
- Metabolic disorders
- Seizure disorders
- Celiac disease (gluten-free diet)
- Developmental delays
- Gastrointestinal problems
    - Food allergies or intolerances
    - Weight management
    - Eating disorders
    - Tube feeding evaluations
    - Vegetarian diets
    - Sports-related nutrition issues

The Food and Nutrition Services Department of the Hospital oversees food and meal preparation for patients in the hospital. The dietitians contribute to the patient's treatment plan by recommending which hospital diet to prescribe. The meals are balanced and personalized with regard to patient preferences and intolerances/allergies. Respective dietitians may instruct hospitalized patients on diet and monitor the effectiveness of the nutrition care plan. Patients discharged from the hospital may receive follow-up diet consultation on an outpatient basis.

For individuals seeking lifestyle changes through diet and exercise, the Food and Nutrition Services Department offers private counseling. The respective dietitian provide

nutritional advice for a variety of needs, including weight control, diabetes management, pregnancy and just healthy eating.

Food items/supplies for patient meals, parties, special events, etc. procured from Dietary Services will ensure prescribed diet compliance as well as minimize food-borne illness.

Substitutions may be made at the discretion of Dietary Services based upon the availability of certain food items and the availability of time and personnel to accumulate and package all requested items.

- Appropriate serving equipment/tools will be provided and will be returned to Dietary Services. A sign in/out log is required.

- Cancellations should be made as soon as possible to avoid possible spoilage and/or waste of food items.

- Appropriate arrangements will be made to ensure patients requiring modified diets, including double portions, receive correct food items in compliance with physician's orders and hospital policy.

Dietary Services at Max Balaji Hospital

At Max Balaji Hospital the Dietary department is responsible for providing the healthiest food possible for our patients and visitors. The dieticians at Max Balaji Hospital provides patient care services by assessing the nutritional needs, providing education, and ensuring the right kind of diet is ordered for each patient. Here proper diet management of the patient is been taken care of , as they understand that the chronic diseases cannot be completely cured, however the chronic care diet programmes help control the ailments and help the patient lead a normal life thereafter. They understand that balanced diet is a key to good health. A balanced diet comprising of healthy and diverse foods is key to promoting good health. After all, we are what we eat – The hospital continues to prove that eating healthy food promotes good health and unhealthy food habits lead to a diseased body

The physician prescribes the type of diet necessary for your treatment program. For those on special diets, the dietician will select the foods appropriate for the nutritional needs of the patients. If the patients have a problem with their diet or need any kind of modification then they consult the respective nurse to contact the dietary supervisor for further dietary treatment. Guest trays are available for family members. To order a guest tray, to be delivered with the patient's meal, the guest must go to the nursing station and contact the dietary supervisor who will then arrange with the dietary staff to deliver the meal to the patient's room at the regular meal time.

DIET PROTOCOL FOLLOWED IN MAX BALAJI HOSPITAL:

Diet Procedure followed at Max Balaji Hospital Patparganj:

Max Balaji Hospital designates one dietician per floor. At the ground floor the hospital has an fully equipped kitchen with a kitchen supervisor to supervise the kitchen staff and cooks.

Meal Timings:

MEAL	TIMINGS
Morning tea	**6:00am to 7:00 am**
Morning breakfast	**8:00am to 8:45 am**
Morning soup	**11:00am to 11:30am**
Noon lunch	**12:30pm to 13:15pm**
Evening tea	**16:00pm to16:30pm**
Evening soup	**18:00pm to18:30pm**
Dinner	**19:30pm to 20:15pm**
Bed time	**21:30pm to22:00pm**

- Total no. of dietitians – 10 dietitians
- Total no of kitchen staff – around 100
- Total no. of cooks – around 16-17.
- One dietician per floor

Max Balaji Hospital follows floor diet sheet for every floor that is monitored at around 2400 hrs by the concerned nursing staff (floor supervisor) and refer to the kitchen for further implementation.

Kitchen supervisor's duty is to check all the planned diets, tally the patient census, and tackle necessary changes. The first service of the day starts with early morning tea. Here a day prior when the entries are been done, the diet menu (lunch / dinner) is monitored for every patient, so as to meet the specific dietetic need for every individual patient. In the morning shift the assigned dietitians cross tally and discuss the diet of the patient with the respect to the previous diet sheet.

File is updated according to the new patient, and then subsequently the nutritional assessment of the respective patient proceeds. Nutritional assessment can be done in between 11:00 am to 12:00 noon. During this time period the dietitian can undergo changes in the diet if necessary.

Nevertheless diet counseling plays an important role in the hospital. Max Balaji Hospital provides two types of diet counseling which can be categorized as preventive health care programme.

1) Health and life style counseling – done initially before the diagnosis of the patient.
2) Consultation – proceeds after the reports of the patients is available.

There are about 10 dieticians at Max Balaji Hospital. Each floor is assigned a dietician. The dietician makes two respective rounds in the morning and evening on a daily basis.

The rounds are precisely for the assessment, counseling and updating of the files. Diet changes if necessary are done after the noon around 3 pm.

Now after every necessary changes has been done, the diet sheet is set, the menu is planned accordingly taking patient condition in consideration.

Max Balaji Hospital's diet menu consists of 3 different color coded slips, which is also called as breakfast/lunch/dinner meal sheet cum ticket.

a) Pink slip – for breakfast meal
b) Yellow slip – for lunch meal.
c) Green slip – for dinner meal.

All these slips (meal sheets cum ticket) of respective patients are referred to the kitchen where the dietician again check and cross tally with the diet sheet and refer it to the kitchen supervisor for further process of food preparation.

Max Balaji Hospital also have patient feedback sheet which is strictly followed.

Diet protocols of Max Balaji Hospital l Patparganj:

Different type of diet subjected here are:

1) Normal diet
2) Diabetic diet
3) Pediatric diet
4) Soft diet
5) Semi soft diet
6) Solid diet
7) Gluten free diet
8) Low oxalate diet
9) Liquid diets

Depending upon the condition of the patient the diets vary with patient to patient such as:

1) Low/high carbohydrate diet
2) Low/high protein diet
3) Low to moderate fat diet

4) Bland diet
5) Low/High potassium/calcium/mineral diet. etc

At Max Balaji Hospital the following dietary protocol is maintained:

a) Floor diet sheet
b) Dietitics record
c) Input output chart
d) Nutritional assessment tool sheet.

