Acceptance of Hospital Food Service Delivery System in DMCH and IDH.

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Introduction

When a person becomes sick one of the important factors for his recovery is the proper selection and consumption of diet although accurate treatement has the prime role. The criteia for establish in the value of a food are different for various disciplines. In the case of food acceptance consumption might appear to be the logical and objective criterion. In order to include the efective reactions the criterion of food acceptance should be specified as "consumption with pleasure".[1]

Management of patient food service in hospitals is always a point o dissatisfaction. Steps involved in hospitalized patient food service must be clearly understood for efficient management of the service and to find out the weaknes of the service. The steps involved in this service are[2]

(a) Administration of dietetic services : Nutritional Care of patients in large hospitals today requires the expertise of both the administrator of dietetic services and the thereapeutic dietitian.

(b) Food service management system : Usually two management systems are used in hospitals today. Under one system the hospital adminis- trators look after all aspects of the dietary department, including both the nutritional care of patients and employe food service. Under a second system the hospital contracts with a food service or catering company to manage all aspects of the dietary department.

(c) Food service delivery system : It means carrying food from the kitchen to the patient area. Two types of food delivery system-centralized and decentralized, are used to deliver food to the patient area. In centralized service, a patient's tray is completely assembled in or near the food production area. Decentralized service refers to the method by which bulk food is transported from the production area to a service kitchen in the patient area. The patient's tray is assembled in the service kitchen and delivered to the bedside.

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Delivery of patient tray : In some hospitals the patient's tray is delivered to the bedside by a dietary department employee (as practiced in Bangladesh), in others it is done by an employee of the nursing service.

(d) Meal service schedules : Traditionally hospital dietary department serves three meals a day to the patients-morning, noon and night. When necessary (and possible) beverages and snacks are provided between meals. (e) Selective menus : Food items in the menu are grouped under several section. The sections are made as per food group classification i.e. Bread and cereal group, meat group, milk group, vegetable group. etc. Patients select food items from that list. The patient who selects less than adequate diet needs professional guidance by nutritionists. (f) Varieties of hospital diet : Different hospitals serve different variety of diet as per their objective and resource availabity. These are - (f/i) Regular, standard, General diet : the normal hospital diet is planned to provide the recommended energy and nutrients to the patients with the customary or usual cooking process. (f/ii) Light or convalescent diet : The foods are cooked simply. Fried foods, rich pastries, fat rich foods are omitted. Bran and strong or gas forming vegetables are also avoided. (f / ii) Soft diet : It is soft in texture and consists of liquids and semisolid foods.

In both Dhaka Medical College Hospital (DMCH) and Infectious Diseases Hospital (IDH), when the diet trolley or the tray reaches the respective ward then the food service staffs request the on duty sister in charge of the respective wards to attend the distribution process. It is the responsibility of the sister to verify the number of diet served with the patient number, check the quantity and type of diet mentioned in the diet slip for each patient. Neither in IDH nor in DMCH the food service personnel do wear any official dress though according to hospital authority they are provided with blue cloth, for three pants and shirts, as well as making charge in each year.

The objective of this study was to determine the main issues of dissatisfaction of the hospitalised patients. So that hospital authorities can take naecessary measures to gain confidence of the patients. Many patients express their dissatisfcation about the hospital diet every year but no in depth inquiry were ever been made to determine the main issues behind this dissatisfaction.

Materials and Methods

A. Study Design

This is an exploratory, descriptive, crossectio nal study done by a survey through- interview, observation and laboratory analysis.

B. Sampling Technique

(B/1) Selection of hospital : Two hospitals were selected for this study. One - was Dhaka Medical College Hospital (DMCH) and the other was Infectious Diseases Hospital (IDH). (B/2) Seleciton of study unit : To select a study unit following steps were taken --- (B/2/i) Number of study unit required for this study was determined by sample size determination process (no. 4 Below). (B/2/ii) From each ward a list of patients were prepared who fulfilled the criteria of study unit. (B/2/iii) Due care was taken so that equal number of male and female patients were selected. (B/2/iv) Selection was at random. (B/2)v) If a bed number after being randomly selected was found vacant or the patient on that bed refused to cooperate then the next number was selected. (B/3) Criteria of study unit : Any patient with the following criteria were selected as a study unit. (B/3/i) Patient on full diet only. (B/3/ii) Patient admitted for more than three days and/ or was able to take full diet orally for more than three days. (B/3/iii) Patient interested to respond to the questionnaire. (B/3/iv) Patient staying only inside the ward (those staying in varinda were excluded). (B/3)v) Patient above ten (10) years of age. (B/3)vi) Patient mentally sound with average intelligency quotient (I.Q.). (B/4) Sample size determination : (Determining the number of study unit) : In IDH – Fifty study units were selected with twenty five male and twenty five female. The number of paying patients were few so only non-paying patients were selected. In DMCH – total Nonpaying patients selected was 224 with male 112 (48+50+4+10) and female 112 (58+20+30+4); total Paying Patients were 50 with male 25 (10+10+5) and femal 25 (10+10+5); total Cabine patients were 30 with male 15 and female 15. So the total study population was 304. To compensate the non-cooperation or refusal that bed was visited after one or two week because by that time a new patient occupied that bed.

