

A BEGINNER'S GUIDE

DASH DIET

Ultimate Guide To
Weight Loss & Healthy Eating



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CHAPTER 1

INTRODUCTION

According to a recent survey, It is anticipated that obesity has amplified triple times since 1975. It has become a chief concern internationally. People are in a run of earning money and forget the significance of the physical activity. In developing countries, labor work has been replaced by robots. Surveys show that the number of deaths due to obesity is much more than underweight. Obesity increases the mortality rate by making obese people more vulnerable to chronic diseases like Cardiovascular diseases, Hypertension, Diabetes type-II, etc. Many people in a single day die due to heart attack which is alarming for obese people because arteries become constricted due to the presence of fat. However, Obesity is preventable. How you can prevent or get rid of it? Having a balanced diet and healthy lifestyle. There are many diets available for weight loss but some diets do not give long-term results.

WHAT IS DIET?

Food is like fuel for the body. As an engine of a car or motorbike wants fuel for working, our body needs food to get energy for working and carrying metabolic reactions within the human body. Diet can make you look attractive or can suppress your personality. It is all up to you! A person having a healthy diet has a quality lifestyle without any fret of disease. In developing countries, people are facing malnourishment (either obese or underweight). Diet facilitates people in managing body weight or preventing disease. Many people approach dietitians and nutritionists for getting a diet plan for Obesity, Weight gain, Diabetes, Gut problems, Hypertension, etc.

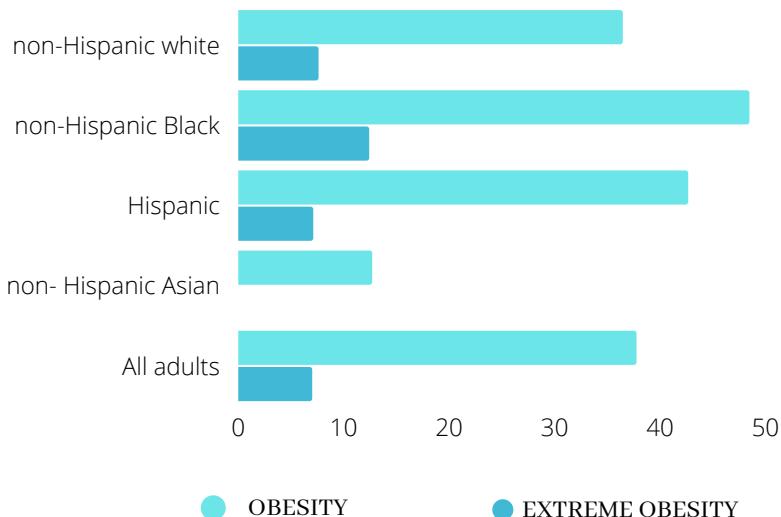
If you want complete nutrition then you should take an adequate amount of carbohydrates, minerals, vitamins, essential fats, and protein. A healthy diet is a blessing that can make you confident, beautiful, and competent. Various studies have proven that a person with a healthy diet has prolonged existence. Everyone desires to live a long and healthy life without any fears, your diet is your real asset. Live longer and beautiful life by organizing the way you eat. According to World Health Organization (WHO), an unhealthy diet has become the main worldwide risk of health. Including healthy food items in the diet and excluding junk food from the diet is the approach to live a long life. According to the National Health and Nutrition Examination Survey (NHANES), in 3 adults 1 would be obese. It is now the main fear and many professionals are striving to alleviate obesity because obesity leads to many chronic diseases that can be fatal.

BALANCED DIET

As mentioned above, obesity is an international health danger now and is attacking adults. As the future of every nation lies in the hands of the young nation, then how can we close our eyes to this major issue. A balanced diet is a diet in which we eat in a sense of balance. In 1974, Anna Britt Agnsater prepared the first food guide pyramid and was published in KF's Vi Magazine. In her pyramid, there were only three food groups. In the latest food pyramid, there are five groups. Dairy products and sugary foods are separated. According to nutritionists, we should cover all these food groups to become healthy and this is a balanced diet. Another myth in the world is circulating that eating less or starving throughout the day leads to weight loss. It is not like that, you should have a balanced diet during the weight loss journey to avoid deficiencies of certain nutrients in your body.

Every food is needed in a specific amount, its indulgence as well as decrement leads to fatal diseases and increases the rate of mortality. Eating saturated fats and having a sedentary lifestyle make people obese.

Under a survey by National Health and Nutrition Examination Survey (NHANES) on obesity in US adults founded on races and background from 2013-2014, the following data is gathered:



A balanced diet makes you look smarter and confident among your colleagues. Your stamina increases when you are healthy and eat clean food. Our food is measured in calories. The Dietary Guidelines for Americans (DGA) tells us an adequate amount of calories that should be taken in a whole day. A balanced diet is the enemy of highly processed, sugary foods, too much sugar and salt, trans fats, refined grains, and alcohol. This foodstuff is our enemy.

Over and above the smart body, a Balanced diet also plays a role in making our skin, hair, and nails more beautiful and healthy. Our bones are also dependent upon a healthy diet. We feel fatigued, joint pains if we have a weakness. Our brain on the other hand plays a vital role in our daily routine, while making assignments, projects, memorizing something important, and then the ability to understand more quickly. A balanced diet is the best way to make yourself safe from diseases like Diabetes type-II, Cardiovascular Diseases (CVDs), Stroke, Hypertension, etc. We take many medicines to prevent or treat these diseases. The treatment from medicine might be a quick one but it can make you reliant on medicines. Too many medicines are not safe.

A balanced diet is a life-saving drug for a human being that prevents almost all types of Non-Communicable diseases (NCDs). Incorporate a clean, balanced, and healthy diet into your life.

WHO SHOULD FOLLOW A DIET?

Diet can change your lifestyle. Through diet, we can prevent non-communicable diseases. Even if you have a disease you can alleviate it through your diet. Diseases like diabetes have not a permanent solution we can just alleviate the level of blood sugar by particular diet. If we talk about who should follow the diet?

Everyone should follow a diet that is based on the MyPlate method. Organize your food on a plate in such a manner, that it should include food of every color. Your plate should look like a rainbow. A large part of fruits and vegetables with a small number of fats and oils along with cereals and grains is a way to make your plate ideal.

Obese, underweight, heart patients, diabetic patients, patients of hypertension are strictly advised to follow the diet given by their Dietitian/Nutritionist. Other patients with diseases like Bloating, Constipation, IBDs can also be treated through diet.

There is an undefined but very popular profession of fitness modeling, that gives the opportunity of employment to young people. Those people who are ambitious to this profession follow specific diet and workout plans given by their Fitness trainer. They follow the diet to achieve goals either by gaining muscles or losing fat.

Some people have food allergies or intolerances which can be inherited. There would be allergies from egg, peanut, gluten, fish, soy, meat, milk, etc. To prevent the severe symptoms of allergy, doctors or dietitians recommend a specific diet plan. An emerging disease due to allergy is celiac disease, in which a person cannot eat wheat, rice, and other gluten-containing foods. Special instructions are given to those patients. In that diet plan, the food containing allergic agents is replaced by food with the same nutrients value to avoid deficiencies.

Diet is not a dangerous thing that if you follow it you would become weak. Diet is used for the fulfillment of nutrients in our bodies. Sticking to only one food group is not a beneficial thing. Ultimately, it will cause deficiencies and makes your immune system weaker. If you have weak immunity then this will makes you prone to infections.

HOW SAFE IS DIETING?

Dieting means eating food in an organized way. Some people try to lose weight rapidly by following fad diets that help in rapid weight loss but can be dangerous because of nutritional deficiencies. You should consult your doctor or dietitian before starting your diet. They know better what to do. So, you must have to approach a professional person before taking any step. This is not only for those people who want to lose weight but also for, gaining weight, diabetic patients, and patients with Cardiovascular diseases. Fad diets impose dangerous effects on the body. They cause metabolic abnormalities, dehydration, imbalance of electrolytes, anemia, etc. Do not try to play with your health by following fad diets. Eat everything in a balanced way. Eating more but healthy is a good way to make your body fit and ideal. Avoid Highly processed food and especially trans fats.

HOW TO START DIETING?

.EXAMINE YOUR BODY:

The first step to go for dieting is to examine yourself. You are the best analyzer of your body. Mostly, people approach doctors when they feel changes in their bodies. If you feel like you are becoming malnourished or facing problems in controlling your blood sugar level and blood pressure, you would think to move towards the doctor. At this time, making the right choice is very important. The doctor would give you some medicines which is an interim solution. The long-term solution includes changes to your diet and also physical activity.

.CONSULT YOUR DIETITIAN:

When you go for a consultation, he will ask you some questions based on your eating history and family history. It will be a thorough assessment. Then he will ask you about your body measurements and will calculate your BMI (Body Mass Index). This will give an estimate of whether you have a healthy weight or abnormal weight. This is used for Adults and older people but it can also be used for all age groups.

- Below 18.5 BM, is categorized as UNDERWEIGHT.
- 18.5-24.9 BMI, is categorized as NORMAL.
- 25.0-29.9 BMI, is categorized as OVERWEIGHT.
- Above 30 BMI, is categorized as OBESE.

For children, percentile charts are used to estimate their status of weight.

- Below 5th Percentile is categorized as UNDERWEIGHT.
- 5th to 85th Percentile is categorized as HEALTHY WEIGHT.
- 85th to 95th Percentile is categorized as OVERWEIGHT.
- 95th and above Percentile is categorized as OBESE.

Other measurements are Waist-hip ratio, Mid-upper arm circumference, Ideal Body Weight (IBW), Fluid requirement,

etc. All these Anthropometric measurements will be written on a questionnaire paper. Then he will ask you about your eating routine.

Calories counting is essential because you get an estimate of your body's requirement of calories. Two units are used for energy, calorie, and kilocalorie. The food we ingest is referred to as Energy-In while the food we burn through physical activity throughout the day is referred to as Energy-Out.

Average value for intake of calories is 2,000 kcal/day for a normal person. This value may vary based on your intention, this value increases if you want to gain weight. In weight loss, the number of calories per day is reduced based on age, gender, and physical activity level. Your dietitian will make a suitable plan for you according to your body requirements. He can also give you a workout plan if you want.

•STAY MOTIVATED:

If you want to lose or gain weight or to fight any disease then you need to be motivated and persistent with the given diet plan. According to health professionals, 30 minutes of activity is a must for healthy living. Stay happy and motivated to fulfill your desires. Keep yourself hydrated and energetic.

TYPES OF DIETS:

There are many diets there for weight loss, but some are the best and popular diets for weight loss. These diets have long-standing results. These are the DASH diet, Keto diet, Intermittent fasting, Paleo diet, Mediterranean diet, Vegan diet, etc. All these diets are the best because they do not cause nutritional deficiencies during the weight loss journey like fad diets. Different nutrients are provided in these diets in a variable amount.

In the Further chapters, our main focus will be on the **DASH diet**.



CHAPTER 2

DASH DIET

DEFINITION

The word DASH refers to Dietary Approach to Stop Hypertension. Mainly it was developed due to immense research of emerging issue of Hypertension also known as High Blood Pressure. DASH diet proceeds to healthy eating. It is an eating pattern based on a large number of fruits and vegetables. The main thing that defines this diet is the low levels of sodium. This diet cause weight loss along with low cholesterol and blood pressure.

This diet includes a large number of fruits and vegetables, lean meat (chicken, fish), eggs, whole grains, healthy fats, and low-fat dairy products. It also promotes the intake of calcium, potassium, and magnesium while decreasing the intake of sodium. The average intake of sodium in this diet is 1500 mg per day. This diet restricts the intake of highly processed food, red meat, Sugary food, sweetened beverages, and saturated fats.

HISTORY

This diet was developed in the 1990s. National Institute of Health gave funds to the research projects for making dietary interventions to control the rising issue of hypertension. In the United States, there is one out of 4 people is a patient with hypertension. Hypertension is known as a silent killer because it does not show symptoms but can kill you silently from inside. There were many solutions present to alleviate high blood pressure in the form of medications, but scientists were in a struggle to find a consistent and harmless solution for patients.

They made many modifications during experiments. Hypertension was rising the risk of heart diseases. An estimation was made that around 2000 people die due to heart diseases in the United States in a single day.