Apart from the above mentioned(sheets & charts) the dietary procedure of Max Balaji Hospital follows:

- Breakfast/lunch/dinner Meal sheet cum ticket.
- Room service control chart
- Malnutrition universal screening tool(must)
- Diet requisition slip.

The food and beverage department of Max Balaji Hospital have different diet instruction sheet given to the patients at the time of discharge depending upon the type and condition of the patient.

The samples of these sheets are mention in the annexure:

a) General diet instruction sheet (refer to annexure-1)
b) Diet in lactation (refer to annexure-2)
c) Healthy weaning (refer to annexure-3)
d) Healthy kids diet (refer to annexure-4)

Apart from above mentioned sheets there are different diet orders: (refer to annexure-5)

a) 1600 diet order
b) 1800 diet order
c) 2000 diet order

DATA COLLECTION:

Data showing the awareness level:

Based upon the questionnaire the following graph has been plotted demonstrating the awareness level of dietary knowledge for different categories at Max Balaji Hospital:

a) **For nursing staff:**
b) **For kitchen staff/stewards**

a) Graph Showing Awareness Level in Nursing Staff at Max Balaji Hospital

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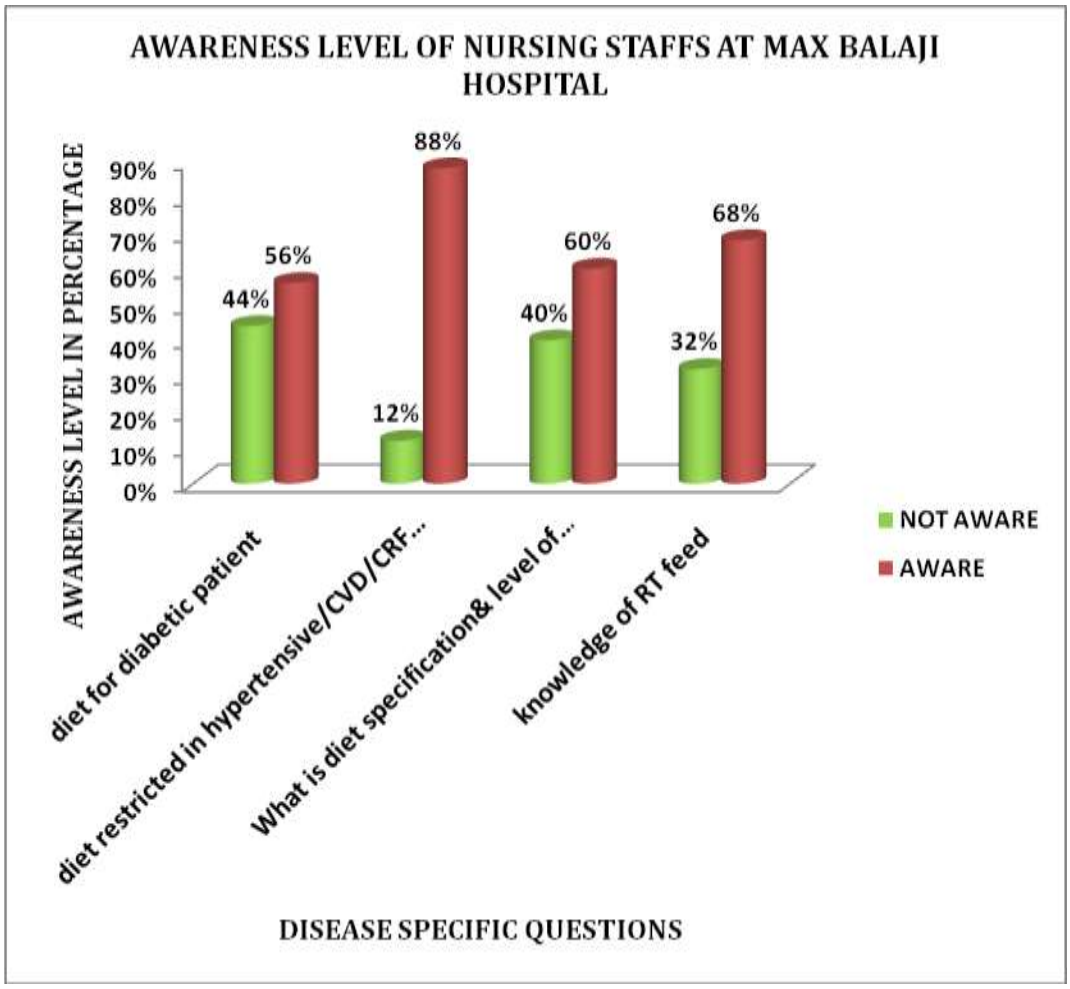
Table-1 showing Disease specific dietary knowledge among nursing staff

Sample Size-25

Category	Not aware	Aware
Diet for diabetic patient	44%	56%
Diet restricted in hypertensive/CVD/CRF patient	12%	88%
What is diet specification& level of tolerance	40%	60%
Knowledge of rt feed	32%	68%

