Research Article

Evaluation of diet service in Base Hospital, Warakapola

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Abstract

Introduction Diet service of a hospital plays a key role in overall patient's satisfaction and quality of health care delivery.

Objective to evaluate the diet service of Base Hospital, Warakapola.

Methods Process mapping the hospital diet service, assessment of employee experience, patient satisfaction survey and a survey of plate waste were the main components of the study. Research techniques used were, using of check list to collect secondary data through desk reviews and observations, Key informant interviews using interviewer guides with selected staff members and for patient satisfaction survey, use of an interviewer-administered questionnaire.

Results Diet requirements were estimated assuming all patients who have requested diet for a given day would need all three meals, but only 11.64% inward patients had expected all meals. Patients choice or opinion of staff were not considered in setting menus. Menus were not appealing to the patients, and they were not communicated till the food was served to them. Tea and soup were served with the main meals. The plate waste was 24.26%. The whole process was heavily paper based.

Conclusion Gaps in the process and practices of diet service had led to reduced patients' satisfaction regarding menus, timeliness of serving and appearance of food. Estimation of food requirements based on erroneous assumptions had contributed to plate waste.

Strategic catering and feeding policies giving due respect to patients' choice in food selection could improve the outcome of hospital diet service.

Key words: Diet service, Base Hospital, patients' satisfaction, Plate waste

Introduction

Diet service of a hospital plays a key role in overall patient's satisfaction and quality of health care delivery. Good supply of food is identified as a prerequisite for optimizing treatment offered to patients (1). Feeding is not simply a significant element of comfort for patients during their hospital stay but a vital necessity (2).

Worldwide, food services in hospitals are known to have gaps in quality (3). Practical issues in hospital's food provision is recognized as a factor for inadequate nutritional care offered to the patients (4). Food and nutrition rights of humans are considered as one of the most widely violated economic rights of people (5).

Insufficient food intake during hospital stay, a mostly overlooked issue in hospitals, may worsen malnutrition of patients which lead to higher morbidity and mortality(6). Length of stay of patients who consumed lesser (<25%)

amount of food offered from a hospital is found be significantly longer (7).

Huge total waste exceeding 40% of hospital food served has been reported by Barton and others (8). Resources that could be used to enhance other aspects of health care are lost due to extra cost generated by non-consumption of food by patients (9).

State hospitals with in-ward care facilities in Sri Lanka provides food for patients during their stay free of charge. Guidelines for hospital diet service is published by Ministry of Health, by a general circular (10). For each quarter of the year setting menu for patients' meals is done by the diet clerk under the purview of head of the institution. Generally, the menu is set for a seven-day cycles. Diet clerk visits each ward daily and go through the Bed Head Tickets (BHTs) manually to estimate the number of food portions needed. Raw provisions are ordered by 11.00 am on each day (11).

An officer supplier accepts them from the supplier considering the quality and quantity. Distribution of food from the kitchen to the wards takes place in bulk, in the presence of diet stewardess. The Nursing Sister (NS) or Nursing Officer (NO) in charge of the ward takes over the food and distribute to the patients.

Objective

This study aimed to evaluate the diet service at Base Hospital Warakapola (BHW)

Design

This was a descriptive, cross sectional study.

Methods

Study was carried out in BHW from January 1st to June 30th in 2019. BHW was under the administrative purview of Reginal Director of Health Services, Kegalle and its bed strength was 350.

Study consisted of four components namely; process mapping the hospital diet service, assessment of employee experience, patient satisfaction survey and a survey of plate waste.

Research techniques used were, check list to collect secondary data through desk review and observations, Key Informant Interviews (KIIs) using interviewer guides with selected staff members and for patient satisfaction survey, use of an interviewer-administered questionnaire. The main areas of diet service focused by the study were estimation of food requirement, setting of menus, serving of food and food waste.

The key informants were medical superintendent, all NSs and in-charge NOs, diet clerk and diet stewardess.

Four hundred in-ward patients were interviewed. Number of patients needed for the survey from each ward was calculated based on the proportion of admissions in the first quarter of year 2018 and they were recruited by convenient sampling. Questionnaire was initially prepared in English and translated into Sinhala and Tamil and retranslated back into English to ensure consistency. It was pretested and validated. A Likert scale rating was used to gather data on patients' satisfaction. Non responders and individuals with neutral rating responses were excluded.