In 1977, the study on the DASH diet was officially published by the New England Journal of Medicine.

ORIGIN:

This diet was developed because for the past 50 years the United States was facing a rise in hypertension in every ethnicity. They started researching on diet for lowering blood pressure.

An experiment was made at that time. Three groups were made at that time and were given different diets:

.Group 1 (Fruits and Vegetables):

This type of group was directed to include a large number of fruits and vegetables in their diet for two weeks. They were allowed to eat typical American snacks. As a large number of fruits and vegetables are included, Fiber content was high. While levels of calcium, magnesium, and potassium were at the same level as consumed normally by people of the United States.

.Group 2 (The DASH diet):

In this group, the DASH diet was given including a large number of fruits and vegetables, low-fat dairy products, beans, lean meat, poultry, fish, nuts, and whole grains. The antioxidant-rich foods were also included in this diet for two weeks. While foods like sweetened beverages, saturated fats, red meat, and highly processed food were restricted. The level of sodium was also decreased to 1500 mg/day while calcium, potassium, and magnesium levels were increased. In the diet of this group, those foods were included that were high in fiber. Fiber helps to reduce the level of blood pressure.

.Group 3 (The Controlled Group Diet)

This group was simply instructed to eat food in their usual manner as they eat usually, low calcium, magnesium, and potassium levels while protein and fats in high amount for two weeks. This was the typical diet of Americans.

Results of DASH Study:

The DASH study showed that modified food patterns alleviate the level of high blood pressure.

When the results of all groups were compared, it was noticed that there was no change in levels of blood pressure in the third group (The controlled diet group) while in the first group (Fruits and Vegetables) there was a slight decrease in the level of blood pressure. The results of the first group were mind-blowing, a significant change was observed in levels of high blood pressure as compared to the first group of fruits and vegetables.

In this experiment of two weeks, the DASH diet group showed the best results as compared to other groups.

The DASH-Sodium Study

The second study was done to analyze the effect of lowering sodium in the DASH diet and it was called "The Dash Sodium Study"

The main purpose of this study was the observation of the effect of low sodium along with the DASH diet and to study the effect of sodium at different levels of consumption per day.

This study was completed in a time period of 1997 to 1999 that was a detailed study.

412 adults were selected for this study and these 412 adults were then divided into two groups

1.The DASH Diet Group:

This group was directed to follow a proper DASH diet along with variable amounts of sodium, 1,500 mg, 2,400 mg, and 3,000 mg per day. It includes a high level of potassium, magnesium, and calcium.

2.The Typical American Diet Group (Controlled Diet Group):

This group was allowed to have the usual diet of Americans, high in protein and fats. The diet was carried along with variable amounts of sodium, 1500 mg, 2400 mg, and 3000 mg per day. It includes low levels of calcium, magnesium, and potassium.

Results of DASH-Sodium Study:

The results of both groups were successful with low levels of sodium, both diets lower the levels of blood pressure. The noticeable thing in this study was the effect of dash diet and low sodium was greater than the second group. The effect of 1500 mg of sodium per day was the finest.

This study led the researchers to recommend lower levels of sodium per day.

According to United States Dietary Guidelines, this daily intake of sodium for a healthy person should be 2300 mg per day, while it should be 1500 mg per day for patients with pre-hypertension or hypertension for healthy living.

MAIN PURPOSE:

The main purpose of the DASH diet is to provide an alternative but systematic solution to hypertensive individuals. The term hypertension refers to a condition when the blood pressure is too high.

When the force exerted by the circulating blood on the body's arteries overrides the normal value, a person is said to be hypertensive. It is usually written as two values. The upper number (systolic) represents the blood pressure when the heart contracts or when the heartbeats. The lower number (diastolic) shows when the heart is in a relaxed position or between the two beats. The upper value is much important when assessing the health risks as the upper value keeps on rising as we age due to the factors like the stiffness of arteries, and plaque formation. Studies suggest that the risk of death from stroke and other related conditions like ischemic heart disease doubles every 20mmHg systolic and 10mmHg diastolic value.

Hypertension is a serious medical condition that can increase the risk of heart, brain, kidneys, and other diseases significantly. It can also cause chest pain (angina). High blood pressure hardens the arteries and decreases the blood flow to the body organs which can cause stroke, hemorrhage, and other severe complications.

On a global scale, 1.13 Billion people have hypertension. The majority (about two-thirds) of them living in low-income and middle-income countries.

Hypertension is a major cause of premature deaths. It can sometimes get out of control but statistically, 1 in 5 hypertensive individuals have hypertension under control.

Hypertension is diagnosed, if the systolic pressure (upper) value is equal to or exceeds 140mmHg, and the diastolic pressure (lower) value becomes equal to or higher than 90mmHg. Both of these readings are measured on two different days. People with normal blood pressure just need to follow a healthy lifestyle i.e. balanced diet and exercise. If you fall into the category of elevated blood pressure, you need to take all the possible steps to protect your heart, blood arteries, and other organs from any further damage.

There is a chance that these individuals will develop a state of high blood pressure unless the necessary steps are taken at the right time. Whereas, hypertensive patients need special care and attention.

Hypertension is a 'silent killer'. It may or maybe have any symptoms. Most people with hypertension are not aware of their problem and its seriousness because it has no signs and symptoms. But when the symptoms do appear, it may be in the form of morning headaches, nosebleeds, irregular heart rhythms, buzzing in the ears. People with severe or advanced hypertension issues may have fatigue, nausea, vomiting, confusion, anxiety, and chest pain.

Measuring blood pressure is easy and painless. It is the only way to diagnose hypertension. Therefore, it is crucial to take these readings. Although one can check the blood pressure by using digital devices in their homes, health professionals' competitive risk evaluation is important.

DASH diet aims to lower blood pressure and thus decrease the risk of cardiovascular diseases, kidney diseases, heart failure, and many other diseases.

WHY DASH DIET?

Dietary approaches to stop hypertension (DASH diet) is not simply just an ordinary eating pattern. It is more than that. USDA (United States Department of Agriculture states DASH diet as an ideal eating pattern.

For a very long time, it was thought that a single nutrient effect such as sodium affects the individual's blood pressure. Traditionally, a high sodium diet was thought to be responsible for high blood pressure, but this factor also varies greatly among people. It made the DASH researchers shift their view from a single nutrient to a whole dietary pattern.

The first-ever DASH diet study was initiated in 1993 and was terminated in 1997. This study compared two experimental diets with a control diet. This study signed about 459 participants on either of the three diets i.e. fruits and vegetable diet, DASH diet, control diet. These participants were randomly signed to these dietary patterns for weight loss. During this eight weeks period, the individual's blood pressure was checked regularly.

Characteristics of DASH Diet:

- .Fruits
- .Vegetables
- .Whole grains
- . Low-fat dairy
- .Skinless poultry or fish

- Nuts and legumes
- Non-tropical vegetable oils

Limit these:

- Sodium
- Red meat
- Sweets
- Saturated and trans fats

Fruits and Vegetables:

Fruits and vegetables are rich in nutrients like potassium which can be helpful in lowering blood pressure. Some studies suggest that a diet that is low in potassium can lead to hypertension. So half of your plate should be filled with fruits and vegetables. DASH diet recommends increasing the fiber content by eating a significant amount of fruits, vegetables, and whole grains which has a satiety effect and helps to lower blood pressure and weight loss.

Nuts and legumes:

Nuts are high in unsaturated fats which can help to lower the bad fats 'LDL'. Nuts are a good source of antioxidants which may reduce blood vessel damage. These compounds can help to keep the blood vessels healthy. Plant-based food items are low in saturated fat and thus are a great way to get nutrients.

Low-fat dairy:

Calcium is not only important for bones but is also crucial for blood vessels. But the high-fat dairy is higher in saturated fats which is unhealthy for heart health. So choose a low-fat dairy or a fat-free dairy. Calcium-fortified food items are also available in the market as an alternative.

Limit sodium:

DASH diet limits sodium to 2300 mg per day. Additional benefits are also seen in individuals who decrease their sodium intake (1500 mg) beyond these limits.

DASH diet for Health:

The DASH diet is a healthy diet plant. It is designed for the whole family. New studies continue to show its emerging effects on health. DASH diet is also approved by the following:

- American Heart Association (AHA)
- Mayo Clinic
- US guidelines for hypertension treatment
- National Heart, Blood, Lung Institute (NHLBI)
- National Institute of Health (NIH)

Chapter 3

BENEFITS TO HUMAN BODY



OBESITY- A WEIGHT LOSS JOURNEY

As discussed in previous chapters, obesity is now a major concern to the whole world, due to its rising complications. This disease was a major issue in developed countries, but now it has become an alarming issue in under-developed and developing countries. According to the facts given by the World Health Organization (WHO), from the year 1975 to 2016, obesity and overweight in children and adolescents of 5-19 years has increased four-fold from 4% to 18% worldwide. According to a survey in 2016, there were 1.9 billion adults were overweight while 650 million adults were living a life of obesity at that time. Now in 2021, this amount has been doubled or tripled. In most countries, obesity kills more people in a day as compared to underweight.

•What is it?

Obesity and overweight is a large amount of accumulation of fat in different areas of our body that may be proved fatal to human health. Fat is either present under the skin known as subcutaneous fat or present around the body organs called visceral fat.

In males, excess fat is usually accumulated around the belly region which makes their body apple shapes, while in females, fat is present around their buttocks (pear-shaped). Men are at a greater risk of developing serious chronic illness due to their apple-shaped body because the fat affects the function of their body organs and may accumulate in them. Experts believe that losing even 5 percent of total body fat may reduce the risk of developing obesity-related illness to a considerable level.

When we eat food that contains a high amount of saturated fats and sugars, then our body stores surplus energy in different areas due to lack of physical activity. Obesity does not come suddenly, but it develops gradually.

Before you commence, it is important to know how to accurately measure body weight, height, and waist circumference. This is called anthropometric assessment. It refers to the measurement of an individual's size, dimensions, and body composition. These measurements can incorporate proportions of muscle and fat tissue. The most common anthropometric assessments performed are weight, height, and waist circumference. Achieving and maintaining a healthy weight is important for overall health and in lowering the risk of some chronic diseases such as heart disease, stroke, diabetes, and high blood pressure. Accurately measuring your anthropometrics can tell you a lot about your health risk.

BMI stands for Body Mass Index. It is a simple method used to indicate body fat content and to classify underweight, healthy weight, overweight, and obesity. Both height and weight measurements are required to calculate BMI. There are slightly different cut-offs for different ethnicities. These are the cut-offs in the table below for underweight, normal range, overweight and obese classes I to III. BMI is used to estimate the proportions of a population in various weight status categories and is a less accurate estimate of body fatness at the individual level. Height is a measure of vertical stature or how tall you are. Like measuring weight, there are different units of measurement for height. Using the metric system, height is measured in centimeters (cm), and in the imperial system, it is measured in feet and inches. Human height is the length from the bottom of the feet to the top of the head. For the most accurate measurement, shoes and any hats or hair ornaments should be removed. The person being examined should stand against a wall with the back of their head touching the wall. Look straight ahead. Feet should be placed together and heels should also be touching the wall.

Weight is a measurement of a person's body mass. Body mass can be measured using different units of measurement. It is usually measured in either kilogram (kg), pounds (lb), or stones and pounds (st and lb). The unit of measurement will vary depending on where you live in the world. Weight should be measured using a set of scales that are suitable for measuring body weight.

Waist circumference is another predictor for the potential risk for developing chronic diseases such

as heart disease, type 2 diabetes, and high blood pressure. Measuring waist circumference is a

simple check for excess abdominal body fat, also known as visceral fat. Carrying excess body fat in

the abdominal area is riskier than body fat stored around the hips and thighs.

.Role of Calories:

Calories are basically known as the unit in which we measure the amount of energy needed or expend through our body. An average person needs 2000 to 2500 calories per day depending on various factors like factors Age, Sex, and activity level. If a woman is pregnant or in a lactating condition then she needs to take 200 to 500 additional calories. Calorie requirement is also increased if there is any injury or trauma. In these cases, the body needs additional energy to repair itself.

