FIELD MEDICINE

ASSESSMENT OF THE DIETARY SERVICES FOR PATIENTS AT COMBINED MILITARY HOSPITAL RAWALPINDI

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ABSTRACT

A cross sectional study of the dietary services for patients in Combined Military Hospital Rawalpindi was conducted to assess the existing system in vogue to see if it is proper or not and what ways and means can be adopted for its improvements. Study parameters were established which included personnel involved in dietary services, diet schedules, entitlement of hospital dietary/hospital stoppages, procurement and transportation of food articles, central storage, delivery of food items to kitchens, state of kitchen, food handling personnel, preparation of food, distribution of food in the ward and existing system of evaluation of dietary services. Food standards were formulated in the light of available literature of WHO, US Health department and Pakistan Army regulations/instructions. The standards were compared with the findings obtained through questionnaire/interviews. It was found that no separate organizational structure of dietary services exists. The in charge of the dietary services was not a qualified dietician. All personnel involved in different stages of dietary services were also found untrained and unqualified. Job descriptions formulated in standing operating procedures of the hospital for the personnel of dietary services were not complete and comprehensive. Cooks for patients were deficient and there was no system of collection of meat, chicken and fish in proper boxes. There was no satisfactory arrangement of washing hands/toilet facility for cooks. The food distribution in the ward was not satisfactory and there was no system of reviewing/evaluation of dietary services.

Keywords: Dietary services, patient's diet, assessment of dietary administration

INTRODUCTION

Dietary services are one of the required patient care services in any hospital [1]. These services serve a part of treatment. The satisfactory intake of food by the patient is essential for the maintenance of tissue structure and body functions so that recovery from illness is not impeded [2]. Hospital patients require normal or therapeutic diet. Therapeutic nutrition is based on modifications of the nutrients in a normal diet to help a patient overcome a specific illness or inter related illness [3]. A normal diet should furnish the patient's nutritional, psychological, and aesthetic needs and in taking appropriate measures to able him to consume it. The care of hospitalized patients takes into account various physiological, psychological, cultural, social and economical factors that can affect their nutritional status. Meeting the patient's nutritional needs involves the coordination of the medical, nursing and dietary staff.

The hospital of Pakistan Armed Forces provides food to the indoor patients. There are four types of diet for the patients, Ordinary (O) diet (3668 calories), High protein (C) diet (4922 calories), Light (L) diet (2909 calories) and Subsistence (S) diet (1698 calories). When a patient cannot be placed on a diet the word 'No Diet' is noted on the diet sheet and he is subsisted on extras. Further details are mentioned in Medical Directorate technical instruction no.6 [4]. Duties of Commanding officer of the hospital and Medical officer in charge of the ward regarding dietary services are chartered in booklet Regulation of Medical Services volume-2 (instructions) 1978 [5]. Most of the hospitals of Pakistan Army possesses the history of more than hundred years and hence had received the

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casualties of both world wars. During world war-1 the dieting of patients was based on the requirements of individual patient and was to a great extent determined by the medical officer attending each case. Later on in 1918 the Army council provided two scales, A of minimum caloric value (2700 calories) and scale B of maximum caloric values (3250 calories) for the hospitalized patients. In 1942 it was decided to authorize a Quartermaster (Combatant officer) in the hospital to look after the dietary services [6].

The assessment of administration of dietary services in military hospital was the main concern of this study. Hence study was aimed, to know what is the existing system of procurement and storage of food articles, preparation of food and delivery of meals in the ward, and to identify the weak areas and defects in the existing dietary services in Combined Military Hospital Rawalpindi.

MATERIAL AND METHOD

The universe of the study was Combined Military Hospital Rawalpindi. This hospital was built in 1859 immediately after occupation by the British for treatment of British soldiers and their families and was called as British Military Hospital. Since independence in 1947 the hospital was converted a surgical hospital for all ranks. Officers and their families however, admitted for all types of diseases and name has consequently been changed to Combined Military Hospital. Presently it is a 650-bedded hospital but its bed strength varies from time to time as directed by General Headquarters Medical Directorate.

