Implementation of Diet Therapy Program in a Healthcare Facility

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Introduction

Good nutrition is important for health as body is designed to use the nutrients to the good life of a health consumer or client. But, knowing these aspects alone will lead us to have only half-a-knowledge on the subject of Applied Nutrition & Dietetics. Nutrition in disease or a diseased state of condition, will have to be focused in order to enhance the health status of an unhealthy client. Therapeutic nutrition or Diet therapy involves applying dietary change as a result of illness and/or to encourage independence or improve a handicapped individual’s quality of life. Nutrition is rarely a primary treatment, and, food is not used as a medicine, but is a very important part of medical care. The diet may be changed to help make a certain treatment as effective as possible. Normal nutrition becomes therapeutic nutrition when something goes wrong.

Frequently, the first persons to help a client adjust to a new diet are the persons in a healthcare facility, such as a hospital, health center, residential school for handicapped individuals, or a nursing home. The body may become less able to receive, utilise, breakdown, control or excrete some nutrient or nutrients. The problem may be caused by disease, allergy, psychosocial questions, a physical handicap or a combination of factors. A therapeutic diet is one that controls certain nutrients. Some therapies involve control of one or two nutrients; other therapies require a rearrangement or many factors. When a client is placed on a certain diet, it may be of more immediate importance to learn exactly what this means, in terms of menu planning, than to fully understand the disease. Once his health stabilizes, then there is time to understand the disease in more detail. Therapeutic nutrition usually begins when a client receives some type of medical care. He may not change his normal eating habits (his diet) unless the physician says that change is necessary. [1]

A study, published in year 2002, undertaken on geriatric in-patients aged 60 years and above, in a medical college teaching hospital, 28% of study population gave a frank opinion on dietary services (precisely on diet provided) as not satisfactory and this was the highest unsatisfactory rate amongst queries on Nursing Care, Ward Boys hospitality, Doctor’s care etc. When additional facilities and needs required were asked 70% of them said they would require one prayer hall in the hospital and 62% of the study population asked for a separate dining room. In both these situations the dietary requirements were stressed highest by the patients & visitors. [2] This stresses the importance of ideal dietary department and the preferences of people when they visit healthcare institutions.

Our article discusses the immense need in streamlining the Dietary services in a multi-specialty tertiary care teaching hospital. There is urgent need to change the mindset of the people administering the dietary services in a hospital and look at the subject more as a holistic approach to the good health of an ailing patient. As Accreditation Boards across the world currently impart heavy importance on nutritional assessment of each and every in-hospital stay patient, the results are being monitored by the number of cases that are being missed any kind of nutritional assessment in the medical records within 2 hours to 6 hours of getting admitted into the hospital. This is being requiring mandatory verification during the regular medical care review meetings or mortality care audits by the Medical care review committee of the hospitals.

Objectives: This study has its objectives as:
1) The composition of Dietary Team in a hospital and their responsibilities.
2) The Diet Order - Preparation & implementation of a Diet Order, for both regular and special diets for a patient.
3) The importance of Nutritional assessment and the types of assessment that needs to be done to have a holistic idea of dietary therapy.
4) Growing importance of food preparation in hospital with an idea of cultural influence on dietary intake of people.

The methods used to study are the observations in a multi-specialty hospital, on the practices of the dietary team of a hospital. There were regular panel of discussions held with the Chief Dietitian in understanding how these practices came into existence. The implementation of diet order for each patient was observed. The importance of Nutritional Counseling and the methods used in assessment of nutritional assessment of client was studied. The
timings of service and the processing of food was observed.

Observations and Discussion

This hospital has a catchment area of patients from all across Deccan plateau. Most of the patients and visitors come from the state of Kerala, the Malabar coast. The food preferences in this belt vary from the rest of the Deccan plateau in the sense that lot of coconut derivatives are used in the preparations. Due to the abundant availability of the same in the area and the pattern of consumption ingrained into the culture of people in the state, it does have a bearing on the dietary services of the hospital. There are many studies which interpreted on the high usage of coconut in diet affects the morbidity profile of people. A 2006 study in the “Journal of Indian Academy of Clinical Medicine” argues that coconut oil is a medium-chain fatty acid that helps control weight gain by stimulating your metabolism. If you use large amounts of coconut oil, have your physician check your cholesterol levels on a regular basis.[3]

The American Heart Association recommends monitoring your intake of coconut, which contains high amounts of saturated fat. This type of fat elevates your low-density lipoprotein, or LDL, cholesterol levels, which increases your risk of heart disease. Coconut oil contains 11 g of saturated fat per tablespoon, while shredded coconut has 16 g of saturated fat per ounce. Limiting your daily intake of saturated fat to less than 7 percent of your total calories can help keep your LDL cholesterol at a healthy level [4].