Graph 1: showing Disease specific dietary knowledge among nursing staff

Sample Size-25



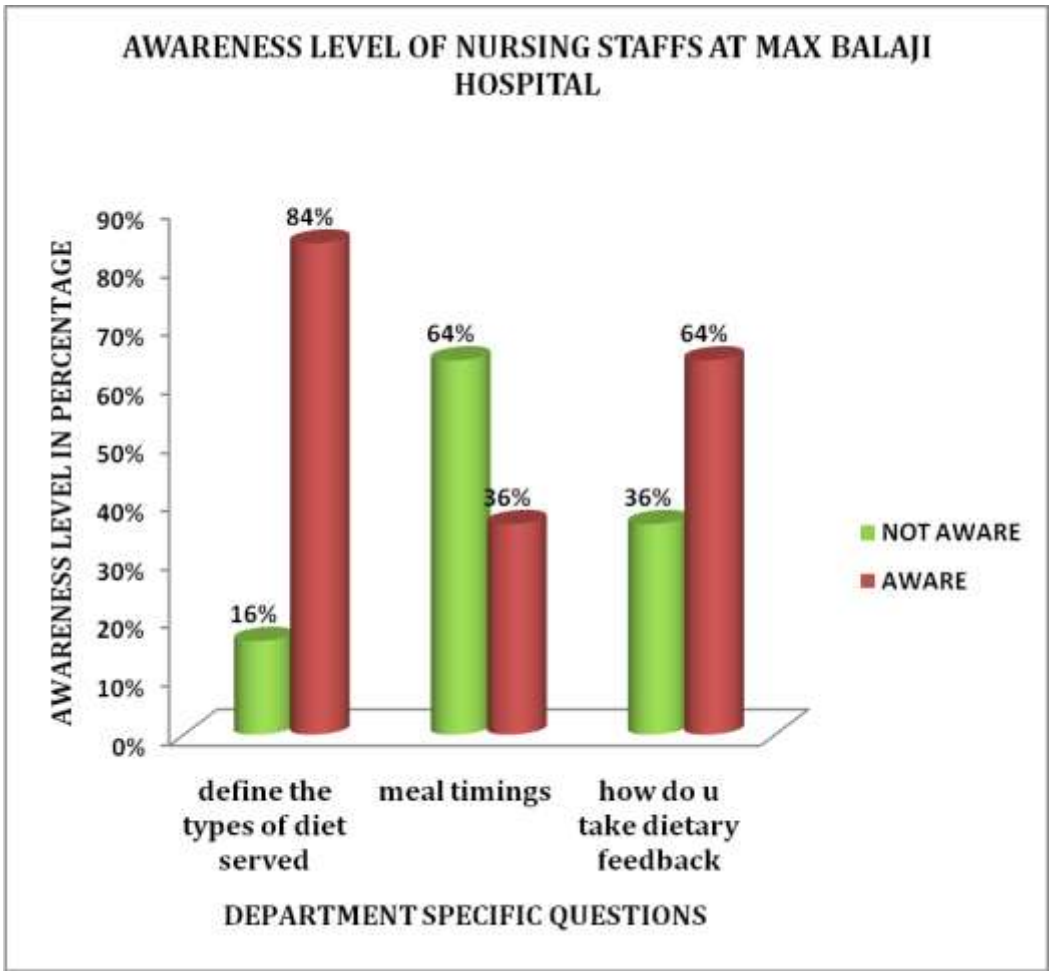
Interpretation:-

Awareness of the nursing staff was found to be surprisingly low for diet for diabetic patients. second was low level of awareness about specific diet and patient tolerance followed by low awareness level for RT feeds. There is a room for improvement that can be addressed by educating and training of the new nursing staff, as the target should be 100 %.

Table-2 : showing department specific dietary knowledge: sample size-25

Category	Not Aware	Aware
define the types of diet served	16%	84%
meal timings	64%	36%
how do u take dietary feedback	36%	64%

Graph 2: Graph showing department specific dietary knowledge: (SAMPLE SIZE – 25)



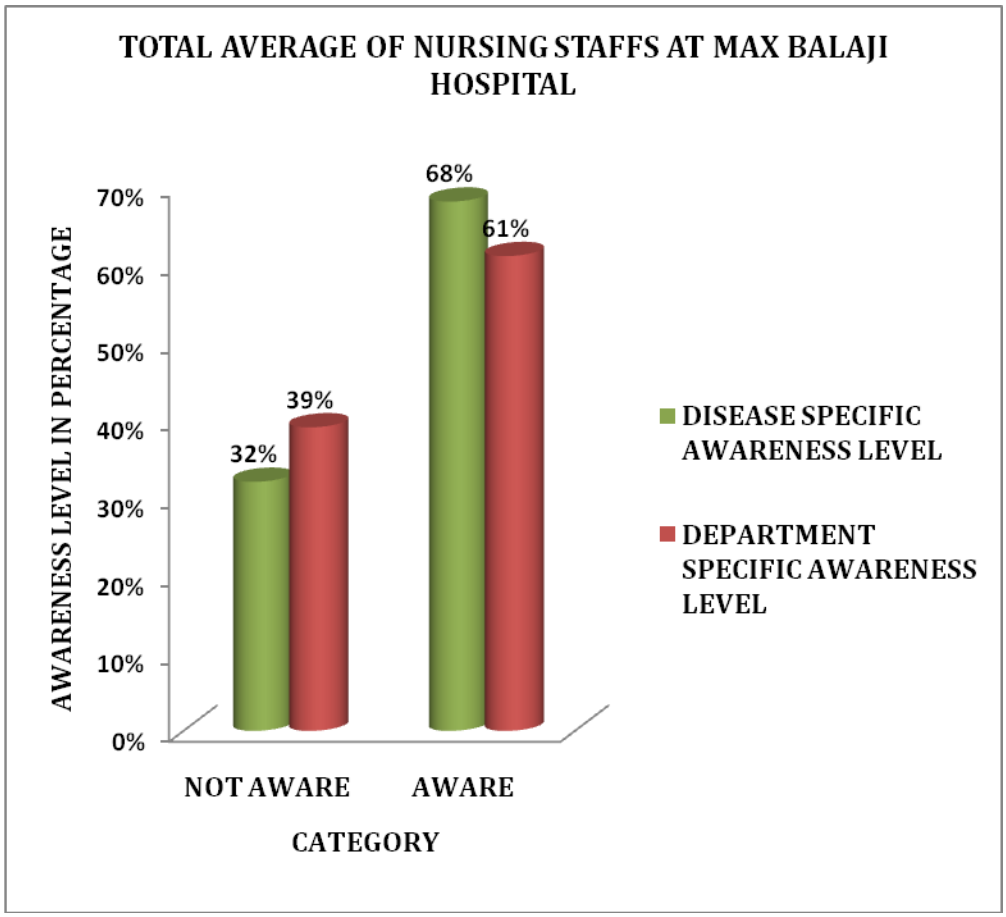
Interpretation:-

The department specific awareness of nursing staff was quite satisfactory, having said that there is still some scope for improvement as far as the meal timings are concerned. Though all the nursing staff were aware of the basic 3 meals timings, but very few were able to provide a specific answer for meal timings. Feedback should be followed strictly.

Table-3 showing the total average of awareness level of nursing staff in both department and disease specific concerns

Category	Not aware	Aware
Disease specific awareness level	32%	68%
Department specific awareness level	39%	61%

Graph -3: Total average taken for the level of awareness of the respective nursing staff (as disease and department specific awareness): (sample size-25)



Interpretation:-

On an average, almost two third of the nursing staff were aware about the disease and department specific awareness).