The following parameters were established for the study: -

- **Personnel involved in dietary services:** This included organisational set up, job description, qualification, training and state of manpower.
- **Diet Schedules:** This comprised of article of diet, extras and scale of issue.
- **Entitlement of Hospital dietary / Hospital stoppages:** This consisted of patient entitlement, hospital diet and admission, and hospital stoppages.
- **Procurement of food articles:** Sub parameters included were daily ward requisition for diet and extras, fresh food articles and dry ration.
- **Transportation of food articles:** Authorization of transport, condition of the vehicle, health of personnel handling food, fresh food articles, and dry ration.
- **Central storage:** Receiving area and storage space, dry ration, fresh articles of food, and periodical checking.
- **Issue of food articles from the central stores to kitchens:** This included fresh food articles and dry ration.
- **Kitchen or cook houses:** Total numbers, building, space and equipment for food preparation, cook houses annexes, cooking utensils, water supply availability, and fuel used for cooking. Pilferage of rations, & unauthorized personnel entertainment.
- **Food handling personnel:** Knowledge of food safety/food hygiene, free from illness, obligation for reporting sick, reporting system when returning from holidays or abroad, and dissemination of rules and regulation.
- **Preparation of food:** Choosing one of food, thorough cooking of food, precautions during cooking, storage of prepared food, reheating of cooked food, contact between raw foods and cooked foods, washing of hands, use of pure water and periodical milk examination [7].
- **Distribution of food in ward:** Distribution as soon as possible after preparation of food, distribution on heated trolleys, attractive and disciplined distribution, hours of meal, and availability of three meals to patient / day.
- **Evaluation of dietary services:** Existence of a mechanism, for evaluation of dietary services.

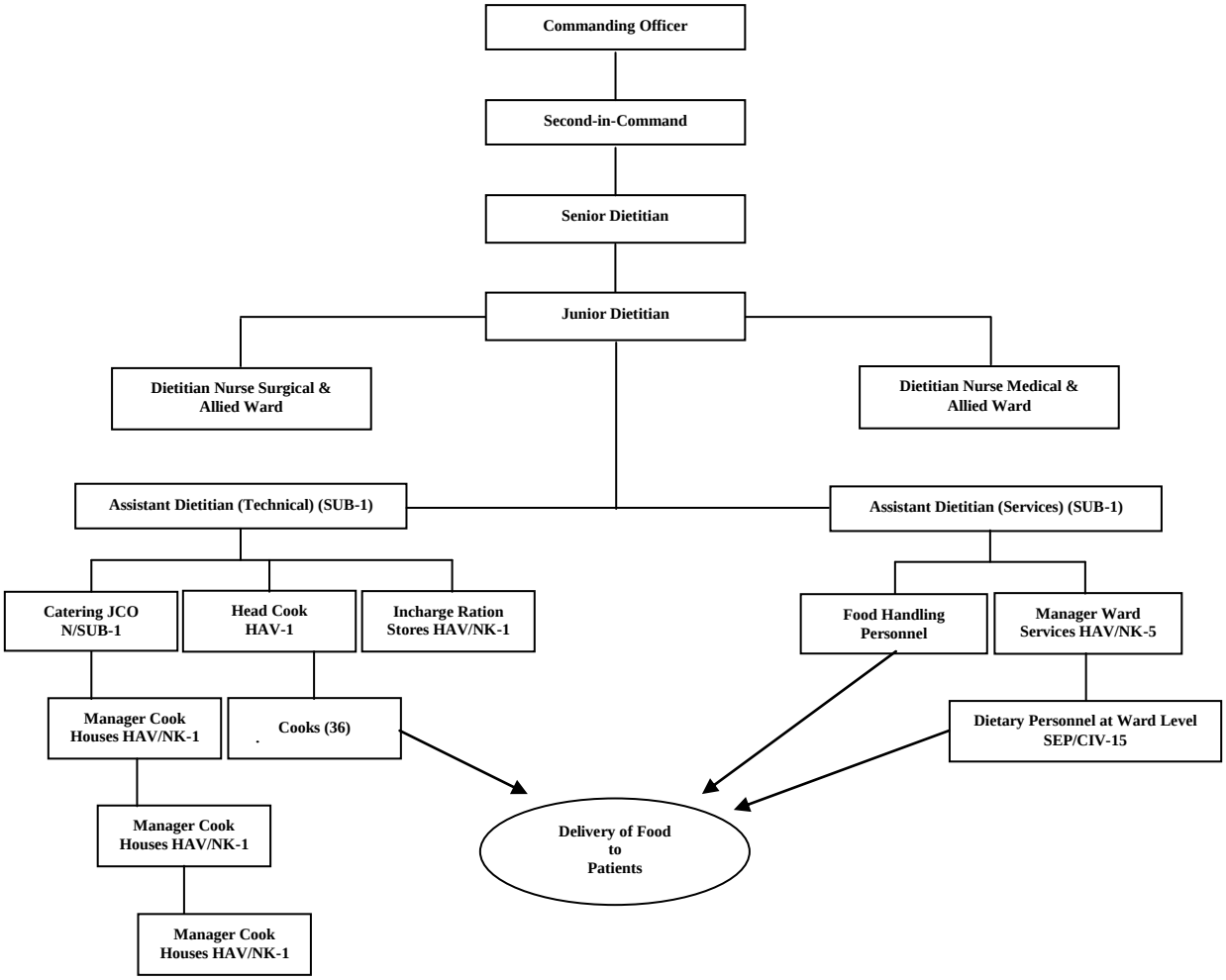
For these parameters, standard to be achieved were formulated in the light of available literature of WHO, US health department and Pakistan Army regulations/instructions [1,4,5,7,8,9,10,11, 12,13,14]. For the purpose of data collection one close-ended questionnaire was formulated covering all variables. The data analyzed through