In terms of obesity, if a person is consuming calories more than the requirement, then these extra calories will become a cause of obesity. Fast food and junk food are very high in calories, that they can make 1000 or 1500 calories in one meal. These extra calories are then stored as fat in our body. There can be several reasons for obesity. Some are discussed below.

.Bad Eating Habits:

The benefits of a clean and balanced diet are already discussed in CHAPTER 1. A clean diet can make you healthier and smarter. If we have bad eating habits or poor diet then it ends up in malnourishment, either a person will gain weight (Obesity) or lose weight terribly (Underweight).

This diet includes:

- Ingestion of Highly Processed Food Frequently:

This food is high in saturated fats and also in sugars, both of these are obesity-causing agents and may lead to many other obesity-related chronic diseases. The food we eat is mainly comprised of three macronutrients: carbohydrates, protein, and fat. All of these are broken down into glucose through proper mechanisms in the body. Processed foods are high in sugar and create a glucose spike in the blood. It signals the body to store extra calories (glucose) in the form of fat, which in turn, makes us gain weight. Processed food is depleted in nutrients and contains simple sugars. They also contain a lot of preservatives and other chemical compounds which are harmful to the human body. Our food intake is affected by season, availability, our religious beliefs, and the convincing marketing strategies and the advertising techniques used to tempt us to make us feel hungry even when we are not.

- Awkward Eating Timings:

Some people are habitual to eat even if they do not have hunger. If they are anxious or feeling depression then they go for eating food without thinking of their ability to eat or health.

- Alcohol Drinking:

Drinking alcohol in excess and frequently will make you gain weight because alcohol has a large number of calories.

- Sweetened Beverages:

Drinking sugary and sweetened beverages can rapidly increase your weight and ultimately make you obese because these beverages contain a high amount of sugars that promote obesity.

- Sedentary Lifestyle:

According to the recommendation of the Department of Health and Social Care, adults should do exercise of 30 minutes daily and 150 minutes a week. In a recent era, people are habitual of working in offices at their chairs and desks. If they want entertainment, they prefer watching TV or mobile screen instead of badminton, cricket, tennis, etc.

Participation in physical activity is influenced by many factors which include long work hours, family commitments, and cost.

Beyond these factors, there are other psychological and a wide range of social factors that affect how we eat, how we eat, and how much we eat, and how often we engage in physical activity.

It is not only specific exercise sessions that are important to incorporate into everyday life, there are also many benefits to making your usual daily activities more physically active. Examples of how you can incorporate exercise into everyday life: Take the stairs instead of the lift or escalator, make your travel more active – for short trips walk, ride, or skateboard instead of the car park further away so you add in extra walking time, take scheduled activity breaks from your desk to go for a short walk, do more housework or gardening, stand while talking on the phone, walk around the house while brushing your teeth.

•Consequences of Obesity:

Obesity is estimated by Body Mass Index (BMI) which was discussed in earlier chapters, if BMI exceeds 25 kg per meter square, a person is then categorized as overweight. While at 30 kg meter per square, obesity starts.

- In 2012, many deaths occur due to heart attack and stroke (will be discussed in earlier chapters). It was due to obesity that gives rise to Cardiovascular Diseases (CVDs). When fat deposition occurs in arteries and veins, blood circulation stops and results in myocardial infarction or heart attack.
- The other major prevalent disease is diabetes, in which the body is unable to make efficient insulin for the proper functioning of the body. Obesity is its main cause
- Obesity can cause musculoskeletal disorders like osteoarthritis which is a disease of joints in which joints are degenerated and do not function properly.
- It can also cause cancers like ovarian cancer, liver cancer, prostate cancer, breast cancer, etc.

These diseases are most common in obese men and women who lack physical activity and have poor diets.

The main thing to ponder here is the prevention or treatment of obesity through healthy and particular diets.

.DASH Diet for Obesity / Weight loss:

When it comes to losing weight, the first and foremost thing should be to set a target for their weight loss. We often tend to think about the big picture, "I want to lose 20kg weight". There are mixed beliefs whether setting long-term weight loss goals may be beneficial or not, or whether they decrease motivation and lead to weight loss failure. However, setting short-term goals may help you to achieve the target weight loss.

Common features of successful weight loss programs include: encouraging people to eat breakfast every day cooking meals at home decreasing portion sizes promoting food from all 5 health food groups (including whole grains, fruit, vegetables, lean meats, chicken and fish, legumes, nuts, and reduced-fat dairy). DASH diet is mainly developed for patients with Hypertension but researchers have found its benefits in reducing obesity. This diet focuses on fruits, low-fat dairy products, and vegetables in addition to some lean protein products such as beans, chicken, and fish. This diet restricts the intake of red meat, sugars, fats, and especially sodium. While it is high in potassium, calcium, and magnesium. This diet helps in weight loss as it is low in sugars and fats which are the major factor of obesity. It also helps in lowering the risk of cardiovascular diseases, Type II diabetes, metabolic syndromes, and reduced pulse wave velocity.

In October 2003, a controlled trial was performed in which 144 people were randomized for studying the effect of DASH Diet Alone (DDA) and DASH diet with weight management. Both were given a diet with high dietary fiber with less amount of salts, sugars, and fats. while the group of weight management was provided with an exercise plan. It was observed that the group with DASH Diet Alone(DDA) had less reduction in Blood pressure and weight while the weight management group had better results than DASH Diet Alone (DDA) group.

This diet is low in fats and sugars while high in dietary fibers. This helps us to reduce appetite and as a result, we achieve weight loss. This diet increases our satiety because of fiber. This diet meets the needs of 2,000 calories per day which are inappropriate for efficient weight loss. If anyone wants efficient weight loss then there is a need to restrict calorie intake. This can be done by making good and healthy choices with fewer calories. The other way for weight loss with this diet is to do exercise on a regular basis

A trial was performed in which one group was provided with low sodium vegetable juice while the other was provided with just diet counseling. the group with low sodium vegetable juice experienced weight loss. This shows that only the DASH diet can also help in preventing weight gain.

HYPERTENSION

In the condition of hypertension, the pressure of blood rises in the body which shows abnormal conditions in the body, like headache, fatigue, chest pain, irregular heartbeat, etc. You can get further details on hypertension in **CHAPTER 2.**



CARDIOVASCULAR DISEASES (CVDs):

It is a condition in which heart and blood vessels are affected due to accumulation of fats in blood vessels or sometimes clotting of blood occurs in blood vessels. These diseases are mainly related to a process called atherosclerosis.

Some parts of the heart muscles die because blood flow stops due to clot formation. Cardiovascular diseases refer to a group of diseases that include heart disease, heart attack, stroke, heart failure, arrhythmia, various heart valve problems, coronary heart disease, deep vein thrombosis, and several blood vessel diseases.

Symptoms of heart disease vary among males and females. Males are highly likely to have chest pain while females have nausea, fatigue, and shortness of breath. A heart attack usually occurs when the blood supply to the heart gets disrupted. It is mostly due to the plaque formation in the arteries of the heart. This clot blocks the normal blood flow, and that particular part begins to die. Most people survive their first heart attack and live several years enjoying their life. But experiencing such an event means that you should pay special attention to your lifestyle. These medical and lifestyle changes vary with the possible damage to the heart and vessels.

Stroke, just like a heart attack, is the disrupted blood supply scenario. But stroke is the blockage of the vessels supplying blood to the brain. This blockage is again caused by clot formation. When the blood vessels get blocked, that part of the brain gets deprived of oxygen and dies. This is called an ischemic stroke. When a part of the brain is affected in this way, all the functions of that particular part of the brain are lost due to oxygen deprivation.

On the other hand, hemorrhagic stroke occurs when the blood vessel supplying blood to the brain gets burst. This type of stroke is due to high blood pressure (hypertension).

Sometimes, the brain becomes permanently injured. There is no way to replace or treat that part of the brain. But in some cases, the brain only gets temporarily injured, and the function gets normal after some time.

Heart failure also called congestive heart failure, occurs when the heart is unable to pump the blood properly. It does not mean that the heart does not pump blood or the heart stops working. It simply means that the heart does not meet the body's blood and oxygen requirements. It can get worse if is left untreated.

Arrhythmias occur when the heart does not beat in a normal manner. It either beats very slowly or very fast. If it beats very slowly, this situation is called bradycardia. On the other hand, if the heart beats very fast, this is known as tachycardia. In both cases, the heart's function gets disturbed and it is unable to pump blood properly due to which body parts get deprived of oxygen. Without oxygen supply, tissues begin to die. Symptoms of heart arrhythmias include chest discomfort or pain, fainting, lightheadedness, fluttering in the chest, and shortness of breath. Deep vein thrombosis is a condition where a clot is formed in the legs. It can damage the blood vessels and may move to the other body parts leading to severe damage.

The human heart has four valves: mitral, bicuspid, pulmonary, and tricuspid valve. These valves are responsible for the opening and the closing of the passageways of blood flowing through the heart.

Different factors may raise or lower the odds of a person's having a set of these deadly diseases. These include an unhealthy diet, physical inactivity, smoking tobacco, harmful use of alcohol, high blood pressure, high blood glucose levels, raised blood lipid levels, obesity, or being overweight.

Studies show a range of risk factors that can or can't be modified. The factors you cannot control are age, gender, race (hereditary). People who suffer from heart diseases are usually aged 65 or older. Heart attack can affect both males and females, but females are more likely to die than males.

Males are at a greater risk of having a heart attack and they have heart attack earlier than females. Cardiovascular diseases (CVD) are the leading cause of death worldwide. Research shows that a diet high in fruits and vegetables, fiber, polyphenols, vitamins, minerals, and low in saturated and total fats lower the risk of the onset of cardiovascular diseases and their progression.

Dietary Approach to Stop Hypertension (DASH) eating pattern mainly focuses on fruits, vegetables, low-fat dairy products. This dietary pattern only allows the healthy food items. A study signed about 21000 women to DASH diet has significantly reduced hypertension and cardiovascular diseases risk factors (LDL). This dietary approach is not only helpful for hypertension, obesity but it can lower the risk of the initiation of cardiovascular diseases. Moreover, a decrease in blood pressure rules out the incidence of hemorrhagic stroke. Another risk factor is blood cholesterol levels (LDL and HDL). LDL is the "bad cholesterol" while HDL is the "good cholesterol". LDL plays a key role in plaque formation in the arteries. This plaque may restrict the blood flowing in the arteries and raise the risk of developing a wide range of heart diseases. DASH diet aims to lower fatty food items and replace them with healthy food choices. This, in turn, may lower blood cholesterol levels and high blood pressure. DASH diet is a heart-friendly diet. Managing blood pressure can make a huge impact on heart health. High blood pressure can damage the arteries, may block them, and prevent the blood to flow normally. It may also lead to stroke, kidney failure, and vision loss. Maintaining a healthy weight is another point to focus on. DASH eating patterns can help you to achieve a healthy body weight. Weight loss on this diet is accomplished by high fiber, protein, and good quality carbohydrates content.

Dietary Approaches to Stop Hypertension (DASH) eating pattern is packed with all the protective cardiovascular nutrients i.e. fruits, vegetables, dietary fiber, unsaturated fatty acids, poultry, fish, Na, Mg, Ca, K, whole grains, low sodium, less saturated fat, less processed and refined food products. The benefits of this diet (DASH) are not limited to hypertension, but studies have also reported other health benefits of this diet like improved LDL levels, stroke, diabetes, weight management, insulin sensitivity, total cholesterol, inflammation, and other cardiovascular diseases.

This diet is recommended by the health institutes (ADA, AHA, and NIH) and is packed with powerful compounds like antioxidants, polyphenols, and phytochemicals. Polyphenols, due to their antioxidant property, may help to reduce inflammation, a major risk factor of heart disease. They may also lower the risk of blood clotting. Polyphenols may also improve memory and learning. Dietary Approaches to Stop Hypertension (DASH) is a flexible and balanced diet. It requires no special foods or food supplements, and combining it with other lifestyle modifications like being physically active, quit smoking, and getting good sleep can provide additional health benefits.



Diabetes type 2:

Diabetes is a chronic medical condition. It affects how our body turns food into energy. The food we eat is broken down into glucose in our body which is then released into the bloodstream. This glucose surge signals the pancreas to release insulin. Insulin is an anabolic hormone that stores the extra calories (glucose) into the body cells.

