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MENU PATTERN OF HOSPITAL MEALS SERVED TO INPATIENTS

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Hospital menus play an important role in patient recovery and well-being. Proper menu planning maintains the healthiness of patients, provided all food groups are included in the meals served. In Srinagar, there is rapid growth of hospitals. Patients visit hospitals, private clinics, nursing homes of the city and travel long distances to receive medical treatment. Patients often have a long or short stay at these hospitals. In most hospitals, patients have a short or long stay in hospitals. Hospitals are comprised of multispecialty wards, single speciality wards, maternity homes, paediatric hospitals. Meals are served to patients depending on the disease condition. Proper menus with inclusion of food groups are important as patients in hospitals are admitted for various illnesses. If patients are well fed, it helps him to achieve a good state of health. Therefore, the study was conducted to know the menu pattern in Srinagar hospitals. Srinagar is the capital of Jammu and Kashmir (India). In this study, a total of 11 hospitals were included in the study. All the hospitals taken for data collection were coded as H1-H11 in order to maintain confidentiality. Information was collected with a help of an interview method. A proper tool (interview schedule) was designed to meet the objective of the study. Questions were asked a dietician/head cook was interviewed and an informed consent was taken before collecting data. In this study, it was seen that the main meals, lunch and dinner, mostly consisted of rice, a pulse preparation and one vegetable preparation based on traditional Kashmiri meal. In all hospitals except one, menus were not based on the diet scale for each patient. The menu of six hospitals used seasonal vegetables round the year for meal preparation. Pulse was served in substitute of a non-vegetarian item at dinner. Milk, an important dietary constituent was not given to patients except in tea. At hospitals, beverages included tea or *namkeen* tea served to patients. Earlier patients were also given a glass of milk but due to low funds, milk had been excluded from the menu. In only one hospital, milk was given at breakfast. Pulse was served in substitute of a non-vegetarian item at dinner. Pulse intake in Kashmir is not so high because people are mostly non-vegetarians, but in hospitals due to low availability of funds, pulses were included in the hospital menus. Also, nutri nuggets were used in lieu of a vegetable preparation at other hospitals. Green leafy vegetables were given frequently twice or thrice a week. Fruit was never given at any hospital except at special occasions such as Eid. Hospital menus were the same in most hospitals with no special item on any day. It was reflected in the menus that fruit was not served in any hospital. A well balanced menu was seen in hospital H7 except fruits. Private hospitals included in the study had a static menu as the patient load was less. The diet scale of private hospitals was more liberal and balanced compared to H1, H2, H3, H4, H5 and H6. H7 had a balanced menu which included most of the food groups. This was possibly due to a proper dietetic department, involvement of dietitians and more financial allocation. It was thus concluded that a lacunae in terms of inclusion of food groups in the diets was evident at majority of the hospitals which needs proper consideration and attention. Well planned menus help patients to have faster recovery.

Keywords: Menu, Meal pattern, Hospital meals, In-patients, Srinagar

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INTRODUCTION

Hospital menus should be balanced with inclusion of all food groups so that it should suit the dietary and nutritional needs patients. Patient satisfaction with food and the menu is superfluous to intake. Menu pattern is an outline of the menu item, categories offered at each meal and the depth of choice within each category. Menu planning responsibility depends upon a team rather than an individual, practice that is essentially appropriate for a multiple unit of foodservice (Palacio and Theis, 2016). This must also be done after patients assessment. Healthy eating adds in recovery from illness (NHS Estates, 2003). The menu structure needs to consider the dietary needs of the patients with a hospital stay. If menus provide choices, it will help patients in improving their intakes. A combination of menu items like healthier eating options and energy and nutrient-dense options are helpful. A meal prepared for patient must be disease specific which will aid in recovery so it is important to plan menus specifically. Menu planning is time consuming task and requires good skill. For planning menus of hospitals, it requires experience and knowledge of dieticians and nutritionists who can perform this job efficiently as they have in depth knowledge on this particular area. Menus should be designed keeping in view the types of diet such as a general diet, prescribed diets (specific medical conditions) and modified consistency diets (liquid, soft and normal diets). In some countries, hospitals have a choice based menu where items are placed on menus with a brief description which enables patients to choose their meal. This is not possible in every hospital due to reasons (Cataldo, 1999). Menu structure may vary between hospitals and patient satisfaction is primarily influenced by the menus and food quality according to Watters *et al.* (2003). Nowadays, some upcoming hospitals in this era have choice based menus, restaurants style menus, menus for textured modified diet and for specific therapeutic diets. This type of service is not visible in every hospital as such facilities are provided by hospitals with good funding. The food service and therapeutic department which are meant for patient's meal service must ensure the menus are nutritionally adequate to maintain health or recover from illness or injury. Proper food consumption and palatability is essential to ensure patients consume a variety of food as given to them according to their medical status.