The Diet program in this hospital is instructed by the treating physician in the medical record sheet at the time of first nutritional assessment that happens within 6 hours of admission into the wards. The treating physician, the clinical dietitian & the Staff Nurse form the dietary team for the patient. A Dietary requisition slip is issued against the name of the patient which has the columns mentioned as General Diet, Special Diet and Special instructions in preparation of such diets. These forms are with the Nursing in-charge of the ward in the ward inventory. In case of Special diet requests the intimation is immediately sent to the Dietitians. There are 8 clinical dietitians for the hospital. These dietitians are ear-marked for various blocks of the hospital and they are on rotation basis for a month period. The Dietitians do take rounds of their respective areas and during these rounds the nutritional counseling sessions are planned with the patients. In case of special diets the dietitians explain in the kitchen to prepare the specific diets – liquid, semi-solid and solid type, food for parenteral feeds etc. Special diets have different color Order sheets which will be retained in the medical record as a constant reminder to the clinical team who are providing the treatment. There are separate 1-page write-ups on each special diet with the Dietitians in their department for their usage on Low-cholesterol, Low Fat, Low Carbohydrate diet, Gluten-Free diet, Diet for Cirrhosis, Renal Diet, Gout Diet etc. Each write up has instructions such as Foods to be Avoided, Foods that can be consumed to get the therapeutic dietary prescription, Instructions to follow on preparation of such special diets.

A format for Low Fat, Low Cholesterol, Low Carbohydrate Diet is as below:

**FOODS TO AVOID:**
1) Sugar, Honey, Glucose, Jams, Jellies, Jaggery, All Sweets.
2) Potato, Tapioca, Yam, Colacasia, Pickles, Oily Gravies.
3) Coconut Oil, Coconut milk, All fried foods.
4) Concentrated Milk products like khoa, cream, boost, bournvita etc.
5) Mutton, Beef, Port, Egg Yolk, Bottled drinks like Fanta, Pepsi et.
6) Bakery products like Cakes and Pastries, Dried fruits and Nuts.

**FOODS ALLOWED:**
1) Green Leafy Vegetables, Vegetable salads, clear vegetable soup.
2) Boiled vegetables of potato, yam, tapioca.
3) Plain Soda Water and Lime & tomato juice.

**INSTRUCTIONS TO FOLLOW:**
1) Only refined oil should be used for cooking. Allowance per day of 3 to 4 teaspoon (15-20 ml).
2) Intake of whole milk (including milk preparations) should not exceed 300 ml per day.

The general diet is provided to the in-patients of the hospital at these timings:

6:00 AM - Milk / Tea / Coffee
7:30 AM to 8:00 AM – Bread Or Idli/Chapati Or Dosa with chutney or Upma, Or Bread (Half-inch slices) and Milk / Tea / Coffee
10:00 AM to 11:00 AM – Fruit/Biscuits and Milk/Tea/Coffee
12:30 PM to 1:00 PM - Rice and Chapati or ragi mudde with Dal, Vegetable, Non-vegetarian (skin out chicken or fish), Curds or Buttermilk.
4:00 PM - Milk / Tea / Coffee
7:30 PM to 8:00 PM - Rice and Chapati or ragi mudde with Dal, Vegetable, Non-vegetarian (skin out chicken or fish), Curds or Buttermilk.
9:00 PM - Milk

The Dietary Team in a Hospital: [1]
Supportive, optimal nutrition for a hospital client requires good communication between the people responsible for healthcare. These people make up the healthcare team implementing dietary programs.

The Physician is the Head of the team, the person who diagnoses the client’s diseases and recommends supportive treatment. The physician orders support care, including the most appropriate diet for the client, often working together with a clinical dietitian to develop the diet. The treating physician for the particular patient becomes the person responsible for all side effects related to the patient.

