

Published by

RUDRA PUBLISHERS & DISTRIBUTORS

C-293A, Street No. 3,

West Karawal Nagar, New Delhi - 110094

Cell : 9873248544, 9312442975

E-mail : rudrapublishers@yahoo.com

Eat Right With Right To Eat

Edited By

Dr. Archana Yadav

© Editors

First Published 2023

ISBN: 978-93-92108-27-3

[No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, mechanical, photo copying, recording or otherwise without prior written permission of the publisher].

Disclaimer: The Authors are solely responsible for the chapters compiled in this book. The publisher do not take any responsibility for the same in any manner.

Printed in India

Published by Ravindra Pratap Yadav

For Rudra Publishers & Distributors

Typesetting by Pravin Kumar Yadav

Printed at Research Press India, New Delhi

Chapter 14

Therapeutic Diets

Dr. Shalini Menon & Ms. Mamta Kumari

Introduction

Undoubtedly one of life's fundamental elements is nutrition. It is a crucial component of medical care. You already know that maintaining good health, preventing disease, and recovering from illness all depend on a proper diet. When sickness does arise, providing correct nutrition care can significantly change how it progresses.

To avoid a lengthy and complicated hospital stay, proper nutrition assistance is crucial to medical therapy. The nutritionist's dietician determines an individual's dietary needs in close collaboration with the doctor. We will discuss medical nutrition therapy in this unit. The nutritional care procedure, its elements, and its efficacy are also covered in this section. As you continue reading, it will become clear that the main goal of nutritional care is to make sure that every patient is properly and thoroughly fed. The next section will cover the topic of nutrition care:

Therapeutic nutrition refers to the therapeutic modification of a typical diet. Diet therapy is the practice of utilizing food as a tool to promote full and quick recovery from sickness. The patient's nutrition is largely a concern. Those whose major treatment method for metabolic disorders is normal diets and those for whom customized diets are used. A balanced diet is what the human body expects for normal health and disease functioning. The quantity and quality requirements for the diet may change when health is compromised. Attendants and dietitians plan it when obtaining a home environment is difficult in hospital settings.

Therapeutic diets are modified based on the need for various macro and micronutrients and textured while considering the caloric need. A therapeutic diet is required to prevent nutritional factors from affecting people with diseases during recovery and rehabilitation. The primary and essential function of a therapeutic diet is to maintain the health status that existed before the onset of the disease while completely controlling any apparent, subclinical or imminent nutritional deficits. Therapeutic diets essentially inform us of the nutrients, food textures, and food intolerance that

should be taken into account when deciding whether to include them in the diet. The type, amount, and frequency of meals were specified in the diet prescription by a person's disease process & disease management.

An integral part of medical therapy is adequate nutrition support, this is to avoid a drawn out and challenging hospital stay. Due to the disease, a person or other restrictions may need to be enforced.

Additionally, other dietary elements like carbohydrates, fat, vitamins, fiber, phytonutrients, or water may be reduced or increased. Food likes, no vegetarian, Ovo vegetarian or non-vegetarian, food intolerance [such as lactose], occupation of the patients, higher meal timings, and economic status are factors that the dietetics perspective considers. Therapeutic diets are broad, a variety of reasons, and they are used to treat and improve some illness.

Dietetics An Arts and Sciences of Human Nutrition Care

Feeding people based on nutritional principles is referred to as dietetics, referred to as the nutritional care for humans is a science and an art.

In other words, dietary therapy and its use in patient-related contexts, emphasis of dietetics. Dietetics is the study of employing the principles of nutrition developing acceptable meals for health and disease.

Dietetics Can Therefore be Related to:

- Nutrition care and intervention that is individual-centred.
- Nutritional treatment and intervention tailored to particular groups.
- In the past, dietitians have mostly (or virtually exclusively) concentrated on biological elements of nutrition. Over time, we have come to understand as physiological biochemistry does not adequately address the interaction with nutrition.
- As a result, communities and experts from a wide range of related areas started to progressively acknowledge the essential role nutrition plays in disease. Nutritionists are attempting to view human nutrition holistically.
- It is increasingly evident that we need a holistic or all-encompassing approach to human nutrition and dietetics due to the rapid expansion of scientific knowledge as well as knowledge of a person's life being influenced by biological, social, and psychological variables in interaction.

Role of Dietitian in Nutrition Care

All patients receive active treatment and support from dietitians. When medical and legal judgments must be taken, it is unacceptable to sign off on a patient's medical record. The nutritionist should instead:

patient's diet

- conscious of the patient's and/or their family's rights and desires.
- aware of the illness' severity and its potential side effects.
- aware of the benefits and disadvantages of feeding via every conceivable method, active participation in the patient's care as the dietitian reporting on the patient's nutritional status and acting as the doctor's and medical team's counsellor and

informed about legal considerations that may influence the patient's course of treatment, such as choosing to pursue or forego particular treatments.