Data gathered from questionnaires and desk reviews were analysed from SPSS software and a narrative analysis was done for KIIs. The Z test for proportions was used to test for statistical significance where necessary and p value of <0.05 was considered as significant.

Ethical approval was obtained from the ethics review committee of Faculty of Medicine, University of Colombo, Sri Lanka (EC 19-010). Informed written consent was obtained from all participants.

Results

The process of hospital diet service is depicted in Figure 1.

The summary findings of KIIs, staff experience in diet service are given in Table 1.

It was found that none of the staff has had a training related to diet service.

Desk reviews revealed that 11.64% (39/335), 82.68% (277/335) and 5.6% (19/335) patients had needed all three meals, two meals and one meal, per day from hospital, respectively. Most patients (90.75%, 363/400) preferred if they were asked daily, about their diet requirements.

The total plate waste in the hospital was 24.26% (Table 2).

Findings of patient satisfaction survey are summarized in Table 3.

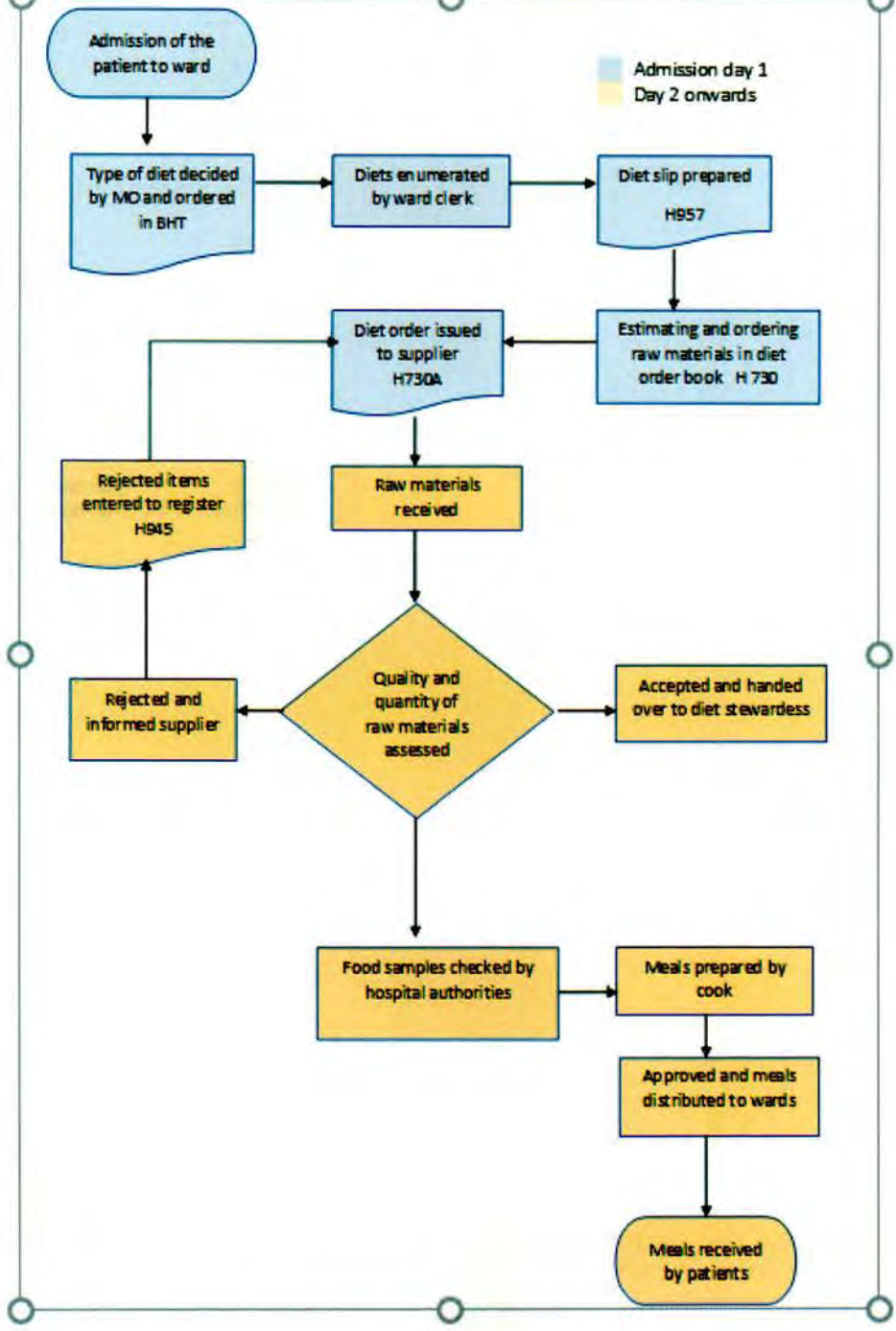

Figure 1: Process of diet service of BHW

Table 1: Staff experience in diet service

Attribute of diet service	Findings
The diet menus	I. Menus were solely prepared by diet clerk with no inputs from doctors or NOs II. Menus were poor in variety and not appealing III. Menus for a day were not informed to ward staff before food was served
Estimating diet requirement	I. Diet clerk had to scan whole BHT to estimate diet requirement for each patient which was time consuming and error prone and the support from ward staff for the task was insufficient II. Communication between the ward staff and the diet clerk was poor III. There were no provisions to know whether a patient expected a vegetarian or non-vegetarian diet IV. The estimate assumed that all patients who requested diet would need all three meals and tea V. There was excessive paperwork
Serving of diet	I. Tea and soup were refused by many patients once served II. Dinner was served too early between 4.00pm-5.00pm III. Communication between ward staff and kitchen was not satisfactory IV. Serving of food was sometimes disturbed by ward rounds

Table 2: Frequency distribution of plate waste in each unit of BHW

Unit	Number of diets ordered	Number of plates not consumed	Percentage of plate waste
Dermatology	67	4	5.97%
Medicine	1193	266	22.29%
Paediatric	134	6	4.48%
Obstetrics and Gyanaecology	43	2	4.65%
Surgery	1238	371	29.97%
Total	2675	649	24.26%

Discussion

Gap analysis revealed that there were issues in setting the menu, estimating diet requirements and serving of diets to patients. Menus seemed to be more focused on the quantity and not the quality of food. There was no proper platform for doctors and nurses to contribute for planning menus. Fragmentary nature of diet service management and difficulties in communication among involved staff, negatively affects the whole process (12).