Dietitians must use hospital menus during counselling sessions with patients. Besides this, patients may use their meal tickets to understand the foods they should select

when discharged. Diet clerks must be appointed who receive the phone calls employ a script and obtain patient satisfaction data (Sheehan-Smith, 2006).

A sensory evaluation by foodservice staff to check quality prior to serving meals as a method for flavor, aroma, texture, and appearance assures that menu items are quality based served to patients (Greig, 2016). Sensory evaluation of menu items should be consistent in food service units (Payne-Palacio and Theis, 2005). Payne-Palacio and Theis (2008) believe the menu is the single most important planning tool in a foodservice operation because it drives operations and is a tool for controlling food, labour, equipment and other costs (Payne-Palacio and Theis, 2005). A therapeutic menu is planned according to the diet prescribed by dieticians to meet medical/nutritional needs (The Scottish Government, 2008). In hospital diets a regular menu is also served without any dietary modifications (Payne-Palacio and Theis, 2005). Some hospitalised patients require diets which is easy to chew, and in the form of minced or pureed texture (Nutrition and Food services, 2015). Non-select menu are not choice based menus (Khan, 1990)

OBJECTIVE OF THE STUDY

To know the menu patterns of hospitals in Srinagar

MATERIALS AND METHODS

The Kashmiris are essentially rice eaters and non-vegetarians. The daily food of typical Kashmiri meal is rice and is replaced by wheat in a regular meal usually in the form of *girda* a *tandoori* roti, or only on medical advice or when rice is in short supply. Planning meals in a hospital is an important function of food service management. When hospital services are being observed, and often judged, nothing rates more praise or blame from patients and staff than the meals that are served to them. Very little data is available on the menu patterns of these hospitals. The study entitled "menu pattern of hospital meals served to inpatients." A total of 11 hospitals were included in the study. Hospitals were coded (H1-H11) so as to maintain confidentiality. A proper tool (interview schedule) was designed to meet the objective of the study. Questions were asked a dietician/head cook was interviewed and an informed consent was taken before collecting data. An informed consent was taken from the subjects. Only those hospitals were included which served food to patients. In order to gather information, an interview method was used to collect data from dietitians/head cooks in these hospitals. Head

cooks were interviewed as some hospitals did not have dietitians. Data was collected on the menu pattern followed and diet scale used in these hospitals.

Data Management

The study, an exploratory one was intended to know the menu pattern of hospitals in Srinagar. The responses of people designated for planning menus were transferred on an Excel spread sheet and analysed in the form of percentages. These were further put in the form of figures and tables.

Scoring was based on the scoring pattern developed, for various aspects of menu planning were compared across the hospitals investigated as well as total scores of each aspect, were compared. An overall scoring pattern ranging from 0-2 was used. Individual questions asked under different aspects received a score of 1 if the response was „Yes and 0 if the response was „No . An overall score of 2 was given for e”2/3rd FSU aspects and facilities; a score of 1 for 1/3rd and d”2/3rd and 0 given for < 1/3rd of FSU aspects and facilities. Overall scores of each aspect of nutrition services and the total scores of each hospital were used to evaluate the nutrition services and provide pointers for developing the recommendations for improving nutrition services in Srinagar.