C. Instrument for Data Collection :

(c/i) Direct observation : of the randomly selected study unit. (c/ii) Interview : through prescribed questionnaires filled up by the researcher. Each study unit was observed and interviewed only once and at lunch hour.

D. Duration of Date Collaction

Six months from August 1989 to January 1990.

Results

It was found that in all category of patients (i. e. non-paying, paying and cabin patients) some patients did not carefully observed the activities and materials engaged in food service delivery or did not see it at all or did not want to make any positive comment on this topic. These patients are grouped under the heading "Indifferent".

Food service delivery system has been described under six headings to facilitate the comparison between the two hospitals and among the different categories of patients within the same hospital. The comparison of the acceptance level among non-paying patients of DMCH and IDH can be obtained by observing the results of table-1 and table-4. On the otherhand table-2 and table-3 will help in understanding the comparison between paying and cabin patients of DMCH.

Tabel 1. Acceptance at DMCH among Non-paying patients.

	Topic	Acceptable%	Not Acceptable%	Indifferent%
1.	Appearence of			
	a. Diet trolley	27.2	32.6	40.2
	b. Rice dish (Covered by a white cotton sheet)	20.1	50.4	29.5
2.	Process of covering vegetable container	28.1	31.7	40.2
3.	Process ofcovering meat/fish/ cooked egg.	27.7	32.0	40.2
4.	Process of covering lentil	26.3	33.5	40.2
5.	Cleanliness of the			
	a. Diet trolley itself	25.9	50.0	24.1
	b. Containers in the trolley	19.2	62.1	18.7
	c. Patient's tray	49.1	25.9	25.0
	d. Staff engaged in food service	36.6	44.6	18.8
6.	Serving process of			
	a. Rice to patient's tray	29.0	54.5	16.5
	b. Meat/Fish/cooked egg to patient's tray	58.0	23.2	18.8
	c. Vegetable to patient's tray	54.9	26.3	18.8
	d. Lentil to patients tray	37.9	44.6	17.9

Tabel 2. Acceptance at DMCH among Paying patients.

	Topic	Acceptable%	Not Acceptable%	Indifferent%
1.	Appearence of			
	a. Diet trolley	10.0	70.0	20.0
	b. Rice dish (Covered by a white cotton sheet)	8.0	72.0	20.0
2.	Process of covering vegetable container	16.0	64.0	20.0
3.	Process ofcovering meat/fish/ cooked egg.	10.0	70.0	20.0
4.	Process of covering lentil	20.0	60.0	20.0
5.	Cleanliness of the			
	a. Diet trolley itself	20.0	64.0	16.0
	b. Containers in the trolley	10.0	80.0	10.0
	c. Patient's tray	40.0	50.0	10.0
	d. Staff engaged in food service	30.0	60.0	10.0
6.	Serving process of			
	a. Rice to patient's tray	12.0	80.0	8.0
	b. Meat/Fish/cooked egg to patient's tray	40.0	30.0	30.0
	c. Vegetable to patient's tray	40.0	20.0	40.0
	d. Lentil to patients tray	34.0	40.0	26.0

Tabel 3. Acceptance at DMCH among cabin patients.

	Topic	Acceptable%	Not Acceptable%	Indifferent%
1.	Appearence of			
	a. Diet trolley	6.7	33.7	60.0
	b. Rice dish (Covered by a white cotton sheet)	3.3	36.7	60.0
2.	Process of covering vegetable container	10.0	30.0	60.0
3.	Process ofcovering meat/fish/ cooked egg.	13.3	26.7	60.0
4.	Process of covering lentil	16.7	23.3	60.0
5.	Cleanliness of the			
	a. Diet trolley itself	10.0	30.0	60.0
	b. Containers in the trolley	10.0	30.0	60.0
	c. Patient's tray	20.0	20.0	60.0
	d. Staff engaged in food service	36.7	3.3	60.0
6.	Serving process of			
	a. Rice to patient's tray	6.7	33.3	60.0
	b. Meat/Fish/cooked egg to patient's tray	36.7	3.3	60.0
	c. Vegetable to patient's tray	36.7	3.3	60.0
	d. Lentil to patients tray	36.7	3.3	60.0

Tabel 4. Acceptance at IDH among Non-paying patients.