In diabetes, the body is either fail to produce insulin or there is insufficient insulin production. In both cases, energy regulation is disrupted.

When there is not enough insulin or the body cells do not respond to the insulin properly, glucose levels rise in the bloodstream and it can cause severe impact on our health such as vision loss, heart disease, and related problems.

Diabetes is the number 1 cause of kidney failure. Nearly 34.2 Million US adults are suffering from diabetes.

Although there is no specific cure for diabetes, it can be managed by simply inducing some lifestyle changes like losing weight, a healthy diet, and checking the blood glucose levels on a regular basis.

There are three main types of diabetes i.e. type 1 diabetes, type 2 diabetes, gestational diabetes. In this section, we'll focus on type 2 diabetes.

Diabetes type 2 is the most common type of diabetes. More than 90 percent of diabetic patients have type 2 diabetes. It occurs when your body either doesn't make enough insulin or the body itself is unable to use the insulin properly. As a result, too much glucose stays in the blood and the body's glucose stores become deficient. It can occur at any time of life even in childhood but the majority of people who are affected are middle-aged or even older. Some have a family history of diabetes. Others have high body weight.

Some ethnic groups are more affected than others. For example, African Americans, American Indians, Asian Americans, Hispanics, or Latino more commonly develop diabetes than any other group.

There are some other risk factors that need special attention and physical activity is one of them. Other than that, high blood pressure also plays a key role in developing diabetes.

Diabetes is still the seventh cause of death in the United States. Most of them (1 in 5) diabetic patients don't even know that they have diabetes.

The most common symptoms that are associated with diabetes include increased hunger and thirst, fatigue, blurred vision, tingling and numbness of hands and feet, unexplained weight loss.

It is to be noted that these symptoms develop very slowly i.e. over the course of several years. Others have mild symptoms. Some of them don't even have any of these symptoms and they only get to know when they have diabetes-related health problems.

When it comes to the point of what causes the type 2 diabetes, there are multiple factors involved. These include being overweight or obese, insulin resistance, genes, or physical inactivity. Diabetes type 2 can be managed by an intensive lifestyle changes. These include weight management, dietary modifications, physical activity, and regularly monitoring blood glucose levels. Losing extra weight is essential for a diabetic patient. A weight loss of 5 percent of the total body weight is recommended. If weight loss cannot be achieved, a healthy eating pattern is encouraged to prevent any further weight gain.

Dietary modifications also play a key role to reduce the risk of type 2 diabetes. A diet that is high in whole grains, fruits, vegetables, and nuts is recommended to a diabetes patient. In addition, a person should limit their fat and sugar-sweetened food items consumption and keep their blood lipids and glucose levels in the normal range.

Lifestyle modifications are as much important as any other intervention. 150 minutes of physical activity like brisk walking is recommended on a weekly basis. Being physically active makes the body become sensitive to insulin action to some extent.

The treatment of a diabetes patient is initiated with nutrient therapy and lifestyle modifications. The fundamental and primary objective of a diabetes care plan is to keep the blood glucose levels in the normal range. Hence, it is suggested to keep the glucose levels as close to the normal ranges as possible.

Nutrition therapy can improve our blood glucose levels and may impact the overall health status of a diabetes patient. Nevertheless, the personal preferences and eating habits of the patient must be considered. For this purpose, a registered dietitian can design a good eating plan for you based on your needs.

The recommended percentage of macronutrients i.e. carbohydrates, protein, and fats depends upon the factors like a person's food preferences and metabolic factors. The carbohydrates we consume have a huge impact on our blood glucose levels. It varies among individuals and is based on a person's glucose tolerance, body weight, and blood lipid levels.

Glycemic control is also important. Different foods impact differently on our blood glucose levels. For example, white rice may raise glucose levels much higher than a similar portion of barley. Glycemic values of a type depend upon the type of carbohydrate present in it. Simple carbohydrates can cause glucose spikes and can cause glucose sugar. For this reason, complex carbohydrates are recommended to a diabetic patient. These include whole grains, fruits, vegetables, and other high-fiber, low processed foods. A DASH (Dietary Approaches to Stop Hypertension) eating pattern focus on healthy food choices. Fruits, vegetables, whole grains are excellent sources of dietary fiber, which has a huge impact on digestion, and fullness. It slows down the digestion of carbohydrates present in our diet and releases glucose into the bloodstream gradually. People with diabetes are encouraged to consume food items that have high fiber content may improve the glycemic control

Protein is another micronutrient. Several small studies show that protein intakes i.e. up to 28 percent of total kilocalories may improve the blood glucose and lipoprotein levels. But high protein content is discouraged for a diabetic patient, because it may have a negative effect on kidneys, and may be harmful to a patient with nephropathy.

DASH eating pattern is low in dietary fats and focuses on high fiber foods, unsaturated fats, and complex carbohydrates. Lowering the fats and promoting good quality carbohydrates can improve blood glucose levels and give you more energy.

The DASH eating pattern is a widely acceptable eating pattern. It has a huge impact on a wide range of biological parameters such as insulin resistance, blood glucose levels, hyperlipidemia, hypertension, overweight, or obesity. The DASH eating pattern was first developed as a systematic approach to control high blood pressure. People with diabetes are at high risk to develop hypertension. So it is quite reasonable to use this plan for both hypertension and diabetes.

STROKE:

Stroke (ischemic or hemorrhagic) is a condition of impaired blood flow to the brain tissue. It is the seventh leading cause of death in the United States. About 87 percent of cases are ischemic stroke, the remaining 13 percent are hemorrhagic stroke. It may cause severe brain injury and affect the entire brain function. Hemorrhagic stroke may cause bleeding in the brain and rupture the vessels supplying blood to the brain. This is the most deadly form of stroke. It may result from a weakened blood vessel due to atherosclerosis and severe hypertension.

In some cases, strokes may occur suddenly and are short-lived. These are called transient ischemic attacks. They usually cause some neurological symptoms like confusion, paralysis, difficulty in breathing.

Risk factors of stroke are similar to those of heart diseases like hypertension, high LDL, diabetes, physical inactivity, cigarette smoking, aging, and a previous history of any cardiovascular disease.

Stroke is preventable can be managed by intensive lifestyle changes. The damage stroke may cause depends upon the area of the brain affected: speech, sense, body movements. Stroke can be managed with nutritional therapy. The main objective of nutritional therapy is to maintain nutritional status and overall health.

The first and foremost step is to assess the eating disability of the patient. Dysphagia or the difficulty in swallowing, difficulty with speech are some of the complications associated with the stroke. Sometimes, tube feeding is necessary in order to maintain a constant nutritional status.

In other words, eating healthy well is the key. Intake of red meat, processed food items, sugar-sweetened products, and unhealthy fat consumption has increased while the fruits and vegetables consumption had drastically decreased. According to American Heart Association, less than one percent of Americans consume a healthy diet. The Dietary Approaches to Stop Hypertension (DASH) eating pattern emphasized eating a lot of fruits and vegetables, whole grains, low-fat dairy, less red meat, nuts, and legumes, fish, and poultry.

People who are at risk of stroke should have a high intake of fruits, vegetables, beneficial oils like canola oil while limiting their intake of red meat and other unhealthy food items. Avoid deep-fried food products and hydrogenated fats like trans fats, seldom meat; mainly poultry and fish, only whole grains. Limit salt. Managing your blood pressure and cholesterol levels is also important. Dietary Approaches to Stop Hypertension (DASH) is a heart-healthy diet. It can lower your risk of having a stroke. The biggest thing is to limit your processed food items. Following are some of the strategies that can lower the risk of you having a stroke.

1) Eat a variety of foods:

No single food item can provide benefits to our bodies. Adding a variety of food items from all the food groups is essential as suggested by the dietary guidelines.

2) Eat colorful foods:

Getting the right amount of nutrients is very important. By choosing a rainbow approach, you can nourish your body and lower the risk of developing any disease.

3) Fruits and vegetables:

Fruits and vegetables are packed with heart-healthy nutrients. Research has shown the health benefits of consuming plenty of fruits and vegetables. They may lower the risk of having a stroke, cancer, and other cardiovascular diseases.

A meta-analysis of cohort studies with 469,551 participants has shown that a diet rich in fruits and vegetables reduced the risk of cardiovascular diseases. People who consumed an average of eight or more servings of fruits and vegetables lowered their risk of heart disease and stroke. Try to eat at least 5 servings of fruits and vegetables every day.

4)Limit your saturated fats and cholesterol:

Cholesterol is a waxy substance that is found in the blood. It is used to make healthy cells in the body but having high blood cholesterol can increase the risk of developing cardiovascular diseases. Too much cholesterol can cause fatty deposits in your arteries and build plaques in them. This can make your arteries harder and narrow. High cholesterol usually depends upon two factors: how much cholesterol your body (liver) makes, and how much you eat in the form of fatty food items. Foods that have high saturated fat content can raise your blood cholesterol. These include animal products like butter, red meat, cheese, and some vegetable oils. Limit your saturated fat intake by replacing them with healthy food choices. Instead of full-fat milk, you can use skimmed or 1 percent fat milk. Instead of whole egg, you can eat eye whites only or egg substitutes. Diets that are high in trans fats are also high in cholesterol. These include most fried items, many processed items like cookies, crackers.

So instead of deep-fried items, choose baked or grilled foods. Instead of crackers made with hydrogenated fats, choose baked ones.

Limiting your cholesterol is important and it is essential for stroke management.

5)Reduce sugar:

Excess sugar intake is detrimental to health and is linked to high blood pressure, obesity, and stroke. The Western diet of today is loaded with sugar and salt. Examples include sweetened beverages, jellies, jam, white sugar, and other processed food products.

6)High fiber foods:

Foods that are high in fiber are considered to be healthy for the heart. It may reduce your cholesterol levels and overall risk of cardiovascular diseases. Dietary fiber is present mostly in plant-based foods. It affects how you digest the foods and absorb nutrients. It also helps to control the blood sugar, stoke and promotes satiety.

Sources of dietary fiber include whole fruits, whole grains, fruits, vegetables, brown rice, and others. All refined and processed foods are low in dietary fiber

7)Enough Potassium:

Potassium is important for the proper functioning of the heart. Dietary Approaches to Stop Hypertension (DASH) eating pattern promotes eating an adequate amount of potassium. Sources of potassium include fruits, vegetables, milk, spinach, apricots, bananas, apples, oranges, sweet potatoes, and others.

8)Get physically active:

Exercise is very beneficial for lowering blood pressure, maintaining healthy body weight, and reducing the risk of getting a stroke. One may reduce the risk of stroke by simply adhering to an active and healthy lifestyle. A meta-analysis of 23 studies suggests that physical activity is associated with a reduced risk of stroke. Participants who were physically active had a 25 percent lower risk of stroke. Another meta-analysis confirmed these findings. Participants who were moderate to highly active lifestyles had a reduced risk (about 20%) of stroke in both men and women.

Chapter 4

PROS AND CONS OF DASH DIET

Benefits of DASH diet:

This diet focuses on fruits, low-fat dairy products, and vegetables in addition to some lean protein products such as beans, chicken, and fish. This diet restricts the intake of red meat, sugars, fats, and especially sodium. This diet helps in weight loss as it is low in sugars and fats which are the major factor of obesity. It also helps in lowering the risk of cardiovascular diseases, Type 2 diabetes, metabolic syndromes, and reduced pulse wave velocity.

Nutrient-Rich Diet:

This diet is high in fiber, vitamins, minerals, protein. This diet promotes healthy living and increases life span by making you strong to fight against chronic diseases as discussed in the previous chapter.

Pocket-friendly diet:

This diet is pocket-friendly, it includes vegetables, fruits, beans, chicken, fish, etc. The fast and junk food we eat is costly and dirty food. A healthy diet like the DASH diet saves our money as well as our life.

Weight loss tool:

It aids in weight loss because this diet is high in fiber and increases our satiety level and as a result, our hunger level decreases. The adequate intake of food makes you healthier. While ingesting fewer calories than needed makes you achieve weight loss. This diet fulfills the requirement of 2000 calories per day. In this diet, we can achieve weight loss with a combination of physical activity to make your extra fats burn efficiently.