B) Study For Kitchen Staff/Stewards

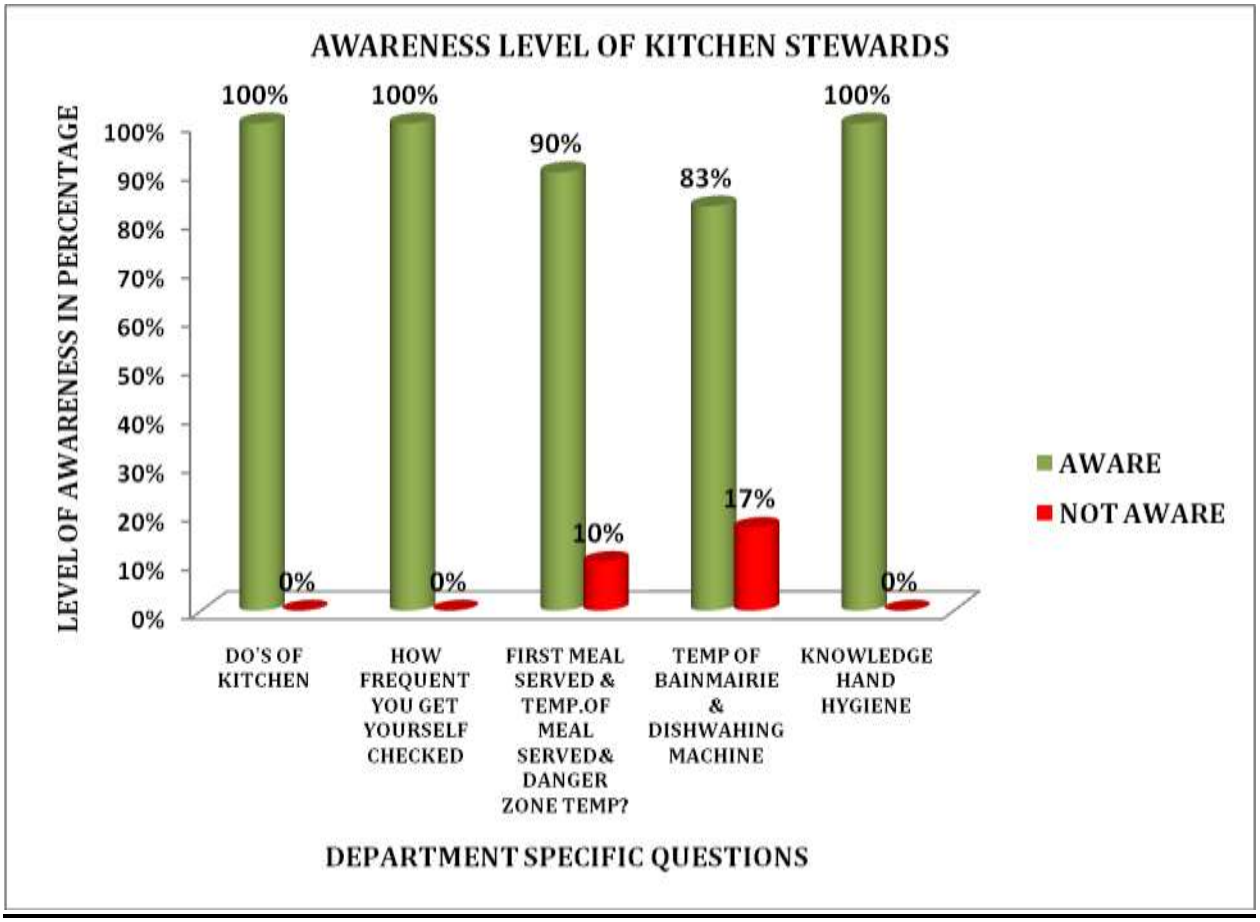
Table 4: Showing awareness level in kitchen staff of Department Specific Knowledge

Sample size-30

Awareness level of department specific knowledge	Aware	Not aware
Do's of kitchen	30 (100%)	0 (0%)
How frequent you get yourself checked	30 (100%)	0 (0%)
First meal served & temp. of meal served& danger zone temp?	27 (90%)	3 (10%)
Temp of bain-marie & dishwashing machine	25 (83%)	5 (17%)
Knowledge hand hygiene	30 (100%)	0 (0%)

Graph- 4: Graph showing awareness level in kitchen staff/steward of department specific knowledge:

(Samplesize-30)



Interpretation:-

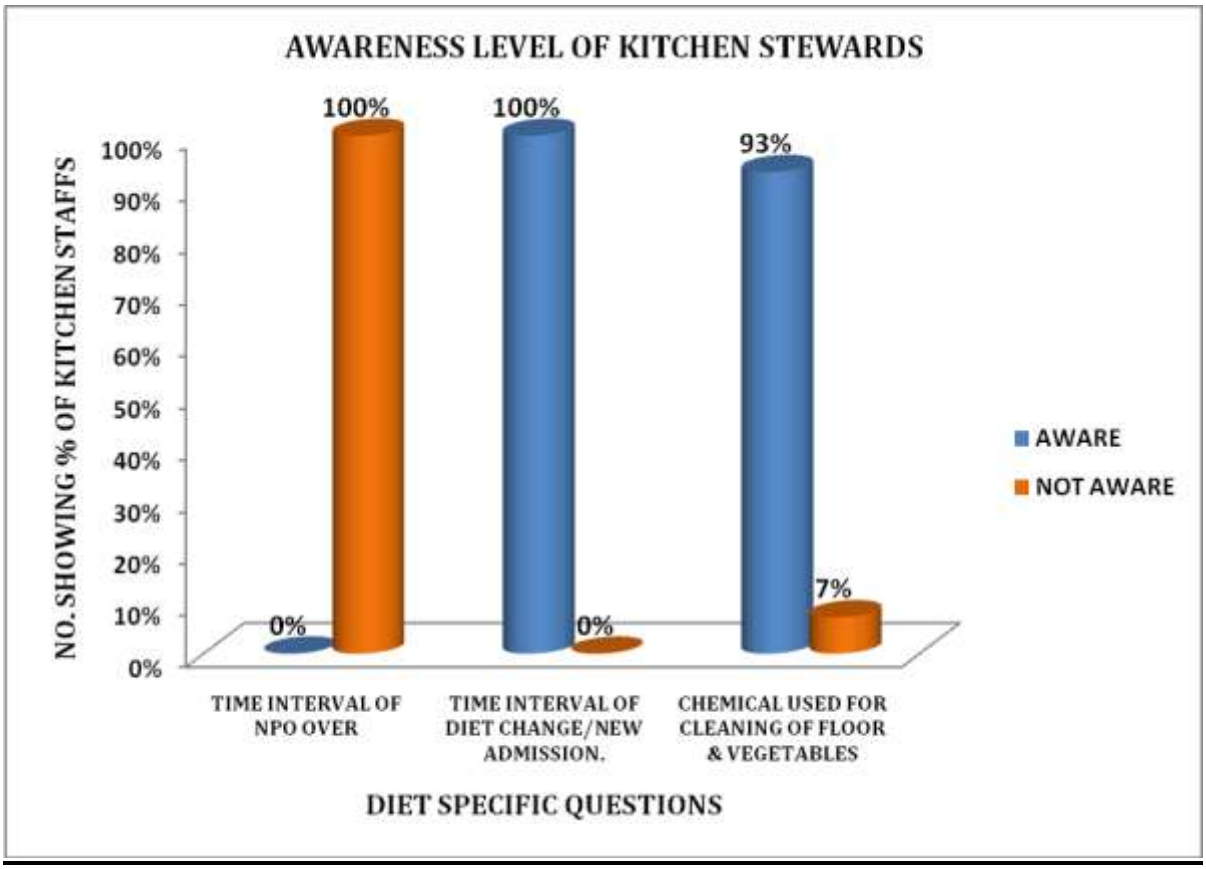
The awareness of the kitchen stewards at the hospital was impressively satisfactory.