	Topic	Acceptable%	Not Acceptable%	Indifferent%
1.	Appearence of			
	a. Diet trolley	24.0	36.0	40.0
	b. Rice dish (Covered by a white cotton sheet)	28.0	52.0	20.0
2.	Process of covering vegetable container	10.0	60.0	30.0
3.	Process ofcovering meat/fish/ cooked egg.	10.0	60.0	30.0
4.	Process of covering lentil	10.0	60.0	30.0
5.	Cleanliness of the			
	a. Diet trolley itself	30.0	36.0	34.0
	b. Containers in the trolley	40.0	20.0	40.0
	c. Patient's tray	64.0	24.0	12.0
	d. Staff engaged in food service	52.0	20.0	28.0
6.	Serving process of			
	a. Rice to patient's tray	70.0	10.0	20.0
	b. Meat/Fish/cooked egg to patient's tray	70.0	10.0	20.0
	c. Vegetable to patient's tray	60.0	10.0	20.0
	d. Lentil to patients tray	40.0	50.0	10.0

The situation in the two hospitals is as follows :

(A) At DMCH : (A/i) Among the nonpaying patients who observe the food service activities and materials - most of the patients (49.1% & 58% respectiely) do accept the cleanliness of patients tray and the serving process of meat/fish/cooked ege and vegetable. But some patients (45% & 60% respectively) do no accept the cleanliness and serving process of other food item as well as the appeaence and the process of covering food items are not acceptable to majority. 17.9% patients remain indifferent. (A/ii) Among paying patients who observe the food service activities and materials. Most of the paitents (40% & 80% respectively) do not accept the existing food service activities and materials used for this but 40% do accept the serving process of meat/fish/cooked egg and vegetable to patients tray. (A/iii) Among the Cabin patients it had been found that 60% patients did no observe the food service activities or are not interested to make any comment about it. It shows that majority of the Cabin patients have a preconceived notion that hospital diet is not good. So they do not show any interest to inquire into the activities or to make any comment about it, even though it was

found that only 3.3% patients did like the cleanliness of the staff, serving process of meat/fish/cooked egg/ vegetable and lentil. It is to be mentioned that the food service for the cabin patients is different and better than those of nonpaying and paying patients, in respect of cleanliness.

(b) At IDH – The food is brought from kitchen by head carriage (i.e. food is carried on the head of some staffs) and lentil is brought by a balti. There is no diet trolley and no single tray is used to carry all food tem at a time. Four to five hospital staffs carry the individual container of each food item ot the patients area. It has been found that the nonpaying patients of IDH (40% & 70% respectively) accept the cleanliness of the food service activities at IDH as well as the seriving process of all food items except lentil. In IDH lentil is served by a bati (medium size cup). On the contrary maximum patients (52% % 60% respectively) do not like the appearence of the food items and process of covering the food items.

Discussion

During 1960's Jacob J. Feldman[3] mentioned that when one visits a friend in the hospital it is frequently considered good form to bring some delicacy as a gift so that the poor patient can enjoy some respite from institutional cooking. This writting expressed the practice of American society during 1960's. Present study finds that even in 1990 the situation prevails in Bangladesh as found from the practice of paying and cabin patients.

While describing the efect of illness[4] on food consumption Babcock C. G. wrote that Illness may change a person's psychological orientation to everyday occurences and personal relationships, the need for the familiar and the customary is increased. What, how and with whom we eat is an everyday occurence. It is easier to show discouragement through anorexia than to explain that one is feeling indadequate and depressed in the presence of a frightened disease. Present study did not enquire into the matter about what percentage of patient had anorexia during his or her hospital stay but the study found that more than 70% patients did not like the appearence, process of covering and cleanliness of food service. Which means that 70% patients would show beter response to treatment if diet was acceptable (at least to patients who can not borrow food from their home).