The Clinical Dietitian follows the client’s progress and works with the rest of the team whenever changes occur. The dietitian is the most important contact person between the client and the kitchen. The dietitian must approve the client’s special requests and make sure they are processed so that the right food arrives in the right room at the right time.[1]

The Nurse is another key member of the team. She sees the client more often than either the physician or dietitian because she is responsible for daily basic care. She will be the first to learn of special problems or concerns the client has about the diet or about medical care. She is responsible for carrying out the doctor’s orders for medication, treatments, and feeding. If she communicates well to other nurses responsible for the client’s care and to the rest of the team, the client is most likely to enjoy the best possible care.[1]

**Communication among team members occurs in several ways:**[1]

1. Written information in the client’s medical record. The latter being a legal document it is essential for all team members to place on record the co-ordinated care. Good care depends on an up-to-date knowledge of the client and his medical record.
2. Formal meetings of the team.
3. Communications, often on tape or on notes, used by nursing staff between shifts, informing the progress of client in her care.
4. Informal conversations.

**Clinical dietitians:**[5, 6]

Clinical dietitians work in hospitals, nursing care facilities and other health care facilities to provide nutrition therapy to patients with a variety of health conditions, and provide dietary consultations to patients and their families. They confer with other health care professionals to review patients’ medical charts and develop individual plans to meet nutritional requirements. Some clinical dietitians will also create charts and develop individual plans to meet nutritional requirements. Some clinical dietitians have dual responsibilities with patient nutrition therapy and in foodservice or research.[6]

**The Diet Order:**[1]

When the client first arrives, the physician examines him, and a diet order is issued. This describes the type of diet the physician feels the client needs. The order is then written on “Kardexes” (large, flat card files) of the nursing staff and dietary staff. The dietitian may use it to evaluate the client’s menus. A full-time dietitian provides patient care services by assessing the nutritional needs, providing education, and ensuring the right diet is ordered for each patient. She may explain any restrictions or needs to the client and correct choices that are not appropriate for the special diet. **The Diet Order may include:**

1. An Order that certain nutrients be controlled. For eg. A strict salt restriction may read “1 gram sodium”. A mild restriction may say “no added salt”.
2. Method of feeding, especially if a client is unable to eat. This would be necessary if the client were receiving nutrients by a tube into his digestive tract or into a blood vessel.
3. Times and / or frequency of feeding, if the client needs nutrients at specific intervals or not at standard hospital meal times. Tube feedings are often given at specific intervals.
4. Special products to be used, either as supplements or total intake.

A Diet Order will not:

1. List all foods the client may or may not eat.
2. Describe in detail how to feed the client.
3. List hours when the client must eat; it will list frequency, for eg. “q 2 hours” (q meaning every).
4. Describe how to prepare special products.

Some of the Diet Orders and what they mean are listed below:[1]

(illustration)

**Nutrition Counseling:**[1]

Counseling is a fine art. It is not just teaching and it not simply listening, but rather is a sensitive combination of both. Effective counseling takes months and even years of practice and constant critical improvement. Nutrition counseling involves three basic skills: Assessing, Interpreting, and Teaching. All three require careful and sensitive listening.

1. **Assessment:** This involves asking unbiased,
pointed questions about current nutrition related practices, generally questions should have descriptive answers instead of “Yes” or “No”. These questions generally begin with words such as What, When, Where, Who or Tell me about etc.

**NUTRITIONAL ASSESSMENT: SAMPLE QUESTIONS:**

1. What did the doctor tell you about diet and (medical problem)?
2. What does your family think about (diet or nutritional problem)?
3. Are you happy with your weight? Why or Why not?
4. How is your appetite?
5. What medications do you take?
6. What kind of work do you do? When do you eat?
7. How many people are in your house? Who does the cooking?
8. How often do you eat/drink? (This is a key question. The counselor may—if there is time—ask this about many different foods. This information helps assess likes and dislikes and can later be used to plan meals).
9. Do you take any vitamins? What kinds? How much?
10. Do you smoke cigarettes? How much?
11. Do you get any exercise? What kind? How often? How long?

As these questions are answered, the counselor should never say, “good,” nor express any kind of disapproval. Value judgments—even when they are very subtle—may cause the client to tell the counselor only what he thinks the counselor will approve.

**2) Diagnosing (or Interpreting):** Listen to the client, remember (or jot down) what he says, and especially note potential problem areas in nutrition that will need to be discussed. Never assume, rather clarify points by asking more questions. They may be Open Questions (that can’t be answered by Yes or No) or Closed, Directed Questions (which must be answered by Yes or No). Assess motivation; Who wants change: the physician, the family or the client? Why? What are the social barriers and how can they be overcome?