Table 5: Showing awareness level in kitchen staff/steward of diet specific knowledge:

(Sample size-30)

Awareness level of diet specific knowledge	Aware	Not aware
Time interval of NPO over	0 (0%)	30 (100%)
Time interval of diet change/new admission.	30 (100%)	0 (0%)
Chemical used for cleaning of floor & vegetables	28 (93%)	2 (7%)

Graph - 5: Graph showing awareness level in kitchen staff/steward of diet specific knowledge



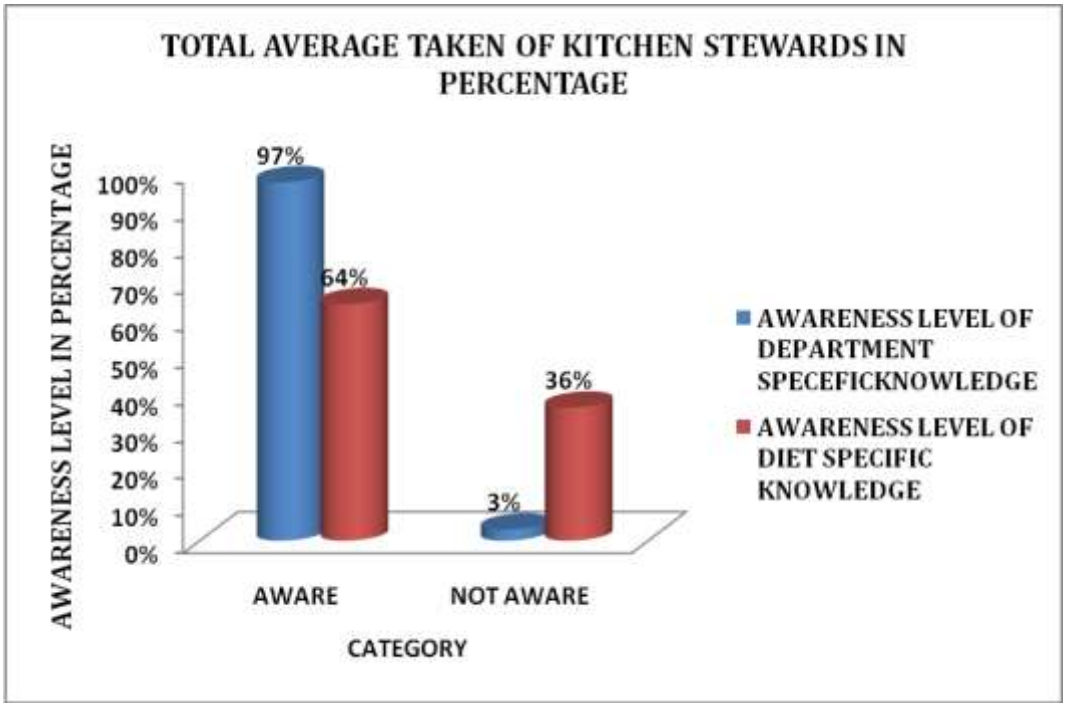
Interpretation:-

The awareness level of the kitchen staff / steward was unsatisfactory as none of them were aware about the time interval of NPO over, rest was satisfactory.

Table - 6: Total average taken of kitchen stewards in percentage (SAMPLE SIZE-30)

Total average taken of kitchen stewards in percentage		
Category	Aware	Not aware
Awareness level of department specific knowledge	97%	3%
Awareness level of diet specific knowledge	64%	36%

Graph 6: The graph showing the total average of awareness level of kitchen stewards (in both aspects of diet & department specific knowledge (SAMPLE SIZE-30)



Interpretation:

The level of awareness for department specific knowledge was satisfactory but the diet specific knowledge was surprisingly lagging behind.

Study for the Waiting time for delivery of food and the clearance time

Process of measuring:

1. Turnaround time for delivery of food and clearance are:
    - ❖ Time order taken from the patients
    - ❖ Time for the delivery of foods from kitchen t the respective floors
    - ❖ Time when the order served in the wards to the respective patients
    - ❖ Time of clearance of platters.

The measuring process for the waiting time of delivery of food and the clearance time were taken as:

- ➢ Waiting time for delivery of food – the process for measuring the waiting time of delivery of foods was from the time order taken till the order served in the respective wards (from floor to the wards).

Room no.	**Floors**	**Time order taken(morning to evening)**	**Time from kitchen to floors**	**Time the order served in the ward(from floor to wards)**	**waiting time(min)(from time order taken from kitchen to respective wards)**

- ➢ Waiting time for clearance – the process for measuring the waiting time of clearance.