Some work for themselves and/or in private practice. These days, dietitians work in hospitals, sales, and marketing as well. If you look closely at these profiles, you'll discover that the dietitian's services are concentrated on:

- Health care services
- Nutritional support for community health
- Information or communication about nutrition
- Food provider
- Health and illness prevention
- Nutritional studies

A growing number of dietitians are starting to work in the more recent fields of sports nutrition, cardiovascular fitness, public nutrition education, prenatal nutrition, physical medicine, and rehabilitation.

Adaptation of Therapeutic Diets

Therapeutic diets include methods for altering a person's regular diet to meet therapeutic needs. To better the quality of life for individuals and contribute to good health and sickness, clinical dietitians have obtained education and training in understanding nutrition research. Every diet that is suggested for an individual has a purpose and justification. Dietitians should have the knowledge, skills, and attitudes required to ensure the quality of their work.

We will study the many therapeutic diets offered in hospitals for various illnesses in this unit. We will also discuss the various feeding methods, including parenteral and oral enteral feeding.

Therapeutic Diets

The normal diet is modified for therapeutic purposes. In other words, it's a diet created specifically for a person who is suffering from a condition like diabetes, heart disease, hypertension, or renal failure.

Why do you think the diet needs to change in light of these conditions? What adjustments need to be made frequently? We'll talk about a couple of these concerns in this subsection.

You are already aware that some diseases, such as those caused by nutritional deficiencies, can be treated with diet or nutrient concentrates. Making dietary modification aid in controlling the severity of diseases like diabetes and help the disease of complications.

Similar to how minor dietary changes can halt the progression of internal diseases and symptoms that might otherwise be fatal, The disease process has an impact on quantity and quality as well. Meal frequency is one of the additional factors used in adjustment.

These Changes Result as a Consequence of the Following Reasons:

- Loss of appetite, which results in lower intake, feelings of increased hunger, result in higher intake, and difficulties chewing, swallowing, digesting, or absorbing food or certain nutrients (caused by structural and/or functional changes), change the kinds of food that are tolerated as well as the frequency of eating, will change the frequency of feeding.

The goal of therapeutic dietary changes:

A therapeutic diet is a modified version of a healthy balanced diet that is quantitatively or qualitatively altered to match the changing nutritional needs of patient or medical condition. A person may alter their diet for one or more of the following reasons:

- To keep or get back to an ideal nutritional state.
- To promote relaxation or relieve an organ injury (e.g., soft or liquid diets [patients]).
- To conform to the body's capacity to metabolize, excrete, or absorb nutrients (e.g., low-fat diet for fat malabsorption).
- To build a tolerance for eating meals orally (e.g., tube feeding for patients who lack the esophagus).
- To adapt to mechanical challenges (for instance, a soft diet for people with denture [issues]).
- To change weight or body composition (e.g., high caloric, low caloric).

Types of Dietary Adaptations For Therapeutic Needs

The foundation is regular nutrition¹ on which therapeutic changes are based. The goal of dietary modifications has previously been covered in earlier sections. The following sorts of dietary modifications may be made to meet therapeutic needs:

- changes to the texture of the food, like liquid or soft diets, low or high-calorie diets,
- An increase or decrease in the diet's energy value, such as a high-calorie diet/burning calories or a low-calorie diet for losing weight.

- An increase or decrease in the consumption of certain nutrients or food groups, such as a diet low in sodium, high in fiber, or high in potassium.
- Removing seasonings and condiments, such as through bland diets.
- Exclusion of particular foods, such as gluten-free and allergy diets.

Test diets: • Patients are given one- or two-day diets or single meals in conjunction with particular tests, including the fat absorption test, used to detect the existence of malabsorption.

Changes in meal frequency and feeding intervals. After reviewing the various dietary adjustments, let's learn the fundamentals of designing therapeutic diets.

Normal Nutrition: Base of A Therapeutic Diet

The therapeutic changes are conducted over the framework of a typical diet. The main idea behind food and nutrition therapy is that the patient's regular dietary needs should be taken into consideration. Any therapeutic diet simply modifies a person's regular nutritional demands to suit the requirements of his or her particular illness. The consumption of food and liquids is what is referred to as a person's "diet." All dietary alterations should be offered with options, specific instructions, menu recommendations, and documentation regarding any feasible alternatives.