**3) Prescribe, Teach and Discuss:** Since it is the reason for assessment and interpretation involves teaching, discussing and reaching an agreement about what the client will do now. In this phase the counselor should;

a. Sum up the most relevant points of the assessment. This is the time to praise any part of the diet that is praiseworthy.

b. Outline diet recommendations. What needs to be changed?

c. Explain why these changes are important and why they are recommended for this individual.

d. Discuss the recommendations and translate them into a diet, menu, set of guidelines, or a specific list of foods and behaviors.

e. Place final responsibility on the client and/or primary caretaker. Let them talk. Negotiate if necessary. Never judge. A Nutrition Counselor is an educated advisor; the client has the ultimate right to make or refuse change in his eating behavior. The only changes that will last are the changes in which he (the client) believes.

**Choice of Dietary Analysis Software:**[7]

Many computer packages have been developed that include both a nutrient composition database and software to convert individual responses to specific foods and, ultimately, to nutrients. Computerized data processing requires creating a file that includes a food code and an amount consumed for each food reported. Computer software then links the nutrient composition of each food on the separate nutrient composition database file, converts the amount reported to multiples of 100 g, multiplies by that factor, stores that information, and sums across all foods for each nutrient for each individual.

A listing of many commercial dietary analysis software products was made available in 2006 [8]. Software should be chosen on the basis of the research needs, the level of detail necessary, the quality of the nutrient composition database, and the hardware and software requirements.[9] If precise nutrient information is required, it is important that the system is able to expand to incorporate information about newer foods in the marketplace and to integrate detailed information about food preparation (e.g., homemade stew) by processing recipe information. Sometimes the study purpose requires analysis of dietary data to derive intake estimates not only for nutrients but also for food groups (e.g., fruits and vegetables), food components other than standard nutrients (e.g., nitrates), or food characteristics (e.g., fried foods). These additional requirements limit the choice of appropriate software. The automated food coding system used for the NHANES is the USDA’s AMPM [10]. The AMPM is a network dietary coding system that provides online coding, recipe modification and development, data editing and management, and nutrient analysis of dietary data with multiple user access to manage the survey activities. It is available to government agencies and the general public only through special arrangement with USDA. A similar program is available in a commercial software program called the Food Intake Analysis System available from the University of Texas.[11] Many diet history and food frequency instruments have also been automated. Users of these software packages should be aware of the source of information in the nutrient database and the assumptions about the
nutrient content of each food item listed in the questionnaire. Nearly all studies using dietary information about subjects rely on the subjects’ own reports of their diets. Because such reports are based on complex cognitive processes, it is important to understand and take advantage of what is known about how respondents remember dietary information and how that information is retrieved and reported to the investigator.

Cultural Aspects of Dietary Planning:
To plan diets for individuals or groups that are appropriate from a health and nutrition perspective, it is important that nutritionists and health professionals develop cultural awareness (cultural competency) and use resources that are targeted to the specific client or group. Numerous population sub-groups throughout the world have specific cultural, ethnic, or religious beliefs and practices to consider in a health care setting. These groups have their own set of dietary practices or beliefs, which are important when considering dietary planning. The cultural aspects of dietary planning may also include vegetarianism, ethnic heritage practices, and religious customs or rules.

Diets across India have not been widely investigated, yet many believe that India may be in the midst of a "nutrition transition," [12, 13, 14] where changes in diet parallel an expanding industrial economy and a rapidly progressing epidemic of obesity and chronic, non-communicable disease. A major consideration needs to be given for religious beliefs that affect dietary pattern. With emergence of medical tourism in India with a great business potential the dietary patterns of various communities need to be had in the big picture of setting up a dietary department in a hospital. Though, there are not many studies but underlying the importance of this aspect, few authors in hospitals abroad have studied the dietary preferences of Asian Americans of Indian origin. Hospital food can present a problem for Asian Indians, particularly those who strictly observe religious dietary restrictions. Hospital meals may also be too bland for most Asian Indians. Many will prefer to know whether the food served to them contains beef as beef is forbidden for Asian Hindus. Foods containing pork are prohibited for Muslims who follow religiously prescribed diet.[15]

Health providers should respect these practices if the patient's medical condition can tolerate it. Nutrition should be taught based on the cultural diet of the patient. Many elderly do not prefer counseling as an option for problem resolution.[15]