Decrease in LDL Cholesterol:

Dietary Approaches to Stop Hypertension (DASH) diet emphasizes the consumption of unsaturated fats and limit saturated fat intake. Saturated fat raises blood cholesterol and LDL “bad cholesterol” levels which is a biomarker of cardiovascular diseases.

POTENTIAL DOWNSIDES OF DASH DIET:

Kidney issues:

Dietary Approaches to Stop Hypertension (DASH) eating pattern is characterized by high intake of fruits, vegetables and other healthy food choices. Other than providing a considerable number of health benefits, i.e. hypertension, cardiovascular diseases, diabetes mellitus, stroke, and weight loss, this particular diet also has some limitations. DASH eating pattern is associated with lowering the blood pressure, which is a major risk factor of chronic kidney disease (CKD). Chronic kidney disease (CKD) is a medical condition where kidneys get damaged and cannot filter blood as efficiently as they should. The main risk factors for developing the chronic kidney disease (CKD) are hypertension, diabetes, heart disease, and a family history of kidney disease. High blood glucose levels may damage your kidneys and affect its blood filtering capacity. The first sign of kidney damage often appears as too much protein in the urine. This means that your kidneys are not working properly and the waste material that is needed to get filtered, cannot get out of the body.

High blood pressure damages the blood vessels, which in turn, may affect how your kidneys filter the waste and remove the extra body fluid. These are the biomarkers of kidney disease. It results in low average glomerular filter rate (aGFR).

Some studies implicate that DASH diet is associated with the progression of end stage kidney disease. This study followed 1,110 participants aged 20 years or older with moderate chronic kidney disease (CKD) and hypertension for a period of 7 to 8 years period on a DASH diet. About 18 percent of them developed end stage kidney disease (ESKD). Although, dietary approaches to stop hypertension (DASH) diet reduces the hypertension to a substantial rate, it may also raise the risks of developing end stage kidney disease (ESKD) in individuals with moderate chronic kidney disease and hypertension. The possible reason behind this could be the fact that this diet is high in magnesium, potassium, calcium, phosphorous, and protein. Potassium is essential for proper functioning of human body. But high potassium may have certain health implications; it may reduce the kidney's functioning and the kidney will not be able to remove extra calcium from the body. Potassium toxicity may lead you to a condition called hyperkalemia. Symptoms of hyperkalemia include abdominal pain, chest pain, nausea, vomiting, and arrhythmias. It may cause certain life threatening health problems like heart attack.

However, some studies advocate the DASH diet in this preference. Further research is needed for clinical practices.

Bloating:

Another possible drawback of this diet is bloating. Dietary Approaches to Stop Hypertension (DASH) eating pattern is high in dietary fiber and it may cause bloating issues. Dietary fiber has certain health benefits: it helps to maintain bowel health, control blood sugar levels, helps to achieve weight loss, prevents certain heart diseases, diverticular disease, constipation, and colon cancer. But dietary fiber also has certain pitfalls. Fiber is also responsible for gastrointestinal disturbances such as bloating. Fiber is present in nearly all plant-based food sources like whole grains, fruits, vegetables, etc.



Chapter 5

ENVIRONMENTAL BENEFITS OF DASH DIET:

SOCIAL BENEFITS

Red meat; a social issue:

As discussed earlier, red meat is restricted in the DASH diet. It includes chicken and fish. Red meat consumption is increasing day by day. If we take a look, its consumption was less before the 1960s. stock production has a negative impact on Green House Gas (GHG) emissions. According to an estimate, about 23% of Green House Gases come from agriculture and forestry. Green House Gases (GHG) are a major factor in global warming. the temperature of our earth is increasing day by day due to bad and harmful habits. It is also a cause of water pollution. Red meat is a major source of CO₂ emissions. White meat has less or no CO₂ emissions. This emission is due to ruminant enteric fermentation, which is a fermentation that occurs in the intestine. The ingestion of meat and meat products is a source of essential nutrients like proteins, iron, and vitamins for healthy living.

However, there are negative impacts of the consumption of meat on the environment. The investigation was done in Denmark, in which Life Cycle Assessment (LCA) was used for the estimation of the carbon footprint of four types of dietary patterns (Standard, carnivore, vegetarian and vegan). Every step was taken into account, from the production in the farm to the ingestion. This investigation showed that the diets in which there is the consumption of red meat emitted more CO₂ (1.83 t CO₂eq/person/year, respectively), it was concluded that this type of diet has a negative impact on the environment. As compared to other diets such as vegetarian or vegan, they showed fewer emissions (0.89 and 1.37 t CO₂eq /person/year, respectively.)

Red meat is also a cause of viral infections and many other health issues. Some researches show that red meat is a potential cause of cancer, it contains carcinogens. Carcinogens are the agents, which are the cause of different cancers. International Agency for Research on Cancer (IARC) gave a statement that red meat contains carcinogens, which are responsible for cancer. In 2015, groups were given red meat in different quantities and forms, it was seen that red meat was carcinogenic to humans. Later on, various studies and experiments proved this statement true.

It is advised to consume red meat should be less than 50g/day. This can prevent various types of cancers like prostate cancer, breast cancer, or colorectal cancer.

Chronic Kidney disease is also associated with the consumption of red meat. There is a recent study, performed in Costa Rica. It shows that red meat affects blood sugar levels negatively. Another issue is religious values, some religions consider eating beef a sin. This causes a dispute in different religions. In this regard, the DASH diet solves many issues by restricting red meat.

IMPROVED MENTAL HEALTH OR BEHAVIORAL CHANGES

Mental health and behavioral changes are directly associated with social interaction and your role in society. Many factors affect our mental health. Mental disorders are highly associated with the increased rate of mortality and various chronic diseases in the human body. According to studies, a healthy diet can prevent depression and anxiety. When a person is having depression, he/she would have changes in behavior. As a result, social interaction is affected. Most studies show that some nutrients like vitamin B, folate and omega-3 fatty acids.

A diet high in fruits, vegetables, and nuts is considered good for depression. Various studies suggest a Mediterranean diet for depression. Some studies show the positive effect of the DASH diet on Mental health. DASH diet was developed by the National Institute of Health (NIH) for the purpose of lowering blood pressure. It shows many other positive effects on the human body, physically, socially, and mentally.

The potential impact of the DASH diet is highly related to the include food groups and nutrients in fruits and vegetables, low-fat dairy products, whole grains, nuts, less amount of salt, restricted sweets and red meat, limited fat intake, high fiber, potassium, magnesium, and calcium. This diet includes the food and food patterns that make this diet a low-glycemic index and low-energy-dense dietary pattern regarding its focus on carbohydrates quality. Individuals should practice the reduction of snacks that are high in sodium like salted chips, and other processed food. DASH diet makes you eat less than 2400 mg sodium per day. This diet is based on 2000 kcal per day

6 servings of whole grains

3 -4 servings of vegetables,

4 servings of fruits

½ to 1 serving of nuts

2-3 servings of nonfat or low-fat milk

3 servings of oil

1-2 servings of meat, fish, and poultry.

There is a huge interaction of various nutrients and foods, therefore weighing up the whole diet as a dietary pattern is preferable to a single nutrient. According to the report of Torres and Nowson, the DASH diet improves depression and the moods are also improved in postmenopausal women. It is observed that fluctuations in mood and mental health mostly occur in adult women. Research has done on women and girls and found that there exists an inverse association between adherence to the DASH diet and prevalence of depression and anxiety. It means, DASH diet improves mental health. However, this research failed to show a strong linear relationship and also found no apparent relation between adherence to the DASH diet and aggression.

As there are limited studies about the DASH diet and mental health condition there are several studies that had shown an apparent association with the DASH diet food and depression. A systematic review and meta-analysis were carried that shows a reduced risk of depression by high intake of whole grains, vegetables, fruits, and low-fat dairy products. There are various nutrients available like folate, B vitamins, n-3 PUFAs in fish that have shown beneficial effects on psychological improvement. These nutrients are also helpful in the reduction of inflammation and oxidative stress. These nutrients are the main ingredient of the DASH diet and manage the metabolic syndrome. Inflammation and oxidative stress can encourage depressive symptoms by disturbing autonomic nervous systems and damaging neurons. Higher amounts of added sugar and sugar-sweetened beverages were associated with depression risk and other mental stress. A person is consuming a high amount of sweets and sweetened beverages then the blood glucose level will become high and there will be an induction of oxidative stress. Aspartame is the main component of sweetened beverages that cause neurological effects and increase the secretion of brain neurotransmitters such as serotonin and dopamine. The DASH diet is rich in all these foods. Hence, the DASH diet has a potentially positive effect on our mental health that drives our behavior smoothly. This causes an obvious impact on our social interactions.

ECONOMIC IMPORTANCE:

The role of a good dietary pattern in the prevention of chronic diseases is well established. However, the socioeconomic status of an individual also plays an important role in choosing these healthy food choices. The risk of developing non-communicable diseases is significantly high in populations with low socioeconomic status. The DASH diet emphasizes an increased intake of fruits, vegetables, whole grains, lean protein sources, and low-fat dairy. It also promotes a decreased intake of salt to less than 2,300mg per day (with a goal of 1,500mg per day) to help reduce blood pressure. Energy-dense/nutrient-poor (discretionary) foods and red meats are also limited in this diet, but not banned. Overall, this diet falls in line with general dietary guidelines: 68 serves grains, 45 serves of vegetables, 45 serves fruit, 23 serves dairy, 6 serves or less lean meats (total 170g), 45 serves per week of nuts/seeds/legumes, 23 serves fats/oils, less than 5 serves per week sweets. Studies suggest that these populations tend to have low nutritional status and less adherence to the dietary guidelines and they ultimately end up having unhealthy dietary behaviors.

The cost of a diet is very important, especially for the individuals with low socioeconomic status. Meta-analysis have shown that unhealthy food choices like fast food, high processed foods, and sugar sweetened drinks are less costly than the healthy food choices suggested by the dietary guidelines. For this reason, the cost of fruits, vegetables, grains, and other food groups can sometimes act as a barrier for low socioeconomic individuals. Studies suggest that following a healthy eating pattern like DASH diet cost more than a fast food. The more you adhere to this dietary pattern, the more it will cost. This particular eating pattern is packed with fruits and vegetables which cost more than a typical American diet. Furthermore, a study also suggest that following DASH diet is dependent on economic status. Geographic access is also very important. The farthest you are from a supermarket, there are less chances o to consume DASH diet food items.

Chapter 6

DASH DIET WITH RESPECT TO AGE GROUPS

TODDLERS AND PRE-SCHOOLERS



Children between the age of 1 to 3 are defined as toddlers. In this age the development is rapid and this stage of development is considered a rapid increase in social and personality enhancing skills with succeeding increases in autonomy, ability to explore the environment, and also the language skills are improved. Preschool-age children lie between the age of 3 to 5 years. At this age child stage of development include increasing autonomy; facing vast social conditions, such as spending time in preschool or interacting with friends and relatives. This social interaction increases language skills and escalating the ability of the child to have power over behavior.

POVERTY; a leading cause of undernutrition

There is a dire need for an appropriate intake of energy or calories for the pre-schoolers and toddlers to give the best performance throughout the day in their daily activities. Lack of adequate nutrition in children during these years spoils the cognitive development of children. Undernutrition also harms the ability of children to explore the environment. These long-term consequences of undernutrition such as failure to bloom and impairment of cognitive development can be tackled or prevented through adequate nutrition and a healthy lifestyle.

The healthy living of children is estimated by the rate of children living the life of poverty, and the rate of children living in poverty has increased spectacularly in recent years. In the year 2006, the rate of poverty was 18%. Thirty-three percent of children had faced full-time no parenting, and 14% of these children were having no health insurance. In the year 2006, there were 33% of children (or about 22 million) lived in families of single-parent. All of these factors made them more likely to face poverty.

When doctors or dietitians make an evaluation of the nutritional status of young children and providing education and awareness of nutrition to their parents, the important thing in this regard, that should be considered is the environment in which children are living. It is not possible to set up healthy eating habits in the environment of poverty and food insecurity. There are some differences that exist in the health status of children due to different races and ethnicities.