RESULTS AND DISCUSSION

Hospital Menu

Two types of menus are commonly used in hospitals namely cyclic and static menus (Palachio and Theis, 2012). Cycle menu is a planned set of menu that is rotated at definite time intervals of a few days or weeks. The length of the cycle depends on the type of food service operation. In the present study, most of the hospitals had a cyclic menu and the time duration was one month. As seen from Figure 1, 64% of

hospitals (H1, H2, H3, H4, H5, H6 and H7) used cyclic menus. At H1, H3, H4, H5, H6 and H7, the duration of cyclic menu was monthly. At H2, the duration of cyclic menu was for just 1 week. It is desirable to have cycle menus for at least two to four weeks to avoid menu boredom for patients who stay for longer period.

Cyclic menu is also very advantageous. The planner has more time for creative thinking in terms of adjustments that become necessary in case of holidays, special circumstances, staff shortage, delays in deliveries, and so on (Sethi, 2011).

Static menu, or set menu, means that the same menu is used each day. Many hospitals use this menu where patients have shorter stay. In the present study, 36% hospitals (H8, H9, H10 and H11) had static menus and did not use cycle menu as the patient load was less (Figure 1).

A well balanced menu provides good nutrition to the patients. It emerged in the study that unbalanced menus were an outcome of low availability of funds allotted for food budget. From Figure 2, it is seen that 90% of the hospitals (H1-H6 and H8 H11) had unbalanced menus. Only hospital (H7) had a good menu which met the requirements and essential needs for patients. All the food groups were included in the hospital menu. It may thus be concluded that, most of the hospitals provided 4 meals a day. H1-H6 and H8-H11, menus were unbalanced in terms of inclusion of milk, dairy products and vegetable in 2 hospitals. Fruit was not served at any hospital. H7 had a good menu which met the requirements and essential needs of patients. But, a lacuna in terms of inclusion of food groups in the diets was evident which needs proper consideration and attention.

Figure 1: Type of Menu in the Hospitals (n = 11)

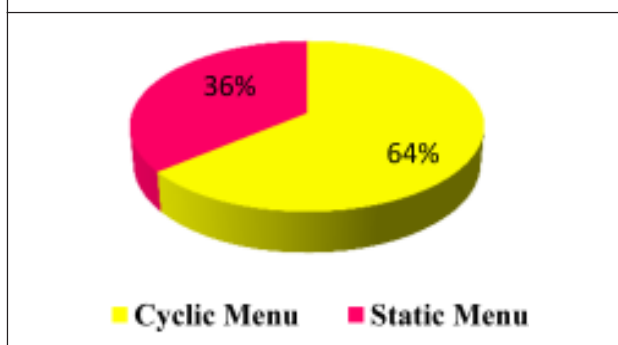
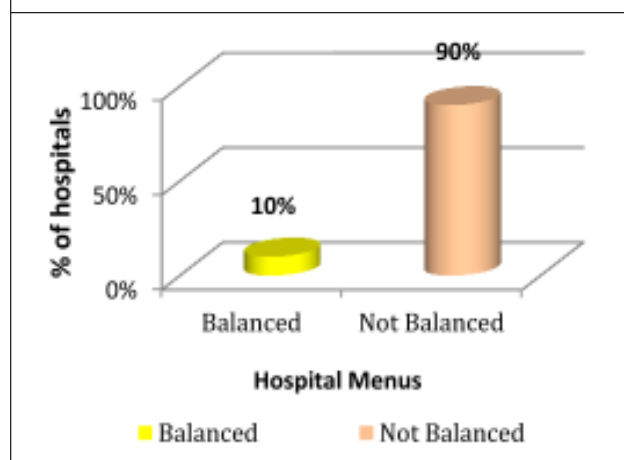


Figure 2: Menu Status of Hospitals



Planning of Menus

In the present study, in all the four hospitals (H1, H2, H7 and H11) that employed dietitians, only three (H1, H2, H7) had entrusted the dietician with the responsibility of planning the menus. In the fourth hospital (H11), menus were planned by the kitchen manager despite the presence of a trained dietician. This was not desirable, considering that patients were mainly suffering from cardiac and GI diseases. At H3, H4, H5 and H6, the menu was drafted by the kitchen manager in co-ordination with the medical officer, while in the other four private hospitals (H8, H9, H10 and H11), the menu was planned by the directors in direct co-ordination with the head cook.