As per Kittler PG & Sucher KP, the following are the findings of dietary habits in people of various religions, in US & Canada. [16, 17]
X - Prohibited or Strongly discouraged
A - Avoided by the most devout
R - Some restrictions regarding types of foods of when a food may be eaten
O - Permitted, but, may be avoided at some observances.
+ - Practiced. Fasting varies from partial (abstention from certain foods or meals) to complete (no food or drinks) (Illustration 2)

As per Jewish dietary laws, it is biblical ordinances that include rules regarding food, chiefly about selection, slaughter and preparation of meat. Meat and milk cannot be combined in the same meal. After eating meat, a person must wait 6 hours before consuming milk products. Islam promotes the concept of “eating to live”. The flesh of animals slaughtered in a humane way as outlined by Islamic law is considered halal. Muslims are advised to stop eating while they are still hungry and always to share food.

Conclusion

Combination of palatability with proper balance of nutrients in food is essential for healthy life. Moderation rather than elimination or addition is the guiding principle. As one of the hospitals in India circulate to their cardiac patients in their information brochures as “No Hurry, No Worry & No Curry” as the tag-line to reduce the modifiable risk factors in the incidence of coronary artery diseases, moderation of all such dietary content is very important. Malnutrition (over or under Nutrition) predisposes the body to many risk factors. Each diet should provide all required essential nutrients in appropriate proportions in relation to the disease for which it is prescribed. In particular it must be suitable for patient with respect to cost, personal preference and any religious obligations. Frequently this calls for ingenuity on the part of dietitian who must have knowledge of the nutritional implications of disease, the nutritional requirement of the patient and the nutrient content of food. Especially important is the ability to communicate in a practical, persuasive and interesting way. Hence, the Dietary team who has this skills to communicate, the instructions that are passed on, the medium of communication, the dietary order sheets, nutritional counseling are all important in implementing Dietary therapy program in a healthcare facility. Each institution will have slightly different methods for applying diet therapy, but the principles and roles of the members of the medical team remain the same. It
is up to the health care team to teach a patient and his family how to make arrangements to apply the same care at home.

Every institution should have a “Diet Manual”, which has specific instructions concerning how to follow and apply a particular diet order in that institution. Institutions that do not have their own manual may routinely use one published by another institution. The Physician’s Desk Reference (PDR) which is large manual published yearly with detail on every available drug lists potential drug-food interactions.

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## Illustrations

### Illustration 1

<table>
<thead>
<tr>
<th>Order</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPO</td>
<td>“Nil Per Os”, which means nothing by mouth. This may or may not include plain water.</td>
</tr>
<tr>
<td>Clear Liquid</td>
<td>All liquids transparent at body temperature are permitted, but no other foods or beverages. This diet may provide sugar as the only source of calories.</td>
</tr>
<tr>
<td>Full Liquid</td>
<td>Only liquids or foods that become liquid at body temperature. Often includes milk products as main source.</td>
</tr>
<tr>
<td>Soft Diet</td>
<td>Foods that require little chewing and are well absorbed in the digestive tract. This diet may be low in fiber.</td>
</tr>
<tr>
<td>“x” – free diet</td>
<td>Diet which include no “x” in the diet. Dietitian applies the order and helps nursing staff with list of foods to avoid.</td>
</tr>
</tbody>
</table>
### Illustration 2

#### Table: Dietary Restrictions

<table>
<thead>
<tr>
<th></th>
<th>Buddhist</th>
<th>Hindu</th>
<th>Jewish</th>
<th>Moslem</th>
<th>Christian</th>
<th>Roman</th>
<th>Catholic</th>
<th>Christian</th>
<th>Seventh Day</th>
<th>Adventist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef</td>
<td>A</td>
<td>X</td>
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<td>A</td>
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<tr>
<td>Pork</td>
<td>A</td>
<td>A</td>
<td>X</td>
<td>R</td>
<td>R</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Meats, All</td>
<td>A</td>
<td>A</td>
<td>R</td>
<td></td>
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<td></td>
<td></td>
<td>A</td>
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<tr>
<td>Eggs/Diary</td>
<td>O</td>
<td>O</td>
<td>R</td>
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<td>O</td>
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<tr>
<td>Fish</td>
<td>A</td>
<td>R</td>
<td>R</td>
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<td>A</td>
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<tr>
<td>Coffee/Tea</td>
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<td>A</td>
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