Timing of food served was one of the attributes with least patient satisfaction. As per the guidelines (10) dinner had to be cooked sooner the raw materials were received by the same kitchen staff who covered the day duty shift. Since dinner was ready early, ward staff was used to serving it with tea. Careful planning of mealtimes with better understanding of patients' needs is important to remedy such issues.

The practice of estimation of diet requirements, through a paper-based system was found to be error prone and time consuming. This could have been remedied by developing computer interfaces for timely, accurate diet order entry (13), but has not been considered due to cost and technology constraints. Simple yet effective measures to be adopted would be to assess the requirement for each meal without assuming that every patient who had requested hospital food needed all three meals, by updating patients' requirements of diet for the next day which would not be possible for the diet clerk alone. Hence, this could be overcome by introducing a new format for diet requirement assessment to be filled by ward staff daily.

The perceived hospitality of diet services in a hospital is associated with the manner food is served. The room service model practiced in developed countries (14) can be practically modified to Sri Lankan state hospital setup by ensuring that food is served at bedside. The presentation of food was not satisfactory according to most patients.

As assessing the individual food intake of hospitalized patients (15) to quantify food wastage was not feasible due to time and resource constraints, the study attempted to quantify the number of food plates not consumed by patients as an alternative measure.

While the health workers should be motivated to appreciate the value of the service encounter, their training should emphasize the importance of hospital diet service and how to maximize the beneficial interaction between staff and patients in this context. It is timely to offer the kitchen staff in-service training and for new recruits a compulsory induction training.

Conclusions and Recommendations

Hospital diet service is a key component in health service delivery, yet the process and practices involved had gaps in estimation of requirement, preparation of menus, consideration to patients' choice, and serving. Those negatively affected patients' and staff satisfaction and reduced the efficiency of the diet service leading to a significant plate waste.

Rigid administrative regulations leading to less flexible catering and feeding policies of hospitals reduce the opportunity for patients' choice in food selection. Allowance for menu choices for patients may improve the compliance with the diet plans. Displaying the planned menus in the wards may also empower the patients regarding choice of food.

The total plate waste in this hospital which was 24.26% (Table 2) could be substantially reduced by initiating some of the above suggestions to overcome the gaps identified.

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