The present study illustrates that while planning menus for the patients, considerations like meal presentation, quality and patient recovery were considered. Patient's likes and dislikes were not asked at any of the hospitals. Appetizing meals were prepared daily. Food was inspected by the food service workers at every meal hour to check food appearance, taste, texture, safety, tray appearances and tray accuracy at all the hospitals. The scores for these aspects are presented in Table 1.

As seen from Table 1, all hospitals scored 2 as these aspects were considered while planning menus. Only one aspect, that is, likes and dislikes was not considered, as it was mostly considered impractical.

Menu Pattern Followed in Hospitals

The menu pattern is an outline of the menu item categories offered at each meal and the depth of choice within each category (Palachio and Theis, 2012). In hospitals, menus are based on the diet scale for each patient. In hospitals H1,

H2, H3, H4, H5, H6 (government hospitals), the menu was similar in terms of menu pattern and the diet scale (Table 2). The menu of these six hospitals used seasonal vegetables (both in summer and winter), *dals* such as *masur*, *moong*, *channa*, *rajma* and peas in their diet. Tea or bread was also served in the breakfast and in the evening.

The salient features of the menu at the various hospitals are indicated in Tables 2 to 3.

It was seen that the main meals, lunch and dinner, mostly consisted of rice, a pulse preparation and one vegetable preparation based on traditional Kashmiri meal. Milk, an important dietary constituent was not given to patients except in tea. In only one hospital, H2, milk was given at breakfast. At H4, pulse was served in substitute of a non-vegetarian item at dinner. Also, nutri nuggets were used in lieu of a vegetable preparation at H5 and H1. Green leafy vegetables were given frequently twice or thrice a week. Fruit was never given at any hospital except at special occasions such as Eid. It was also seen that at all the hospitals, menus were the same with no special item on any day.

At hospital H7, a multi-speciality one, menus were planned by the chief dietician and the senior dietitians and followed proper diet prescriptions collected from various wards to prepare nutritious and therapeutic meals for patients. The ward dietitians gave written dietary requirements to the stewards and this was further incorporated in the preparation of meals for patients. Potato, tomatoes, onion, garlic and ginger were supplied daily. Salad vegetables for therapeutic diet were also included in the diet supplied daily. In this hospital, the meals were balanced

Table 1: Scores for Various Aspects of Menu Planning

Aspects considered in menu planning	Hospitals (n=11)											Total
	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	
Presentation, quality, service	1	1	1	1	1	1	1	1	1	1	1	11
Service and cost	1	1	1	1	1	1	1	1	1	1	1	11
Likes and dislikes	0	0	0	0	0	0	0	0	0	0	0	0
Appetizing	1	1	1	1	1	1	1	1	1	1	1	11
Total	4	4	4	4	4	4	4	4	4	4	4	
Overall Score* based on menu planning	2	2	2	2	2	2	2	2	2	2	2	
<i>Overall score: *for $\geq 2/3^{rd}$ aspects on menu planning a score of 2 given; for $1/3^{rd}$ and $< 2/3^{rd}$ a score of 1 and $< 1/3$ a score of 0 given</i>												