hand tallying method. For the purpose of study formal permission from Medical Directorate General Headquarters Rawalpindi was obtained.

FINDINGS

- **Personnel involved in dietary services:** No separate organizational structure of dietary services exists in Combined Military Hospital Rawalpindi. Quartermaster branch deals with dietary services in addition to clothing, arms and ammunition, military transport and military engineering services. The peripheral workers who operate the ward level were of nursing and general duty cadre and were under control of Subedar Major/Ward master and not the quartermaster branch. There was no job description of general duty assistants for distribution of food in ward. The in charge of dietary services was not a qualified dietician and was not qualified by education, training and experience in food service management. Peripheral workers who operate at ward level and the cooks / kitchen staff were not qualified and trained as per specified standards. All ranks involved in dietary services were under matric and having training on general military line not specific to subject of nutrition.
- **Diet schedule:** Articles of each diet and extras and their scales of issue were as per standard set in parameter. Personnel of dietary services were having very little knowledge about article of each diet / extras and scales of issue.
- **Hospital dietary / hospital stoppages:** 30 patients of different wards were interviewed regarding any shortage of supply of authorized diet. No one was found of having knowledge about normal authorization therefore the complaint was not detected. However, on cross-questioning it was found that about seven patients had not received complete items of authorized diet.
- **Procurement of food articles:** Diet sheets compiled by ward in charge and signed by medical officers are submitted to the quartermaster office one day before for final calculation of demands of next day. Diet indent from quartermaster office is taken by a Sepoy / Naik in charge of ration store to station supply depot. Dry ration is collected on weekly basis. Out of 30 days of data collection it was observed that food articles reached hospital in after 08:30 hours and any medical officer did not check these.
- **Transportation of food items:** It was found satisfactory however meat boxes were not regularly used during the time of data collection.
- **Central storage:** The storeroom was not fly and rat proof.
- **Issuing of food articles from central stores to kitchen:** The meat, vegetables and fruits were disposed to kitchen immediately on their arrival. Dry ration is issued daily to cook houses on the requirement of the wards.
- **Kitchen or Cookhouses:** There are three cook houses with satisfactory arrangements. However there was no toilet facility for cook houses personnel. No dustbin was seen and the dishcloths were found dirty. No list was displayed on notice board to give the information vide standard [8]. Cooking utensils were not sterilized in boiling water. Cooks were not wearing aprons and caps. There were cats and dogs roaming around the cookhouses
- **Food handling personnel:** No cook was found to have knowledge of food safety and there was no system of having medical examination after returning from leave/ abroad.
- **Preparation of food:** Hand washing facilities were not available.
- **Distribution of food:** Sepoys of general duty cadre and civilian labourers distributes the food in the ward in a disorganised manner in bucket with poor discipline. No heated trolleys were available in the ward. Bucket was not of standard and dirty. There were no satisfactory washing facilities available in the ward pantry. Plenty of insects and cockroaches were seen in boxes used for keeping of bread. The food keeping method in the pantry was of low standard.
- **Evaluation of dietary services:** There was no system of reviewing and evaluating on regular basis of the quality of dietary services.

Table-1: Proposed organization of dietary services CMH Rawalpindi



DISCUSSION

Hospital diet is an essential part of modern therapy in all-medical departments. An effective system of dietary services in hospital is one of the successes of any hospital manger. Properly cooked meal at proper time and in an attractive style of distribution leads to provocation of appetite and satisfaction of patient's requirement. The study of dietary services for patients in Combined Military Hospital Rawalpindi revealed that the system in vogue is on the same line and pattern, which was adopted in August 1942 when quartermasters from non-medical corps were made authorised in military hospitals to look after the food department. Later on however two Dietitians were authorised on paper but the posts are vacant. There is no separate organisation of dietary services .The Dietitian role can only be justified with relevant staff having requisite qualification, training and job description. Training of available cooks in Army Medical Corps is not comprehensive and satisfactory. In addition to dietary services staffs all those who may come in contact with part or all of an edible end-product at any stage from its source, e.g., the farm, to the consumer [7]. For an efficient dietary service these trained & healthy food handlers are very important. Besides the personnel engaged in food delivery ,very high priority should be given to the nutritional training of non-specialised manpower which include public health physicians, clinicians (specially the paediatrician), nurses etc [9]. Authorisation of food articles should be clear to all personnel of dietary services and administration. The kitchen staffs use the toilet of nearby wards, which is a health hazard. Cleaning of dishcloth, provision of dustbins and collection of refuse has significant value. Entertaining stray dogs and cats into the kitchen premises invites the germs of many diseases. Regular evaluation of dietary services certainly provides an effective ways of improving the existing services.