Owen Maller[5], Kathleen M. Hirsch[6] wrote that a number of factors influences the acceptance of diets- (i) Physiological factors (ii) Psychological factors (iii) Demographic factors (iv) Cultural and Social factors (v) Education of the patient (vi) Environmental factors. For a diseased person physiological, psychological and demographical factors can not be improved at once but environmental

and educational factors can be influenced. It is well know that the environmental conditon can be measuered by observing appearence and cleanliness of food service. But when we observe those two points as viewed by the patients (figure –1 and figure-2) we find that more than 70% patients did not find the appearence of the dietary service (as represented by Diet trolley and Rice dish) acceptable and more than 50% patients did not consider the cleanlines of the dietary service (as represented by diet trolley, container in trolley, patient's tray, staffs working for diet) acceptable. That means the environmental condition in neither of the two hospitals gets due consideration in respect of food service delivery system. So to improve the acceptance of hosiptal diet environmental conditions in hospital should be imporved. Along with it knowledge of patient about food consumption during sickness should be assessed.

Gloria Zellmer[7] stated that effective planning of menus requires understanding of the relationship of the components of food acceptance. For that trained personnels are required. Which can be done by appointing trained personnels are required. Which can be done by appointing trained dieticians in all hospitals. In 1980 Ayesha Siddique[8] Showed that hospital food service delivery personnel in Bangladesh have no formal training. The situation still prevails.

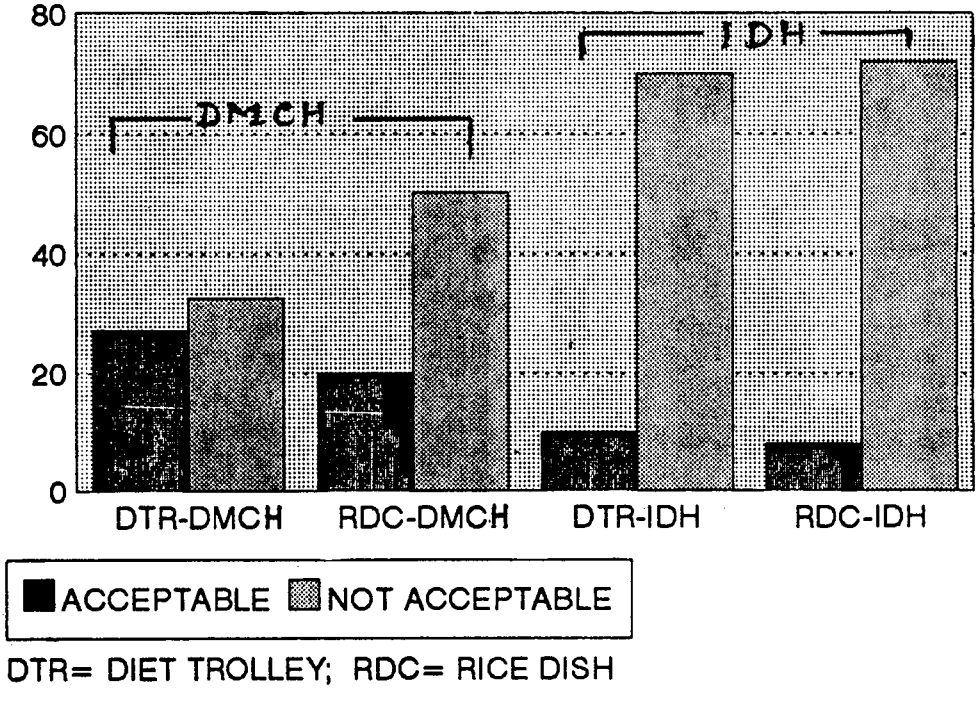

Fig. 1. Accepting the Appearence at DMCH and IDH (Nonpaying patient).