Table 2: General Menu Pattern for H1 to H6

Hospitals	Breakfast	Lunch	Tea	Dinner
H1	Tea, Bread	Cereals, Pulse, Vegetables	Tea, Bread	Cereal, Pulse, 1 Vegetable
H2	Milk	Cereals, Pulse, Vegetables	-	Cereals, Pulse, Vegetables
H3	Tea, Bread	Cereals, Pulse, Vegetable	Tea Bread	Cereals, Pulse, Vegetables
H4	Tea, Bread	Cereals, Nutri nuggets twice/week, Vegetables	Tea Bread	Cereals, Pulse, Vegetables
H5	Tea, Bread	Cereals, Pulse, Vegetables	Tea Bread	Cereals, Pulse, Vegetables
H6	Tea, Bread	Cereals, Pulse (4 times/week), Vegetables	Tea Bread	Cereals, Pulse, Vegetables

Table 3: Sample Menu for H7

Hospital	Breakfast	Lunch	Tea	Dinner
H7	Tea/Milk, bread slice/ butter/jam	Cereals, Pulse, Vegetables, non-vegetarian, salad and curd	Tea/Milk, bread slice/ butter/jam/ biscuits	Cereals, Pulse, Vegetables, salad and curd

but fruit was not included thus providing good nutrition care to patients in terms of a balanced diet, as indicated in Table 3.

At all the hospitals all food groups were not included in the diet for the patients. In cereals, rice and bread was given to patients. In vegetables, all seasonal vegetables were served daily. Fruits were given only on occasions such as Eid. Dairy products were served at H2 and H7 only. All the hospitals served cereals to patients. The menu was different at all the hospitals, but included mostly the same items. Pulses were served to patients like *rajma*, *channa dal*, peas, lentils, *moong dal* and black *channa*. Mutton was served at hospital H7, H8, H9, H10 and H11.

At other hospitals, mutton was served on occasions such as Eid. Dairy products like curd and paneer besides milk was served at hospital H7.

The other four private hospitals as seen in Table 4 (H8, H9, H10 and H11) had a static menu as the patient load was less. Tea, bread slice and biscuits were served at breakfast and tea time. Bland soups (chicken and mutton) were included in the lunch and dinner time along with bread slice or rice. At H8, H9, H10 similar menus which offered very little variety were served to patients daily. Therefore, it may be concluded that balanced menus were a lacuna which needed consideration.

Table 4: Sample Menu for H8, H9, H10 and H11

Hospitals	Breakfast	Lunch	Tea	Dinner
H8, H9, H10, H11	Tea/bread slice/butter / biscuit	Rice /Bread Slice/Bland mutton soup/ chicken soup/ vegetable soup (H10) bread slice Tea and biscuit	Tea/bread slice/ biscuit	Rice /Bland mutton/ chicken soup/ bread slice Tea and biscuit

Diet Scale

Diet scale in the hospitals (H1 to H6) was given by the government (Table 5). The diet scale order specified the food allowance per patient as raw rice (250 grams), vegetable (125 grams) and *dal* (60 grams), which should be served in the daily menu (normal/regular full diet) of patients. However, it was seen from the menu plans of these hospitals that the allowance did not permit salads, curd and fruits which were found lacking in the menu. Vegetables and fruits play an important role in the diet providing both macro and micro nutrients for the body.

FOOD ITEM	Amount
Rice (raw)	250 g
Vegetable	125 g
<i>Dal</i>	60 g

The diet scale of H7 is given in Table 6. As there was a fixed menu followed, individual patient choices could not be catered to. The diet scale per person/day was allotted internally by the administration. It even specified the amount of condiments and spices allocated per patient/day. The diet scale was more liberal and balanced compared to H1, H2, H3, H4, H5 and H6. H7 had a balanced menu which included most of the food groups. This was possibly due to a proper dietetic department, involvement of dietitians and more financial allocation.

Diet scale of the three private hospitals (H8, H10 and H11) was similar (Table 7). At H9, there was no diet scale for the patients. The diets did not include food items from all the food groups, with the exception of H7. Fruit was lacking in the diet in all the hospitals. Dairy products were lacking in 9 hospitals. The diet scale determines the menu and it is unfortunate that the diet scale did not include adequate fruit and dairy products.