Room no.	**Floors**	**Time the order served in the ward(from floor to wards)**	**Clearance Time**	**Waiting Time(in minutes)**

2. Outcome measured for the waiting time of delivery of food and clearance are:

- ❖ Maximum time
- ❖ Minimum time
- ❖ Average time

Table 7: Waiting time for delivery of food

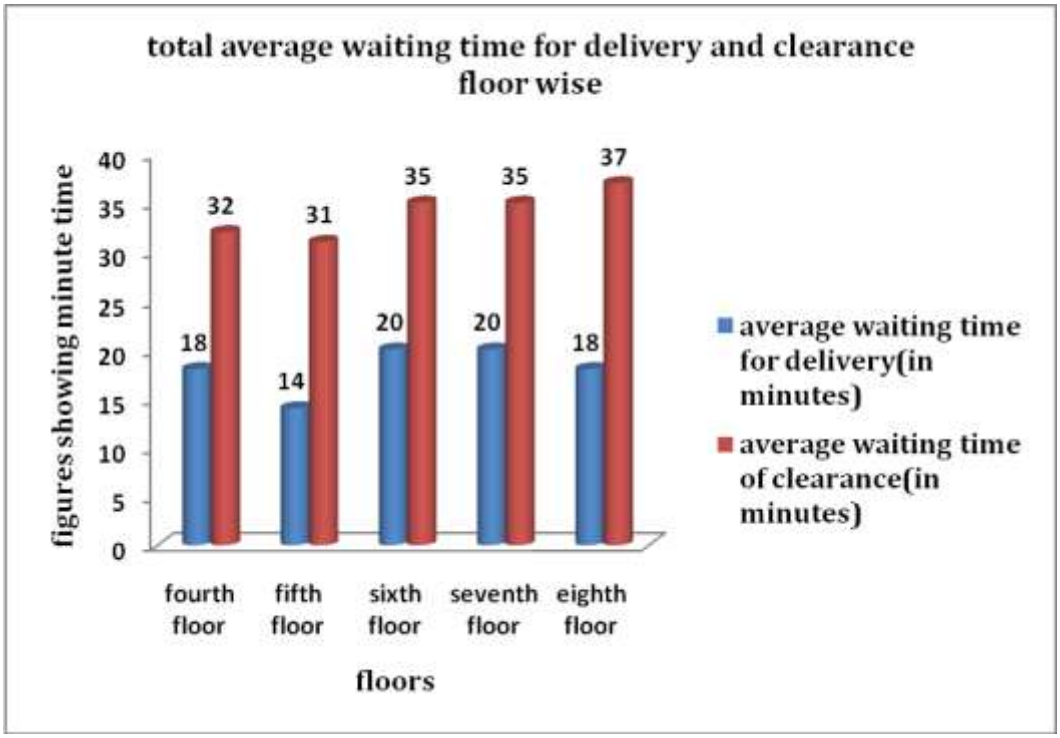
Floors	Room no.	waiting time
4th	HDU	Max - 28 min
	1419	Min - 07 min
		Average - 18 min
5th	HDU-1	Max - 28 min
	1532	Min - 05 min
		Average - 14 min
6th	1624	Max - 28 min
	1604	Min - 15 min
		Average - 20 min
7th	1724	Max - 30 min
	1731	Min - 15 min
		Average - 20 min
8th	1828	Max - 26 min
	1802	Min - 13 min
		Average - 18 min

Table 8: Waiting time for Clearance (Clearance time)

Floors	Room no.	waiting time
4th	1401	Max - 35 min
	1417	Min - 23 min
		Average - 32 min
5th	1506	Max - 45 min
	1515	Min - 20 min
		Average - 31 min
6th	1604	Max - 40 min
	1624	Min - 23 min
		Average - 35 min
7th	1731	Max - 53 min
	1731	Min - 30 min
		Average - 35 min
8th	1828	Max - 65 min
	1800	Min - 32 min
		Average - 37 min

Graph - 7: Showing the waiting time of delivery of foods to the respective patients and the waiting time of clearance

Total average of waiting time of delivery time and clearance time respective floors



Interpretation:

The average time for delivery / serving the food is satisfactory but the clearance time of the platters of the food is quite high and patients do keep complaining about the same.

Study on Patient feedback on the timeliness of serving, presentation of food & on dieticians counseling

A small survey of 114 patients were tracked on patient feedback on the timeliness of serving, presentation of food & on dieticians counseling

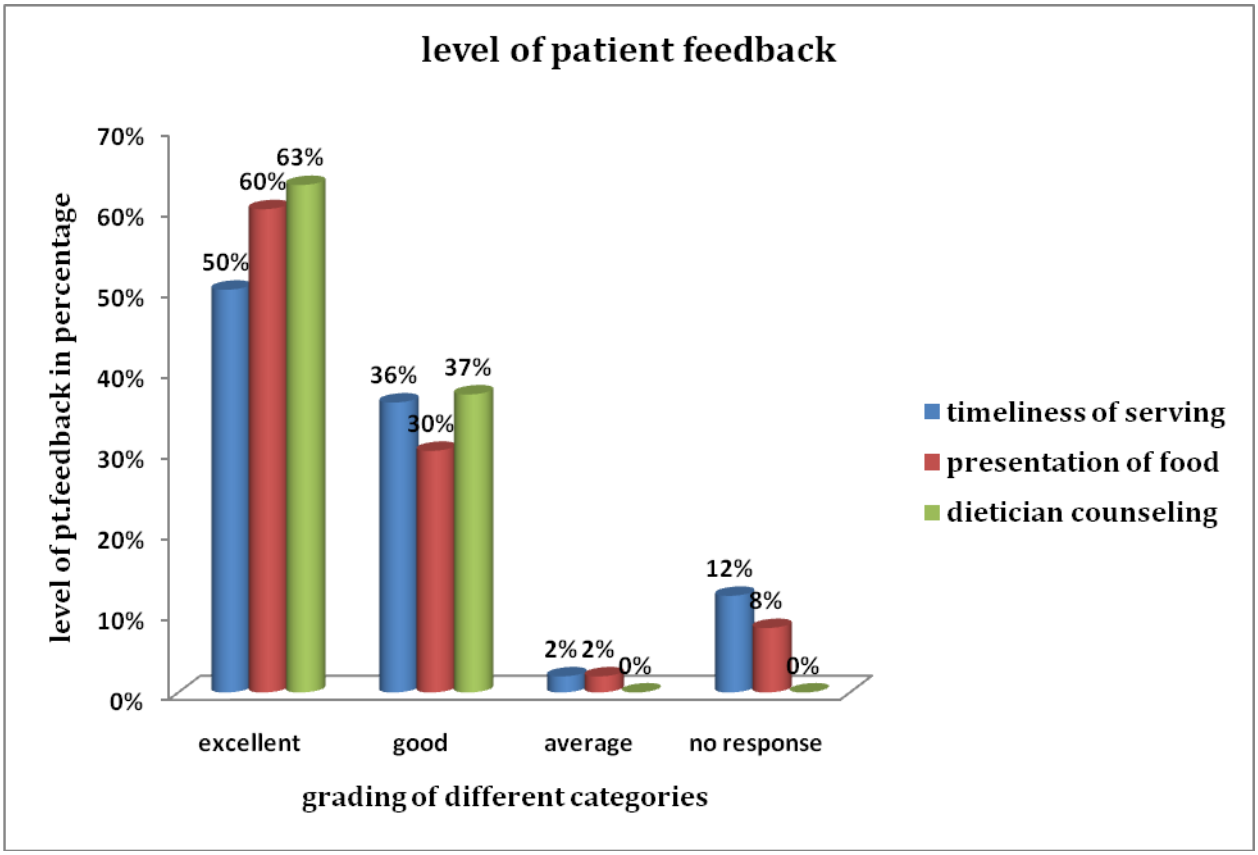
Table – 9: showing patient feedback

Sample size- 114 patients

Category	Excellent	Good	Average	No response
Timeliness of serving	**57(50%)**	**41(36%)**	**2(2%)**	**14(12%)**
Presentation of food	**68(60%)**	**35(30%)**	**2(2%)**	**9(8%)**
Dietician counseling	**72(63%)**	**42(37%)**	**0(0%)**	**0(0%)**