Recommended minimum/basic/qualification & training required for dietary services personnel in CMH Rawalpindi

S/No	Detail of Job	Author-ization	Qualification/Designation	Rank	Minimum Training
1	In charge of dietary services	1	M.Sc Nutrition/Senior Dietitian.	Civilian Officer BPS-17	1 Year or Two Year Training at Academic Institution
2	Second dietitian	1	M.Sc Nutrition/Junior Dietitian	Civilian Officer BPS-17	1 Year or Two Year Training at Academic Institution
3	Nursing care	2	Registered Nurse/Dietitian Nurse	Captain/Major	24 Weeks Training in Therapeutic Nutrition at AFPGMI Rawalpindi
4	Mid level Nutrition Manager	2	Matriculation/Assistant Dietitian	JCO/Hav	24 Weeks Training in Army Medical Centre Abbottabad/AFIN Lahore
5	Midlevel Supervisor of respective Field	3	Matriculation/Catering JCO, Head Cook (Hav), Incharge Ration Stores (Naik/Hav)	JCO, Hav, Naik	12 Weeks Training of respective Field in AMC Centre Abbottabad
6	In charge of peripheral workers	8	Matriculation/Manager Cook Houses, Manager Ward Services	Hav, Naik	12 Weeks Training of respective Field in AMC Centre Abbottabad
7	Peripheral workers operating at ward level	30	Middle/Dietary Personnel, Food Handling Personnel	Sepoy/Lance Naik or Civilian Labour	12 Weeks Training of respective Field in AMC Centre Abbottabad
8	Cooking of Food	36	Middle/ Cook	Sepoy/Lance Naik or Civilian Labour	3 Weeks in Food borne illness, temperature control, preventing contamination of food

The results of this study are in line with that conducted in Bangladesh, Lebanon and six other Middle Eastern countries. In Bangladesh it was found in a survey of 11 hospitals that most heads of hospital food service had little or no training in nutrition and dietetics, hospital diets were usually inadequate, therapeutics diets were seldom, used and kitchen sanitation was poor. It was recommended in the study to have short term in service training programme to overcome these deficiencies [15]. A survey of 15 hospitals in Lebanon revealed that food service personnel in most hospitals had no training in nutrition, dietetics or food service management. Kitchen sanitation was inadequate and therapeutic diets were usually incorrectly planned and seldom used [16]. A survey of hospital food service and dietetics was conducted in the largest hospitals of six Middle Eastern countries: Bahrain, Jordan, Kuwait, Lebanon, Saudi Arabia and Syria provided the same results [17]. A study conducted in Spain proved that the knowledge of personnel qualified in hospital food services, to make, control and adapt the diets to the needs and tastes of the patient, as well as to achieve efficient food services is deem necessary [18]. Another Spanish study was carried out to identify the number of Nutrition and Dietetics units in the leading Spanish hospitals and also the presence of a qualified dietitian. It was observed that the Spanish health authorities have not given due importance to these departments and the role of the dietitian ignored [19]. A USA based study [20] revealed that the dietary services in military hospital as compared to civil hospital had high quality score. A most recent study [21] in Poland, on screening and extended assessment of the nutritional status of patients on admission and on discharge from hospital, detected that risk of malnutrition existed in patients and it was related with the number of days spent in the hospital.

RECOMMENDATIONS

- There should be a separate system of dietary services in all military hospitals. Authorised vacancies of Dietitian be filled with qualified persons and they should be provided with required technical paraphernalia. A suggested organisational structure is given in table – 1.
- All the personnel of dietary services should have training and qualification as per table-2
- Diet schedules knowledge of all the staff should be improved by giving simple lectures.

- Sufficient hand washing and toilet facilities should be provided in the cookhouses.
- Distribution of food in the ward should be on the heated trolleys in a well attractive manner.
- Hygiene and sanitation of cookhouses should be improved.
- There should be a system of reviewing and evaluating the quality of dietary services on regular basis.

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