Eating Habits of Toddlers:

Parents should keep in mind that in the age of toddlers the loss of appetite is a normal thing. This is because of slow growth in toddlers. Toddlers have newly established gross and motor skills they are excited to go to new places and to explore new environments. If your child gets easily distracted during mealtime then there is no need to worry, it is a normal part of the development or growth of your child. At this age, your child needs a toddler-sized portion, according to its ability to digest and body's need. There is a rule of serving size, one thumb is one serving that is 1 tablespoon for a child of one year, and the number of tablespoon increases with the age of a toddler. Following this rule of thumb or tablespoon, a serving for a 3-year-old child would be about 3 tablespoons.

It is suitable for a child to give him a small portion and then ask him for more food instead of serving a large portion in front of him. Parents usually miscalculate the portion sizes needed for the proper growth of their child, this is a major contributor in making your child a "picky eater". The reason behind this is, that toddlers are unable to eat large portions at a single time. Snacks are a fundamental part of fulfilling the nutritional needs of your child. It is very important to keep in mind that you should completely restrict your child from junk food and sweetened beverages during snack time. These snacks can "eradicate" the small appetite of toddlers for breakfast, lunch, or dinner. The eating pattern of toddlers should be organized, it should be based on flexible timings of breakfast, lunch, and dinner. There should be a gap in between meals that would increase their hunger. This makes them eat proper and adequate food at specific meal times. Dietitians and doctors advise parents to allow toddlers to eat in hunger rather than forcing them to eat when they have no hunger.

Eating Habits of Preschoolers:

It is observed that the preschoolers are mostly "picky eaters". There are several reasons behind this problem, a main problem is that the child has limited exposure to food. A limited type of food has been experienced by him since his birth. His tongue is introduced with a particular taste. Doctors and dietitians avoid parents making a battleground between a child and them. This can make a child pickier towards eating. Parents and caretakers are advised by diet experts to present food in front of their children in an attractive way. It is observed by parents that their child does not like salads, different items mixed in the same dish. They also do not like foods and vegetables that have brawny flavor, spicy foods are also avoided by children of this age. Preschoolers and toddlers are considered picky eaters, their parents are advised to avoid the random eating between the timings of breakfast, lunch, and dinner. These manners often "kill" the hunger at mealtimes. Children should not be forced to eat and stays at the table for a long time without their will.

DASH Diet for Toddlers:

DASH diet is basically designed for the reduction in the levels of high blood pressure. If we talk about toddlers, children from 1 to 3 years, they usually do not have the issue of hypertension. They can have primary or secondary hypertension.

Primary hypertension comes from family, it is hereditary.

Toddlers may face the complications of hypertension due to:

- Renal parenchyma disease
- Renal vascular disease
- Endocrine diseases
- Coarctation of the aorta
- iatrogenic disease

Hypertension in toddlers is mainly due to kidney diseases.

According to the data of NHANES (2007–2008), 10.4% of the children with ages 2 to 5 years had BMI-for-age percentiles superior to or equal to the 95th percentile.

Obesity is now common in toddlers worldwide. This is due to bad eating habits, developed by their parents.

Children who are addicted to junk food have a problem of obesity or overweight. It is harmful to the health of your child.

DASH diet can be used for both cases. Either for hypertension or obesity in toddlers. It emphasizes the ingestion of fiber which is overall good for child health. Through the DASH diet, a child can get all the essential nutrients that are required for normal and healthy growth. A consultation from a dietitian is required. he can better tell what to eat and when to eat.

Besides this, the DASH diet can also be helpful for the healthy living of toddlers. It makes your child healthy by providing all the essential nutrients to the body of your child. It gives protein, calcium, potassium, magnesium, fiber, vitamins, essential fatty acids, etc.

It can also be used if a child has any cardiovascular disease.

Hence, the DASH diet can be applicable to toddlers.

DASH Diet for Preschoolers:

The causes of hypertension are the same in toddlers and preschoolers.

Obesity and hypertension, both diseases that exist in preschoolers.

Preschoolers can follow the DASH diet for:

- Healthy living
- Hypertension
- Obesity
- Cardiovascular health

For a preschooler, a consultation with a diet expert is a must. He will guide about the adequate amount of different foods to be consumed at different times of the day.

ADOLESCENTS



We eat food for various reasons, but the most compelling reason is the body's need for energy or calories, nutrients, and other substances that are required for proper body functioning. A calorie is a measure of the amount of energy. It is derived from the food we eat and transferred to the human body to meet the daily energy requirements. A calorie is a unit of measure and not a substance that is actually present in food, so it is not considered to be nutrients. Nutrients are chemical substances in our daily food items that the human body uses for a variety of functions that support normal growth, development, tissue repair and maintenance, and overall health. Essentially, every part of our body i.e. cells and organs was once a nutrient consumed in food. The nutrients that the human body requires are carbohydrates, amino acids (essential amino acids), fatty acids i.e. linoleic and alpha-linolenic acid, vitamins, minerals, and water. While non-essential nutrients include cholesterol, glucose, and creatine. All humans need the same nutrients, but the amount required varies and is dependent on many factors like; age, body composition, gender, growth, illness, lifestyle factors like smoking, and alcohol intake, medications, and several other factors. Nutritional needs are determined and modified by the degree of sexual maturity and age (biological age) instead of chronological age

Adolescence is the age period of 12 to 21 and is characterized by substantial physical, cognitive, and emotional maturity. These changes have direct effects on their nutritional status. On the other hand, unhealthy and healthy compromising eating behaviors like excessive dieting, meal skipping, and use of unconventional nutritional and non-nutritional supplements, and the adoption of fad diets are also very prominent during this age period. Only a small number of adolescents meet their nutritional requirements i.e. fruits, vegetables, whole grains, vitamins, minerals, water, and others exceed their nutritional needs. Usually, adults give a perspective about adolescence as a chaotic, imprudent stage of life that children must go through. However, this perspective harms the importance of development in this phase. The experiences in this phase of life are very much different than the experiences of the toddler phase. It includes the advancement of a personality and achieving a unique status that is separate from parents and other family members. It includes a struggle for personal liberty escorting by the need for money and social support by family. There is also a need to cope up with body changes that occur during this phase. When we see these imprudent behaviors practically and positively, they seem to be a unique, positive, and essential change in life. This makes an adolescent a responsible citizen. These changes need immense power to make things going on their path smoothly. The puberty of females starts between 10 to 14 years while puberty of males starts between 12 to 16 years.

Nutritional Needs:

All of these biological, psychosocial, and cognitive changes that occur during adolescence are have a direct impact on the nutritional status of adolescents. The need for energy due to these changes increases and the need for essential nutrients required for growth increases such as protein, vitamins, and minerals. Eating behaviors during adolescence are also affected by food preferences, food availability, cost, convenience, religious beliefs, and many other socioeconomic, psychological, biological factors. Nutritional messages and counseling can have a huge impact on their health and may protect them from long-term health risks. A good nutritional status can greatly affect their athletic, academic performance and may also have a positive effect on their appearance. Calcium intake plays a key role in the bone mass growth of adolescents. But calcium is usually consumed less than its recommended value in this age. It can have a negative effect on their bone health and may also deplete their calcium deposits.

Being physically active is also very important for bone mass. During puberty, there is an increase in lean body mass, skeletal mass, and body fat which results in their increased nutrient and energy needs. Physical maturation that has occurred during this life stage corresponds with their nutritional and energy needs. Energy needs are directly influenced by their basal metabolic rate (BMR), physical activity level, and increased requirements to support their growth and development. BMR is directly related to their lean body mass. Adolescent males have high caloric (energy) needs due to their greater weight, height, and lean body mass than adolescent females. Data suggest that adolescents in the United States usually consume a diet that is depleted of certain nutrients and is high in dietary sugar and fats. Protein needs during adolescence are influenced by the amount required to maintain their existing lean body mass, plus the amount required to accrue additional lean body mass during the adolescent growth spurt. The protein required for adolescents is 0.85 g per kg body weight per day. This value is slightly higher than the adults. Protein requirements are highest when the growth is at its peak. Carbohydrates are the immediate and primary source of energy. Food that has a high carbohydrate content like fruits, vegetables, legumes, whole grains are also high in dietary fiber. The recommended carbohydrate intake is 130 grams per day and it constitutes about 60 percent of total daily energy requirements. Artificial sweeteners and added sugars provide about 21 percent of total energy needs. Foods that are high in sweeteners include baked items, soft drinks, and sweetened beverages are the major food sources of sweeteners. Dietary fiber is very essential for normal bowel function and may play a role in the prevention of various diseases such as diabetes, cancer, etc. Adequate fiber intake is the key. Dietary fiber is thought to reduce serum cholesterol levels, blood sugar levels within the normal range, and reduce the risk of obesity. The recommended intake of dietary fiber for adolescent females is 26 grams per day, and for males, less than 14 years of age is 31 grams per day, and for older adolescent males at 38 grams per day. Dietary fiber intake among males increases slightly with age during adolescence, while it decreases with age among females. The low intake of fruits, vegetables, and an average intake of less than one serving of whole grains per day are the main factors affecting fiber intake among adolescents.

DASH Diet:

Dietary Approaches to Stop Hypertension (DASH) is a very healthy eating pattern for adolescents because it focuses on eating a variety of fruits, vegetables, whole grains. This dietary pattern includes foods from all food groups and follows the dietary recommendations of USDA. Adolescents usually consume a high sodium diet and some of them suffer from hypertension. Other risk factors for hypertension among adolescents include a family history of hypertension, high dietary intake of sodium, overweight, hyperlipidemia, inactive lifestyle, and tobacco use. Some adolescents also have high cholesterol levels which is the main underlying cause of cardiovascular diseases. DASH diet can be very effective for these conditions.

ADULTS



Introduction:

Adulthood is the age period of very long and active growth and development between infancy, childhood, adolescence, and older adults. It is a life stage of sustaining the mental and physical capacity. The age period between 20 to 64 is where the diet, physical activity, smoking habits greatly influence the future health of an individual.

Five of the ten leading causes of death have risk factors that we can modify by a good diet and physical activity i.e. cancer, diabetes, hypertension, heart disease, and stroke. All of these are preventable and one can reduce their onset and severity by adopting a healthy lifestyle. Dietary risk factors for the onset of cancer include low fruit and vegetable intake, low level of antioxidants (especially vitamins A, C), low intake of whole grains and fiber, high dietary fat intake, nitrosamines, burnt and charred food, high intakes of pickled and fermented food, alcohol consumption, high animal foods, low plant-food intake. While a lifestyle approach that has high saturated fat (>10% calories), trans-fatty acid intake, dietary cholesterol intake >300 mg, low antioxidants, low fruit and vegetable intake, low intake of whole grains, no or excess alcohol, high waist circumference (men >40, women >35 inches), elevated plasma Apo B levels, high levels of LDL cholesterol, especially in men, low levels of HDL cholesterol, especially in women, high blood triglycerides, glucose intolerance, hypertension, stroke, high sodium, low potassium, low milk and dairy foods, excess alcohol, low levels of antioxidants have a contributing role in the development of heart diseases. Adulthood is subdivided into the following categories: Early adulthood is the period of twenties which is a period of getting done with schooling, self-independence, and looking for other life opportunities, and thirties which is characterized by very high social responsibilities like looking after children, caring for the loved ones, and other social tasks. Midlife, which encompasses our forties involve active family, professional, and work-related responsibilities. The fifties are also referred to as the sandwich generation in which work and career are the top priority of an adult along with health concerns. Old age is the phase of the sixties, where most of the adults are getting retired from their jobs, and play their responsibilities as guardians.

Physiological changes:

Most individuals stop growing by the time they reach their twenties. However, the bone density of both men and women continues to develop until age 30. Muscular strength is affected by the factors like muscle size, weight training, and regular use of muscles. The type and duration of physical activity also play a key role in this aspect. Muscle mass, flexibility, dexterity, and sensory abilities gradually decline with age, while the body fat is increased.

Hormonal changes:

The decline of estrogen production in women results in menopause. Menopause is the end of menstruation. It is associated with an increase in abdominal fat and there is an increased risk of cardiovascular diseases and loss of bone mass. Men experience a gradual decline in testosterone level and muscle mass. Physical activity and weight training to increase muscle mass result in small and transient increases in testosterone level. Obesity is associated with higher estrogen levels in both men and women.