Graph - 8 shows a respective survey of 114 IPD patients on patient feedback:

Sample size of patients-114



Interpretation:

Patient feedback was satisfactory as most of the patients were satisfied with the dietary service.

Study On The Dieticians Feedback On Food & Beverage Department

A small survey on F&B department with a set of questionnaire for the dieticians was taken which states the following?

- Majority of the dieticians rated the response level of staff & nurses about the dietary knowledge at Max Balaji Hospital as Average.
- All dieticians strongly agreed on implementing training about the basic dietary knowledge to all the nursing staff at Max Balaji Hospital, so that a basic knowledge could be inculcated about specific food for specific disease group of patients.
- The staff/ nurse should know about the therapeutic/ dietary aspect of disease and condition of the patients (patient tolerance)
- As of now there are no night shifts of dieticians at Max Balaji Hospital. Therefore by proper training of the nursing staff/ steward, they would be capable of handling any new admission or any kind of dietary emergency at night efficiently.
- There are some areas of improvement in F&B department as: Training of new nursing staff & stewards. The dieticians meeting room could be bigger as it is too small for discussion. Separate room for training the stewards/kitchen staff near to the kitchen is much needed.

Findings

- By analyzing the above graphs, it was found that the awareness level of the nursing staff about the disease specific knowledge was 68% on an average whereas 32% of the nursing staff was unaware about the same. The department specific dietary knowledge indicates that almost one third of the nursing staff were not aware which is quite unsatisfactory.
- The above graph showing the awareness level of kitchen stewards/staff; it was found that about 3% kitchen staff were not aware about the department specific dietary knowledge wherein 36 % of them are not aware about the diet specific knowledge on an average.
- On interviewing the dieticians, it was found that majority of the dieticians rated the response level of nursing staff about the dietary knowledge at Hospital as average and below. They also strongly agreed on implementing training about the basic dietary knowledge to all the nursing staff & Stewards in the Hospital so that a basic knowledge could be inculcated about specific food for specific disease group of patients.
- The waiting time of delivery of food and clearance of platter was found to be maximum on the 8^{th} floors whereas a satisfactory minimum on the fifth floor.
- Patient feedback is quite satisfactory. But still there are patients who complain about the timeliness of service, specially the clearance of platter.

Recommendations

- The dieticians at the Hospital should have their own individual department to have easy access to the patient, the kitchen department administrative area is too small for the work purpose; therefore the area needs to be spacious enough.

- The management should not only be restricted to the diet of the patient but also look onto the timeliness of the services, right from food served on the floors and there cleanup as well. The food and beverage department must be designed to accomplish work in the shortest time possible through receiving, storage, preparation, distribution, service, cleanup, and disposal of refuse.

- Maximum time from delivery to patient should be about 10 to 20 minutes especially on the floors equipped with the pantry.

- The protocols of dietary department are not mention anywhere in the procedures in the Hospital, whereas the diet and nutrition department is included in the allied services at the Hospital. Therefore policies and procedures should be set for major dietary functions including purchasing, inspection of food, deliveries, menu planning, modified diet service, controlled food production, food distribution service to patient and personnel, cost and catering, cost control and accounting, inventory control, sanitation, and in-service training program.

- The governing bodies of F&B department administration and patient care should outline specific contributions for the dietary department.

- Administrative procedures should not only be specific for the department including supervisory and personnel responsibilities but also excell in the dietary department.

- Conferences and/or committees not only to discuss inter-departmental relationships but also coordination with all dietary/catering services, and the improvement of patient care.

- The equipment in the preparation, cooking, and serving areas should be arranged so that personnel can perform tasks efficiently.

- Ammonia, used as a cleaning agent, and chlorine solutions used as disinfectants in dishwashing, can cause skin, eye, and nose irritations. (Avoid mixing chlorine and ammonia solutions because a chemical reaction may occur and deadly chlorine gas may be released).

- Employers shall require employees to use appropriate hand protection when hands are exposed to hazards such as cuts, lacerations, and thermal burns. Examples include the use of oven mitts when handling hot items, and steel mesh or Kevlar gloves when cutting

- Elevators should be separate for the food handlers for accessible to patients.

- Finishes used in dietary service facilities create a high noise level therefore the noise level in the kitchen & the dietary department should be low, which can be reduced by the use of acoustic surfaces for ceilings.

Annexure:

Annexure – 1

The table showing waiting time for the distribution / delivery of diet from the kitchen to the wards of respective floors:

Room no.	Floors	Time order taken(morning to evening)	Time from kitchen to floors	Time the order served in the ward(from floor to wards)	waiting time(min)(from time order taken from kitchen to respective wards)
1401	4th	12:00	12:10	12:25	25 min
HDU	4th	12:33	12:45	12:50	28 min
1517	4th	11:25	11:30	11:35	11 min
1420	4th	12:05	12:11	12:20	15 min
HDU-6	4th	1:25	1:31	1:38	19 min
1420	4th	1:37	1:48	1:55	27 min
1419	4TH	12:30	12:35	12:37	7 min
HDU-6	4TH	2:20	2:25	2:30	9 min
Total average	4TH				18 min
1509	5th	12:05	12:15	12:20	20 min
1526	5th	12:45	12:54	12:59	15 min
1531	5th	12:45	12:55	1:09	21 min
1515	5th	1:31	1:37	1:40	15 min
1806	5th	2:00	2:10	2:17	17 min
PICU-5	5th	11:05	11:07	11:10	5 min
1505-c	5th	11:30	11:35	11:46	26 min
HDU-1	5th	2:20	2:27	2:38	28 min
1532	5th	10:05	10:09	10:10	5 min
1512	5th	10:20	10:25	10:26	16 min
1505	5th	11:00	11:02	11:09	9 min
1609	5th	1:20	1:26	1:30	10 min
1506	5th	1:30	1:35	1:40	5 min
1506	5th	2:00	2:05	2:10	10 min
1507	5th	2:11	2:20	2:25	7 min
HDU-1	5th	2:20	2:25	2:30	10 min
total average	5th				14 mins