Patients should be urged to comprehend the crucial connection between diet and health. The amount of nutrients a food contains and how frequently it is consumed determine its value. If the reasons for the required dietary adjustments are made plain and the necessary steps are straight forward, there is a higher likelihood that the changes will be adhered to.

For determining whether therapeutic diets are adequate, the Recommended Dietary Allowances (RDAs) are frequently utilized as a starting point. When designing the diet, it is important to consider the nutritional needs unique to a given disease state or disorder.

As a clinician, you must also keep in mind that a person's diet is influenced by a variety of socio-cultural and socio-economic factors, including lifestyle, income, knowledge, taste preferences, and religious views. Planning a therapeutic diet ineffectively could arise from failing to consider them.

Diet Prescription

By the disease process and disease management objectives of an individual, the diet prescription specifies the kind, quantity, and frequency of food. A calorie limit or other restrictions may be necessary due to the condition. Additionally, it may reduce or limit the amount of different dietary elements like water, vitamins, minerals, fiber, phytonutrients, protein, and carbs.

The dietetic prescription also takes into account the patient's occupation, economic

(PUFA) and monounsaturated fatty acids (MUFA). To do this, may very low fat in saturated fatty acids (SFA), such as butter-fried eggs, full milk, cream, cheese (such as parmesan and cheddar), and chocolates are some examples of foods that are extremely high. Whitened bread, margarine, simple biscuits, and fish cakes or croquettes from beans, in addition chicken, white fish, etc., are also low in fat. Whole-grain cereals, fruits, and vegetables are a few other choices.

Mineral and vitamin requirements may need to be raised to prevent bone loss. These include ascorbic acid, B-complex vitamins, and minerals. Adequate oral hydration is necessary for maximal absorption. To ensure the iron dietary support as well as to avoid the emergence of toxicities or side effects, a vitamin and mineral consumption that is ideal, the following should be taken into consideration:

1. what is necessary for healthy people
2. the nature of illness and harm,
3. the body's reserves of particular nutrients
4. both conscious and erratic losses through the skin, urine, or digestive system
5. drug-nutrient interactions

Let's look at sodium and potassium next.

- Sodium (Na): In diets low in sodium, no salt is added, yet the diet still contains about 50 mL of sodium. Eliminate processed or cured meats, meatballs, fish, canned vegetables and soups, dried and pre-packaged meals, as well as cookies, biscuits, and crisps, just to mention a few. There are other items with an extremely low sodium content of 20 mL Na. Since no additional salt is added to the table or in the kitchen, these are significantly less enjoyable. There is a limit to 150 mL and unsalted butter is allowed.

- Potassium (K): For patients with advanced renal failure receiving hemodialysis or conservative therapy, potassium-restricted diets are crucial. Whole-grain cereals, vegetables including beets, beans, broccoli, leeks, mushrooms, green tomatoes, dried and split peas, lentils, and fruits like prunes, dates, raisins, pomegranate, oranges, and bananas should all be avoided because they all have potassium. Vegetables should not be consumed raw; instead, they should be baked. Additionally, salt substitutes must not be used, and patients must make aware of this.

- Fluids: Patients with more severe dysphagia or jaw fractures are often limited. Fruit juices, thin milk, pudding, ice cream, yogurt, eggs in milk, soups, and thin milk porridge with milk can all be included in the diet. Protein polymeric liquid feeds are additionally offered. Due to the absence of lactose, whole milk, whole-grain cereals, fruits, and vegetables are a few other options.

Special diets

Water diet: A typical healthy adult needs 1800 to 2500 mL of fluid per day or roughly 1 mL/kg of body weight. When diarrhea or vomiting occurs, fluid restriction is necessary. To replace lost fluid with a light colloid, it is important to drink plenty of water. You need to drink fluids to make up for the water lost through increased sweating, vomiting, diarrhea, tube drainage, and other high water loss circumstances.

Water must be administered parenterally if it cannot be received from fluid intake and food, typically in combination with electrolytes. When diarrhea is accompanied with an acute hepatitis and renal failure, fluid restriction is necessary. To replace lost fluid with a meal, through perspiration and sweating as well as the volume of urine produced over the preceding 24 hours, the body needs 500 mL of fluid every day. The fluid allowance is determined using the following formula when certain clinical circumstances, such as renal failure, exist where the fluid intake may be harmful to the patient.

Fluid allowance: The daily fluid limit is 500 mL plus any fluids lost from (unmeasured) diarrhea or vomiting over the same period, plus the volume of urine produced during the previous 24 hours.

High-fibre diets: Patients are recommended to consume high-fibre meals such as whole-grain bread, and flour, cereals, pasta, and brown rice, as well as a range of fruits and vegetables.