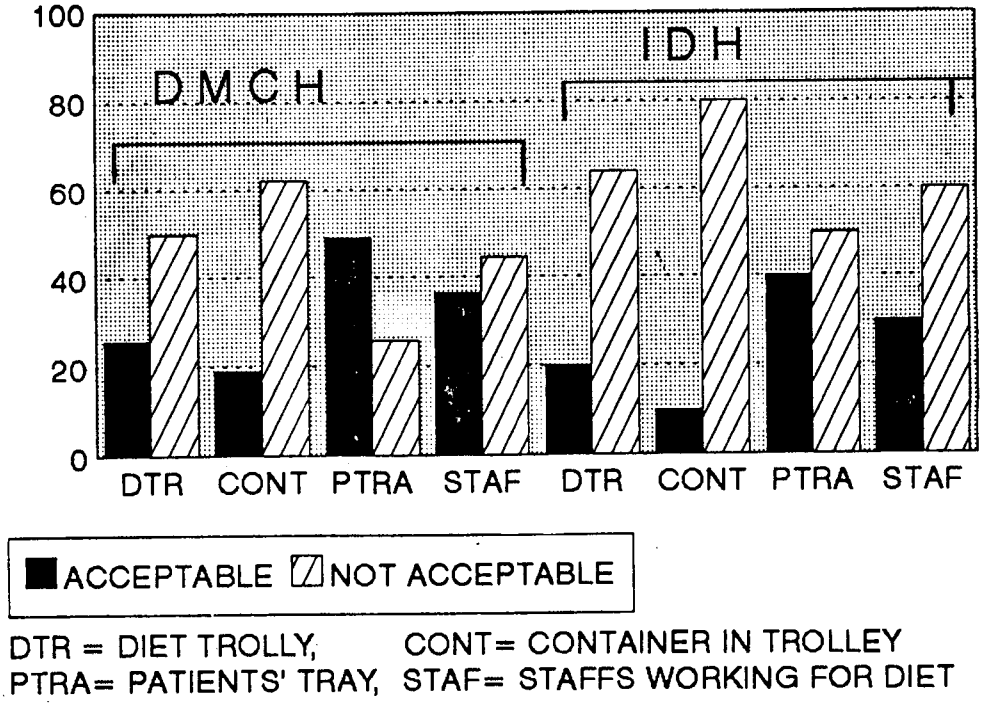

Fig. 2. Accepting the Cleanliness at DMCH and IDH (Nonpaying patient).

Therefore this study suggests that to improve the situtation following measures can be taken :
(a) If possible a central catering service can be established, as is done in developed countries to supply packed meal to different hospitals, or, (b) Present supervisors of the kitchen should be given authority to manage the kitchen activiteies autonomously (i.e. the control of clinical professor and director should be reduced). (c) hospital braceshop or engineering section may be utilized to prepare coverings for the trolley's and utensils or net covered trolleys should be used. (d) Serving personnel should be trained on personal hygiene, food hygiene and the effect of presentation of food item on appetite of the patients. (e) Any complain form the patient should be given due consideration and as far as possible the reason for an action should be clearly explained to the patient. (f) Supervisors in the Kitchen and in the patient's[9] area should be given authority as well as respoosibility to manage the food service properly in their jurisdication respectively. Proper reward and punishment (higher and fire) system should be imposed on their activity.

Summary

Hospital diet is always a question of dissatisfaction to the indoor patients. To analyse the situation in Bangladesh two hospitals in Dhaka City (DMCH & IDH) were taken for study. Both are government hospital and are well equiped in respect of the facilities (manpower & resources) available in Bangladesh. In both the hospitals food service delivery system is same. Overall cleanliness is better in IDH than in DMCH. Sample size was fifty (50) in case of IDH and was three hundred and four (304) in case of DMCH. From IDH only nonpaying patients were selected from DMCH all three category (nonpaying, Paying and cabin) patient were selected. In both the hospitals some patients did not show any interest to the food service delivery system mostly due to preconceived idea that hospital diet is not good for the patient their percentage varied from 10% - 40%. Acceptance were measured in terms of appearence, process of covering, cleanliness and serving process. At DMCH among nonpaying patients --- fortyfive percent (45%) did not accept the cleanliness and sixty (60%) did not accept the serving process of food items except meat / fish / egg. At IDH among nonpaying patients fifty two percent (52%) do not accept the appearence of the food items and sixty percent (60%) do not accept the process of covering of the food items. But cleanliness is better in IDH as per the patient's opinion of the two hospitals.

It is a common phenomenon that if any food is not acceptable by its appearence then even a healthy man will not like to eat it. So for better utilization of the fund allocated for hospital diet the hospital autorities should think over these issues.

References

1. Francis J. P. The components of food acceptance and their measurement. Am. J. of Clinical Nutr. 1957; 5(2) : 171-175.
2. Mitcheal, Rynbergen, Anderson. Nurtition in Health and Disease. 16th edition, 1980 : 311, 318.
3. Jacob J. F. Patients opinions of hospital food. J. Am. Diet. Assoc. 1962; 40 : 325.
4. Babcock C. G. The role of dietitians in acute care hospitals. J. Am. Diet. Assoc. 1952; 28 : 222.
5. Owen M. Cynthia N. D. et. al. Consumer opinions of hospittal food and foodservice. J. Am. Diet. Assoc. 1980; 76 : 236 - 242.
6. Kathleen M. H. Ruth S. H. et. al. Factors influencing plate waste by the hospitalised patient. J. Am. Diet Assoc. 1979; 75 : 270 - 273.
7. Gloria Z. Food acceptance Vs Serving Frequency. Hospitals JAHA, 1970; 44 : 75 - 81.
8. Ayesha S. Hospital dietetics and food service in developing countries, III, Bangladesh. J. Am. Diet. Assoc. 1983 : 83 (3).