Room no.	Floors	Time order taken(morning to evening)	Time from kitchen to floors	Time the order served in the ward(from floor to wards)	waiting time(min)(from time order taken from kitchen to respective wards)
1623	6th	12:55	1:09	1:15	25 min
1601	6th	1:30	1:35	1:39	19 min
1612	6th	2:05	2:16	2:25	20 min
1624	6th	2:00	2:01	2:28	28 min
1604	6th	11:00	11:02	11:15	15 min
1603	6th	11:30	11:33	11:40	15 min
Total average	6th				20 min
1724	7th	12:00	12:28	12:30	30 min
1723	7th	1:29	1:35	1:39	10 min
1731	7TH	12:35	12:40	12:45	15 min
1708	7TH	1:00	1:25	1:26	26 min
1703	7TH	12:50	12:58	1:10	20 min
Total average	7TH				20 mins
1816	8th	12:56	12:59	1:15	25 min
1828	8th	2:01	2:14	1:25	26 min
1824	8th	11:45	11:50	11:59	19 min
1800	8th	12:20	12:25	12:31	20 min
1802	8th	12:23	12:25	12:32	13 min
1816	8th	1:00	1:03	1:10	10 min
1801	8th	1:00	1:09	1:16	16 min
Total average	8th				18 min

Annexure-2

Table showing the waiting time for time order served and its clearance time

Room no.	floors	Time the order served in the ward(from floor to wards)	Clearance time	waiting time(min)
1401	4th	12:25	12:55	35 min
HDU	4th	12:50	1:15	25 min
1417	4th	11:35	11:58	23 min
1420	4th	12:20	12:45	30 min
HDU-6	4th	1:38	2:01	33 min
1420	4th	1:55	2:18	28 min
1419	4TH	12:37	1:00	32 min
HDU-6	4TH	2:30	2:53	28 min
Total average	4th			32 min
1509	5th	12:20	1:00	40 min
1526	5th	12:59	1:29	30 min
1531	5th	1:09	1:28	25 min
1515	5th	1:40	2:00	20 min
1806	5th	2:17	2:30	18 min
PICU-5	5th	11:10	11:35	25 min
1505-c	5th	11:46	12:16	37 min
HDU-1	5th	2:38	2:59	33 min
1532	5th	10:10	10:45	40 min
1512	5th	10:26	11:00	26 min
1505	5th	11:09	11:30	24 min
1512	5th	1:28	2:00	43 min
1506	5th	1:40	2:20	45 min
1506	5th	2:10	2:50	40 min
1507	5th	2:25	2:51	31 min
HDU-1	5th	2:30	2:53	28 min
Total average	5th			31 min

Room no.	floors	Time the order served in the ward(from floor to wards)	Clearance time	waiting time(min)
1623	6th	1:15	1:45	35 min
1612	6th	2:25	2:55	35 min
1624	6th	2:28	2:55	23 min
1604	6th	11:15	11:45	35 min
1603	6th	11:40	12:10	35 min
1604	6TH	1:28	1:57	40 min
Total average	6TH			35 min
1705-B	7th	1:37	2:00	32 min
1731	7TH	12:45	1:10	30 min
1708	7TH	1:26	2:00	40 min
1718	7TH	1:40	2:15	40 min
1731	7TH	2:17	3:01	53 min
Total average	7TH			35 min
1816	8th	1:10	1:45	35 min
1828	8th	1:25	2:35	65 min
1800	8th	12:31	12:56	32 min
1802	8th	12:32	12:58	35 min
1816	8th	1:10	1:40	35 min
1831	8th	1:13	1:49	38 min
1809	8th	11:38	12:00	33 min
Total average	8th			37 min

Annexure -3

Questionnaires for the nursing staff at Max Balaji Hospital

For nursing staff:

Post: _____

Disease specific questions:

1. What are the different types of diet served in max balaji hospital?

2. What are the diets given to a diabetic patient?

3. What is restricted in the patients having hypertension and cardio vascular disease? What is restricted in kidney (CRF) patient?

4. Do you read dietitics record if yes, then what do you understand by the term:
   a) Diet Specification –
   b) Level Of Tolerance –

5. What is the time period (interval) of RT feed?

6. Can we give RT feed orally? Yes_____, NO _____ ?

Department specific questions:

1. What are the timings of meal to be served?

2. What do you understand by following:

a) NPO -
b) Soft diet –
c) Liquid diet –
   Clear liquid-
d) Normal diet -

3. How do you take dietary feedback to check patient satisfaction?

Annexure-4

Questionnaires for the kitchen stewards/staff at Max Balaji Hospital

For kitchen staff/stewards:

Post_____

Department specific questions:

1. What are the dos and don'ts followed in the kitchen?

2. How frequently you get yourself checked to maintain the personnel hygiene inside the kitchen/hospital?
3. What is the ideal temperature of meal to be served to the patient? What is the temperature of danger zone?
4. What is the ideal temperature of dish washing machine and bain-marie?

5. What do you understand by hand hygiene, how many steps are there in hand hygiene?

Diet specific questions:

1. What are the time limit of diet served in the hospital

a) NPO over -
b) Diet change-
c) New admission-

2. What chemical is used to washing the vegetables and cleaning the kitchen premises? What is the precaution taken for infected patients?

3. And after how much time a new patient should be provided with the first meal? What are the different ways of kitchen hygiene? Are you all vaccinated, if yes then name it?

Annexure-5

Questionnaires for the Dieticians at Max Balaji Hospital

For Dietitians:

1) What is the response level of staff & nurses about the dietary knowledge in max balaji hospital?

a) Good -

b) Average-

c) Poor-

d) Excellent

2) Do they (kitchen staff/nurses) require training about the basic dietary knowledge?

a) YES
b) NO
if yes in what aspect?

3) What is the total no. of dietitian per patient/per floor?

a) No. of dietitians per patient –
b) No. of dietitians per floor _

4) Areas of improvement?
5) What is the average number of meals served in the hospital?

6) How is patient's dietary feedback taken and traced?

Abbreviation

CVD – Cardio Vascular Diseases

CRF – Chronic Renal Failure

RT feed – Ryles Tube Feed

NPO – Nil Per Oral

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