Diet scale used in the hospital (H1-H6) was given by the government. Hospitals H7-H11 had their own diet scales, allotted internally by the administration. The diet scale determines the menu and it was unfortunate that the diet scales did not have adequate fruit and dairy products except at 1 hospital (H7) which had a balanced diet scale. The concerned authorities hence need to be sensitized to the inclusion of all food groups in the diet scale.

Menu and Meal Pattern

A meal plan refers to the number of meal opportunities

Table 6: Diet Scale of H7

Food item	Amount in grams General Ward
Bread	4 slices – 120g
Milk	1 cup – 100 ml
Butter /jam	10 g
Sugar	10g
Rice	400g
Mutton/chicken	125g
Cheese	50g
Pulses	40g
Vegetables	200g
Oil	30g
Tea leaves	02g
Egg	1 no–50 g
Aniseed	½ g
Turmeric powder	03g
<i>Mirchi</i>	1.5g
<i>Dhania</i>	1.5g
<i>Zeera</i>	½ g
Condiments	½ g
Ginger fresh	02g
Garlic	02g
Salt	15g

Table 7: Diet Scale of H8, H10 and H11

Food item	Amount in grams
Rice	200 g
Bread slice	2-60 g
Biscuit	4-20 g
Chicken/mutton	60g
Tea	1 cup-10 ml

offered over a specific period of time, usually 24 hours. For example, a small cafe may offer only breakfast and lunch; a day care center may offer two snacks and lunch; and a long term care facility (hospitals) breakfast, lunch, evening tea and dinner (Palachio and Theis, 2012).

At all the hospitals, all food groups were not included in the diet for the patients. It emerged in the study that

unbalanced menus were seen as a result of low availability of funds allotted in the food budget. Here, Hospital H7 had a good menu with all food groups included which met the requirements and essential needs for patients. Most of the hospitals provided 4 meals a day. Thus, a lacuna in terms of inclusion of food groups in the diets was evident at majority of the hospitals (n = 10) which needs proper consideration and attention.

The patients normally had 4 meal pattern comprising of breakfast, lunch, evening tea and dinner in the present study. Tables 2, 3 and 4 shows that in all the hospitals H1, H3, H4, H5, H6, H7, H8, H9, H10 and H11 except H2, menu contained a four meal pattern. H2 did not include evening tea in the patients meal

CONCLUSION

From the above results, it may be concluded that the menu pattern of all the hospitals were not balanced and except 1 hospital (H7) and therapeutic diets were only provided at this 1 hospital. H3 also had a diet clerk who co-ordinated with CMO on typing out menus. At hospital H7, hospital administrators co-ordinated with the dietitians frequently. Discussions were basically on menu plans, nutrition counselling and other operational activities in the dietetics department. H2-need for dietitians and change in menu. At H1, dietician planned the menu and directed the workers in the kitchen in preparing meals for patients and sometimes gave nutrition counselling to patients. H11 dietician, did not plan the menu or direct the workers in the kitchen in preparing meals for patients, indicating that the hospital was not obtaining the full benefits of having a dietician and had appointed her only for diet counselling. There was insufficient variety in meals due to various factors. The hospital services were unable to provide variety in meals to patients because of financial constraints and a fixed menu. Hospital authorities need to be sensitized about adequate inclusion of seasonal and less expensive fruits in the hospital menu, on a daily basis.

Diet scale used in the hospital (H1-H6) was given by the government. Hospitals H7-H11 had their own diet scales, allotted internally by the administration. The diet scale determines the menu and it was unfortunate that the diet scales did not have adequate fruit and dairy products except at 1 hospital (H7) which had a balanced diet scale. The concerned authorities hence need to be sensitized to the inclusion of all food groups in the diet scale. Other hospitals served only normal and bland diets. It was thus concluded

that a lacunae in terms of inclusion of food groups in the diets was evident at majority of the hospitals which needs proper consideration and attention. This can be achieved with the help of a team of dieticians.

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