Energy needs:

The energy needs of an adult are based on an individual's metabolic rate and the thermic effect of food. A major part of total energy expenditure, about 75 percent, is associated with the involuntary chemical activities that occur within the body. Body organs like the kidney, liver, brain consume about 60 percent of the basal metabolic rate (BMR).

Calories intake based on macronutrient content for adults are fats 20-35 percent of total calories, carbohydrates 45 to 65 percent, and protein 10 to 35 percent of total calories requirement.

Fiber:

Dietary recommendations of fiber are 38 grams for adult men and 25 grams for adult women or it can also be evaluated as 14 grams of fiber per 1000 calories. Dietary fiber is very essential for the overall health of an individual. It reduces the absorption of cholesterol from the gastrointestinal region. It also has a positive effect on the blood glucose, lipids levels, and body weight of an adult. Food choices that are included in the DASH diet such as fruits, vegetables, whole grains provide a considerable amount of dietary fiber.

Vitamin A:

Vitamin A is a fat-soluble vitamin that is essential for cell differentiation, vision, immune function, and certain other functions. It keeps the mucous layer healthy and protects the skin from any infection-causing agents. Sources of vitamin A include vegetables. Fish, carrot juice, etc. These food groups are included in the DASH diet. Deficiency of vitamin A causes xerophthalmia, night blindness, and keratinization.

Adults, due to their unhealthy eating behavior, gain extra body weight and become obese.

Adipocytes are not just the passive deposits of extra fat. They constitute an endocrine system and secrete certain factors that are associated with low-grade inflammation and may lead to other health consequences. Obesity is not simply a matter of excess calorie intake. It is a set of complex physiological, individual, and environmental factors. Environmental factors such as food advertising, the easy availability of highly palatable food items, larger retail package sizes, and larger portions served in fast-food and sit-down restaurants, and the relatively low cost of fast food and energy-dense foods work against healthy eating and contribute to the obesity epidemic. Body fat content and its distribution is a more important indicator of health than body mass index (BMI). Overweight, obesity and abdominal fat are correlated with disease risk in a dose-response manner. Increased waist circumference is associated with higher risk even in persons of normal weight. Even a small amount of weight loss (5 percent) can reduce or prevent the health risks associated with obesity like diabetes, cardiovascular diseases, etc. The goals of weight management should be to prevent any further weight gain, reduce body weight, and maintain lower body weight for the long term. Accomplishing this requires sustainable lifestyle changes i.e. healthy and balanced diet, physical activity. Calories deficit is necessary to lose weight. A calorie deficit of 3500 kcal is needed to lose one pound of body weight. Similarly, a calorie deficit of 300 kcal, 500 kcal, and 1000 kcal are required to lose $\frac{1}{2}$, 1, and 2 pounds of body weight per week. Losing weight is not a major issue, maintaining healthy body weight is key to sound health.

Dietary Approaches to Stop Hypertension (DASH) is a dietary pattern that focuses on eating healthy foods. Foods that are nutrients dense and are high in fiber can help you to achieve the desired weight loss. DASH diet promises to add all food groups and follows the dietary guidelines.

The DASH Eating Plan for a 2000-calorie diet includes

- Lean meats, poultry, fish 2 or fewer
- Nuts, seeds, legumes 4–5/week
- Fats and oils 2–3
- Sweets 5/week
- Grains 6–8
- Vegetables 4–5
- Fruits 4–5
- Fat-free or low-fat milk and milk products 2–3

OLDER ADULTS



What is considered as being old? First and foremost, there is no biological definition that signals a person's becoming old. However, there are some governmental and other benchmarks that do exist. A survey that was conducted by Pew research center found that an average does not feel old at all, and what is really considered old is completely dependent on one's age. Overall, the respondents of this survey said that old age starts at 68 years. However, the adults who were under 30 years of age considered the age of 60 as "old age". World Health Organization sets the age of 60 when referring to aging the human populations. A question was asked and was reported in Old Americans 2008, which was a key indicator of well-being, according to the given response 63 to 80% of older adults of age between 65 and 74 consider themselves healthy and want to lead a healthy life till death. However, the chances of the prevalence of chronic diseases like hypertension, diabetes, cardiovascular diseases, and cancers. If you are having a chronic health problem, then you cannot make a perception of healthy life about yourself. This self-perception of good health depends on age, it turns down with increasing age. According to research; this self-perception in the age of 85% decreases to 67% of non-Hispanic whites, 54% of non-Hispanic blacks, and 47% of Hispanics. Adequate nutrition helps to promote healthy living and reduces the chances of illness. The score for diet quality in younger adults is 65, while older adults have a diet quality score of 68. This score is measured by the Healthy Eating Index (68 out of 100 points).

This score measured by Healthy Eating Index for Americans having age above 2 years is 58 points out of 100. This is mostly seen that the prevalence of illness mostly brings the modifications in the diet of the patient, he may suffer from depression or anorexia in the form of symptoms of the disease. Medical Nutrition Therapy (MNT) plays a vital role in promoting healthy food for treatment or suppressing the symptoms of diseases after the diagnosis of a particular disease. The effective results were observed by Registered Dietitians that MNT is an efficient way to control diseases like Diabetes mellitus, kidney diseases, hypertension as compared to consultation with doctors and dependence on medicines and drugs.

Many studies prove the dependence of healthy living of older adults on a healthy nutritional status that can be possible by adequate intake of nutrients through diet. The researchers of Lewin's group found that people suffering from diabetes, renal diseases, cardiovascular diseases, Hypertension can fight against these diseases through sessions of Medical Nutrition Therapy (MNT).

Physiological changes with age:

Cardiovascular System: reduced blood vessel elasticity, blood volume, stroke volume output, increased arterial stiffening, and blood pressure.

Endocrine System: reduced levels of estrogen, testosterone, decreased secretion of growth hormone, increase in cortisol (stress), reduced glucose tolerance, reduced levels of thyroid gland secretions, decreased ability to convert provitamin D to vitamin D in the skin.

Gastrointestinal System: reduced secretion of saliva and of mucus, missing or poorly fitting teeth, dysphagia or difficulty in swallowing, damaged, less-efficient mitochondria produce less ATP, less energy, reduced secretion of hydrochloric acid and digestive enzymes, slower peristalsis, reduced vitamin B12 absorption.

Musculoskeletal System: reduced lean body mass (bone mass, muscle, and water), increased fat mass, decreased resting metabolic rate, and reduced work capacity (strength).

Nervous System: blunted appetite regulation, blunted thirst regulation, reduced nerve conduction velocity, affecting sense of smell, taste, touch, cognition, changed sleep as the wake cycle becomes shorter

Renal System: reduced number of nephrons, less blood flow, slowed glomerular filtration rate.

Respiratory System: reduced breathing capacity, reduced work capacity (endurance).

Nutritional Risk Factors:

In adults i.e. younger or older adults, dietary risk factors increase the chances of developing several chronic diseases like heart disease, cancer, and stroke. Individuals who are consuming a diet that is high in saturated fat, low intake of vegetables and fruits, and whole-grain products; and poor nutritional habits lead to obesity. Any of the following conditions potentially place older adults at nutritional risk:

- Hunger
- Poverty
- Inadequate food and nutrient intake
- Functional disability
- Social isolation
- Living alone
- Urban and rural demographic areas
- Depression
- Dementia
- Dependency
- Poor dentition and oral health; chewing and swallowing problems
- Presence of diet-related acute or chronic diseases or
- Conditions

Energy and Nutrients Needs:

Energy expenditure is primarily determined from basal metabolic rate (BMR), which slows with age, the thermogenic effect of food, and the physical activity energy needs of an individual. Carbohydrates intake should be up to 65 percent of total calorie intake. Men who need 2300 calories per day need 288 grams of calories from the carbohydrates food sources. While women who have the same caloric requirements need only 188 grams of carbohydrates per day. Dietary fiber, a non-digestible form of carbohydrates, is also required for good health. About 30 grams of dietary fiber is needed daily. For male and female adults, 14 grams of dietary fiber per 100 calories are needed to maintain good health. Dietary fiber reduces the risk of coronary heart disease, but older adults are more often concerned with the role of fiber for gastrointestinal health. The role of dietary fat does not seem to change with age; high saturated fat and trans fat intake lead to risk factors for chronic disease. Minimizing the amount of saturated fat in the diet and keeping total fat up to 35% of calories is a reasonable goal for older adults to maintain a beneficial blood cholesterol ratio.

Water content in our body decreases with age, and the water reservoirs also get depleted, which causes frequent dehydration in older age.

Public health professionals monitor the health of the general public by simply measuring the mortality rate and the morbidity rate. Nutritional interventions are now being used as a medical toolkit to treat these deadly diseases. For adults 65 or older, the leading causes of death and their risk rates are mentioned below:

Heart diseases contribute 29 percent of total death rates

Cancer as 22 percent

Cerebrovascular disease as 7 percent

Alzheimer disease as 4 percent

Diabetes mellitus as 3 percent

Heart disease or cardiovascular disease (CVD) is the leading cause of death in older adults. But the good news is that it is potentially reversible by adopting a healthy lifestyle (diet and physical activity). CVD prevalence rises with age. The American Heart Association states that the prevalence of CVD which includes coronary heart disease, heart failure, stroke, and hypertension as more than 73 percent in men and about 72 percent in women aged 60 to 79 years. The risk of developing CVD rises with age and reaches to 85.9 percent by the age of 80. Risk factors for cardiovascular disease in old age remain the same as younger adults which include hypertension i.e. 140mmHg/90mmHg, elevated low-density lipoprotein or LDL (at least 130mg/dL), or diabetes mellitus. Nutritional remedies like the DASH diet which only includes healthy food items are the best suitable choice for CVD. A lifestyle that includes decrease amount and type of fat (focus on 1–2 items to decrease saturated fat intake in an individual's regular diet rather than change all things), uses lean meats, substitutes saturated fatty acids with PUFA & MUFA, decreases synthetic trans-fatty acids, reduce cholesterol intake, increases fiber, fruits, and vegetables, limit salt, exercise, maintain a healthy weight, reduce stress, quit smoking can be proven very effective for cardiovascular diseases.

Similarly, stroke, hypertension, diabetes, obesity, osteoporosis, and other health issues are very common among older adults. But they can be treated with proper lifestyle changes. A good dietary pattern, for example, the DASH diet, is very effective to treat these conditions. More than that, this diet does not have any restrictions. So it can be followed very easily without excluding any food group.



CHAPTER 7

MEAL PLANNING

Meal planning is the act of planning the meals for a specific period of time, either just for personal use or for the whole family. When it comes to choosing a dietary pattern that prevents hypertension, heart diseases, stroke, diabetes mellitus, and other chronic conditions, DASH is the way forward. For a complete DASH diet experience, food this meal plan for the next 28 days. This meal plan is based on average calories needs, i.e. 2000kcal per day. This meal plan will follow all the DASH recommendations and dietary guidelines. Water is essential for daily body needs, it is not listed on each meal, but getting hydrated is necessary for normal biological functions.