Gluten-free diet: It's a diet that is suggested for people with Gluten enteropathy. Oats, rye, barley, and wheat all contain gluten. Foods that contain these should not be consumed. Gluten-free flour, bread, and biscuits are among the gluten-free goods that can be obtained with a prescription.

Elimination diets: These diets are utilized in patients who may have Crohn's disease, a food allergy, or an intolerance to certain foods.

Restriction diets: When a person has a food allergy or intolerance, a specific dietary exclusion is required. The patient and nutritionist must have a thorough discussion before using such diets therapeutically.

A list of acceptable and prohibited foods is given to each patient. Additionally, it is highlighted how important it is to carefully review the ingredient lists of all processed and packaged foods.

A meat-free diet is an illustration of one of these diets. The following items should be avoided: regular bread, biscuits, cakes, pastries, pasta, spaghetti, and all breads made with wheat.

Diet without milk: As the name suggests, all dairy products such as cheese, yogurt, ice cream, and butter must be avoided.

Egg-free diet: Egg-free diet: This involves avoiding all foods that contain egg protein.

eggs, including beef burgers, pies, cakes, meringues, biscuits, soufflés, and shaped cereal.

- **Additives-free diet:** The ingredients in this include preservatives, benzoic acid, salicylates, as well as legal food colourings like titanium white, yellow, and Ponceau 4R.

- **Ketogenic diet:** It is occasionally employed to help in epilepsy control.

In this case, the patient fasts for 48 hours before receiving half of their energy needs in the form of MCT (medium chain triglycerides) oil. To my impression of ketones, one must limit the amount of energy one consumes in a regular diet.

- **Diabetic diets:** Therapeutic changes have been made to the quality of certain macronutrients, especially carbs.

Constructing Therapeutic Diet

Either qualitative or quantitative methods could be used for this. Sometimes it is necessary to use both at once.

- Why do we use these techniques? How are they conducted?

Let's investigate the next part to find out. We'll start with the qualitative techniques.

- a) **Qualitative Methods:** The specific options, clear instructions, menu guides and supporting details like suggestions for suitable products are possible at this point. Encourage the patient to comprehend the crucial connection between diet and food.

The amount of nutrients a food contains and how frequently it is consumed determine its value. Among the several qualitative techniques are:

- Guidelines for nutritious eating.
- The Food Pyramid.
- A list of wholesome food options.
- Demineralization plan.

- b) **Quantitative Methods:** These are required when developing therapeutic diets.

These are the two methods that could be used to accomplish this:

- Make use of an exchange mechanism that distributes a set number of grams per serving of food. The carbohydrate exchange technique used in diabetic diet plans for people on insulin is an illustration of this. The diet basis uses an exchange list and the target level of intake is given.
- Measuring the amount of food consumed each time as well as its portion size. The meals in this diet are prepared in normal-sized amounts, however, to foods that have the highest concentration of a specific nutrient per serving.

not included in the diet. When we first studied diets that restrict our intake of fat, sodium, and potassium, we also learned about this approach. We also looked at the food products that were allowed and prohibited depending on their nutrient value.

The frequency with which the various food types are consumed should also be addressed. When a diet is a major element in a multifactorial ailment, such as heart disease, this strategy is generally used.

HIV Infection and AIDS:-

Another illustration of persistent infection is HIV/AIDS. Its presence was very recently discovered in 1981. AIDS can develop from the extensive spread of HIV infection. Since it is one of the most feared infections and is spreading quickly, it has been demonstrated that a retrovirus is to blame for its development. Let's find out some information about it.

The HIV illness has different acknowledged stages which are:

- HIV infection that is acute
- HIV infection without symptom
- Signs of HIV infection

Dietary Therapy

Nutrition interventions' broad objectives are to:

- nutritional management of infections and fever; promote optimal nutrition
- avoid dietary excesses or deficits known to impair immune function,
- reduce nutrition-related issues with nutrient intake or absorption,
- promote optimum therapeutic medication concentration,
- improve one's quality of life, and
- patients might be instructed on the value of a balanced diet or how to enhance their nutritional status.

Classification of Therapeutic Diet

A therapeutic diet is divided into 4 types based on function:-

- i) **Primary treatment** - In this case, nutrition is the only method of disease treatment. It is necessary to modify the macronutrients, particularly carbs, in cases of diabetes mellitus that is not insulin dependent. Inherent metabolic disorders and non-complicated obesity are also treated with primary nutrition therapy.
- ii) **Integral treatment** - It is employed in conjunction with therapeutic drugs, meaning that in this case both a healthy diet and medication are necessary, such as in the