DAY 1:

Breakfast:

100% whole wheat toast: 2 slices

Peanut butter: 2 tablespoons

Smoothie: Blueberry Green

Lunch:

Nonfat milk: 8 ounces

Orange: 1 medium

Insalata di Farro: 1 serving

Snack:

Cherries: 1 cup

Almonds: 20

Dinner:

Healthy Italian Pasta Salad: 1 serving

Baked or grilled chicken breast (boneless, skinless): 5 ounces

Grapes (frozen): 1 cup

For 1500 calories per day (Modification)

Breakfast:

100% whole wheat toast: 1 slice

Peanut butter: 1 tablespoon

Smoothie: Blueberry Green

Lunch:

Nonfat milk: 8 ounces

Orange: 1 small

Insalata di Farro: 3/4 serving

Snack:

Cherries: 1/2 cup

Almonds: 10

Dinner:

Healthy Italian Pasta Salad: 1/2 serving

Baked or grilled chicken breast (boneless, skinless): 3 ounces

Grapes (frozen): 1/2 cup

DAY 2

Breakfast:

Egg muffin: 1

Grapefruit: ½

Coffee (4 ounces non-fat milk) OR Green tea with lemon

Lunch:

Broccoli soup: 1 serving

Parmesan cheese (no cheese)

Strawberries: 1 cup

1/4 cup hummus with baby carrots and sliced bell pepper

Snack:

Non-fat plain Greek yogurt: 8 ounces

Dinner:

Turkey Meatballs in Marinara Sauce: 4

Spinach with garlic (steamed) and 1tsp extra virgin olive oil: 1 cup

Whole wheat bread (100%): 1 slice

Fresh pineapple: 2 slices

Sparkling water: about 8 ounces

For 1500 calories per day (Modification)

Breakfast:

Egg muffin: 1

Grapefruit: ½

Coffee (4 ounces non-fat milk) OR Green tea with lemon

Lunch:

Broccoli soup: 1 serving

Parmesan cheese (no cheese)

Strawberries: 1 cup

1/4 cup hummuswith baby carrots and sliced bell pepper

Snack:

Non-fat plain Greek yogurt: 4 ounces

Dinner:

Turkey Meatballs in Marinara Sauce: 3

Spinach with garlic (steamed) and 1tsp extra virgin olive oil: 1 cup

Whole wheat bread (100%): 1 slice

Fresh pineapple: 1 slice

Sparkling water: 6-8 ounces

DAY 3

Breakfast:

Toast with butter (almond) and banana: 2 slices

Coffee with 8 ounces nonfat milk, or 8 ounces nonfat milk

Lunch:

Salad (Mexican Summer): 2 servings

Avocado (sliced): $\frac{1}{2}$

Almonds: 20

Peach: 1 medium

Snack:

1 apple (medium-sized), with 2tsp peanut or almond butter

Dinner:

Pepper ball (stuffed): 1 serving

Broccoli (steamed): 1 serving

Grown-Up Berry Parfait: 1 serving

For 1500 calories per day (Modification)

Breakfast:

Toast with butter (almond) and banana: 1 slice

Coffee with 8 ounces nonfat milk, or 8 ounces nonfat milk

Lunch:

Salad (Mexican Summer): 1 $\frac{1}{2}$ cups

Avocado (sliced): $\frac{1}{2}$

Almonds: 10

Peach: 1 small

Snack:

1 apple (medium-sized), with 1 tsp peanut or almond butter

Dinner:

Pepper ball (stuffed): $\frac{1}{2}$ serving

Broccoli (steamed): 1 serving

Grown-Up Berry Parfait: 1 serving

DAY 4

Breakfast:

Oatmeal (Berries Deluxe): 1 serving

Grilled Romaine Salad with Garlicky Balsamic Vinaigrette (1tsp): 1 serving

Lunch:

Baked chicken (boneless and skinless): 4 ounces

Whole wheat pita bread: ½

Banana: 1

Snack:

Nonfat cottage cheese (1/2 cup), sliced cucumbers, and cherry tomatoes (1/2 cup)

Orange: (1 medium)

Dinner:

Sesame Salmon Fillets: 1 serving

Sweet potato (baked): 1 cup

Spinach (steamed): 1 cup

Grilled Peach with Ricotta Stuffing and Balsamic Glaze: 1

For 1500 calories per day (Modification)

Breakfast:

Oatmeal (Berries Deluxe): 1 serving

Grilled Romaine Salad with Garlicky Balsamic Vinaigrette (1tsp): 1 serving

Lunch:

Baked chicken (boneless and skinless): 2 ounces

Whole wheat pita bread: ½

Banana: 1/2

Snack:

Nonfat cottage cheese (1/2 cup), sliced cucumbers, and cherry tomatoes (1/2 cup)

Orange: (1 small)

Dinner:

Sesame Salmon Fillets: 1/2 serving
Sweet potato (baked): 1/2 cup
Spinach (steamed): 1 cup
Grilled peach with cinnamon, no ricotta orglaze: ½

DAY 5

Breakfast:

Banana Almond Smoothie: 1 serving
Whole wheat bread: 2 slices
Goat cheese: 2 ounces

Lunch:

Tuna Salad: 1 serving
Sliced avocado: ½
Cherry tomatoes: ½ cup
Mixed berries: 1 cup

Snack:

Multigrain rice cakes: 2
Hummus: ¼ cup

Dinner:

Thai Curried Vegetables: 1 serving
Brown rice: 1 cup
Strawberries with homemade Whipped Cream (1 tablespoon): ½ cup

For 1500 calories per day (Modification)

Breakfast:

Banana Almond Smoothie: 1 serving
Whole wheat bread: 1 slice
Goat cheese: 1 ounce

Lunch:

Tuna Salad: ½ serving
Sliced avocado: ¼
Cherry tomatoes: ½ cup
Mixed berries: 1 cup

Snack:

Multigrain rice cakes: 1

Hummus: 2 tsp

Dinner:

Thai Curried Vegetables: 1 serving

Brown rice: $\frac{1}{2}$ cup

Strawberries: $\frac{1}{2}$ cup

DAY 6

Breakfast:

Warm Quinoa with Berries: 1 serving

Almonds (sliced): 1 tablespoon

Coffee with nonfat milk: 8 ounces OR tea (as an alternative)

Lunch:

Chicken Fajita Wrap: 1

Tropical Salsa: $\frac{1}{4}$ cup

Orange: 1 medium-sized

Snack:

Mozzarella cheese: 2 ounces

Grapes: $\frac{1}{2}$ cup

Dinner:

Fish Tacos: 2

Anna's Black Beans: 1 cup

Tropical Salsa: $\frac{1}{2}$ cup

Pineapple (Grilled): 2 slices

For 1500 calories per day (Modification)

Breakfast:

Warm Quinoa with Berries: 1 serving

Almonds (sliced): 1 teaspoon

Coffee with nonfat milk: 8 ounces OR tea (as an alternative)

Lunch:

Chicken Fajita Wrap: $\frac{1}{2}$ wrap
Tropical Salsa: $\frac{1}{4}$ cup
Orange: 1 small sized

Snack:

Mozzarella cheese: 1 ounce
Grapes: $\frac{1}{4}$ cup

Dinner:

Fish Tacos: 1
Anna's Black Beans: $\frac{1}{2}$ cup
Tropical Salsa: $\frac{1}{4}$ cup
Pineapple (Grilled): 1 slice

DAY 7

Breakfast:

Tropical Smoothie: 1 serving
1 whole-wheat English muffin, 2 tsp butter (almond or peanut)

Lunch:

Italian Veggie Pita Sandwich, 4 ounces grilled or baked chicken breast (boneless, skinless)
Nonfat milk: 8 ounces
Grapes: $\frac{1}{2}$ cup

Snack:

Hummus with sliced bell pepper and cucumber: $\frac{1}{4}$ cup

Dinner:

Grilled Chicken Skewers (Marinated in Ginger- Apricot Sauce): 2 skewer
Brown rice: 1 cup
Cauliflower (Roasted): 1 cup
Apple (Brie-Stuffed): 1

For 1500 calories per day (Modification)

Breakfast:

Tropical Smoothie: 1 serving

$\frac{1}{2}$ Whole wheat English muffin, 1 tsp butter (almond or peanut)

Lunch:

Italian Veggie Pita Sandwich (1 serving), 2 ounces grilled or baked chicken breast (boneless, skinless)

Nonfat milk: 4 ounces

Grapes: $\frac{1}{2}$ cup

Snack:

Hummus with sliced bell pepper and cucumber: 2 tsp

Dinner:

Grilled Chicken Skewers (Marinated in Ginger- Apricot Sauce): 1 skewer

Brown rice: $\frac{1}{2}$ cup

Cauliflower (Roasted): 1 cup

Apple: 1

DAY 8

Breakfast:

Fruity Yogurt Parfait: 1 serving

Almonds: 1 tsp

Coffee with 4 ounces nonfat milk

Lunch:

Kale Vegetable Soup: 1 serving

Toasted cheese sandwich with reduced-fat mozzarella cheese on 1 slice 100% whole wheat bread: 1

Snack:

Hummus Dip with Curried Pita Chips: $\frac{1}{4}$ cup

Grapes: $\frac{1}{2}$ cup

Dinner:

Mexican Pizza: 2 slices

Beet and Heirloom Tomato Salad: 1 serving

Macerated Strawberries with Homemade Whipped Cream: 1 cup

For 1500 calories per day (Modification)

Breakfast:

Fruity Yogurt Parfait: 1 serving

Almonds: 1 tsp

Coffee with 4 ounces nonfat milk

Lunch:

Kale Vegetable Soup: 1 serving

Toasted cheese sandwich with reduced-fat mozzarella cheese on 1 slice
100% whole wheat bread: 1

Snack:

Hummus Dip with Curried Pita Chips: $\frac{1}{4}$ cup

Grapes: $\frac{1}{2}$ cup

Dinner:

Mexican Pizza: 2 slices

Beet and Heirloom Tomato Salad: 1 serving

Macerated Strawberries with Homemade Whipped Cream: 1 cup

DAY 9

Breakfast:

Open-Faced Breakfast Sandwich: 1

Nonfat milk OR Coffee (with nonfat milk): 8 ounces

Berries (mixed): 1 cup

Lunch:

Healthy Cobb Salad with 1 tablespoon Basic Vinaigrette: 1 serving

Whole wheat pita bread: 1

Apple (medium): 1

Snack:

Air-popped popcorn with butter (1 teaspoon): 1 cup

Orange (medium): 1

Dinner:

Portobello Burger with Caramelized Onions and Pesto (grilled): 1

Sweet Potato Steak Fries (grilled): 1 serving

Banana Chocolate Dessert Smoothie: 1 serving

For 1500 calories per day (Modification)

Breakfast:

Open-Faced Breakfast Sandwich with no cheese: 1
Nonfat milk OR Coffee (with nonfat milk): 8 ounces
Berries (mixed): 1 cup

Lunch:

Healthy Cobb Salad with 1 tablespoon Basic Vinaigrette: 1 serving
Apple (small): 1

Snack:

Air-popped popcorn with no butter: 1 cup
Orange (small): 1

Dinner:

Portobello Burger with Caramelized Onions and light Pesto (grilled): 1
Sweet Potato Steak Fries (grilled): $\frac{1}{2}$ serving
Banana Chocolate Dessert Smoothie: $\frac{1}{2}$ serving

DAY 10

Breakfast:

Mediterranean Scramble: 1 serving
Coffee with up to 8 ounces of nonfat milk
Whole wheat bread: 1 slice
Grapes: $\frac{1}{2}$ cup

Lunch:

Asian Quinoa Salad: 1 serving
Baby carrots: $\frac{1}{2}$ cup
Peach (medium): 1

Snack:

Almonds: 20
Banana: 1

Dinner:

Orange Chicken: 1 serving
Brown rice: 1 cup
Spinach (steamed): 1 cup
Berry Cobbler: 1 serving

For 1500 calories per day (Modification)

Breakfast:

Mediterranean Scramble (with 2 eggs only): 1 serving

Coffee with up to 8 ounces of nonfat milk

Grapes: $\frac{1}{2}$ cup

Lunch:

Asian Quinoa Salad: $\frac{1}{2}$ serving

Baby carrots: $\frac{1}{2}$ cup

Peach (small-sized): 1

Snack:

Almonds: 10

Banana: 1

Dinner:

Orange Chicken: $\frac{1}{2}$ serving

Brown rice: $\frac{1}{2}$ cup

Spinach (steamed): 1 cup

Berries (mixed): $\frac{1}{2}$ serving

DAY 11

Breakfast:

English muffin with Berries: 1 serving

Hard-boiled egg: 1

Coffee (with nonfat milk): 8 ounces

Lunch:

Pomegranate Salad (1 serving), with Garlicky Balsamic Vinaigrette (2 tablespoons)

Whole wheat pita bread: 1

Peach: 1 medium-sized

Snack:

Hummus Dip: $\frac{1}{4}$ cup, with baby carrots and bell pepper (sliced)

Dinner:

Sunflower Seed–Crusted Turkey Cutlets (baked): 1 serving
Mixed vegetables (roasted) like green beans, asparagus: 1 $\frac{1}{2}$ cups
Sweet potato (baked): 1 medium-sized
Butter: 1 tablespoon
Mexican Fruit Salad: 1 serving

For 1500 calories per day (Modification)

Breakfast:

English muffin with Berries: 1 serving
Hard-boiled egg: 1
Coffee (with nonfat milk): 8 ounces

Lunch:

Pomegranate Salad (1 serving), with Garlicky Balsamic Vinaigrette (1 tablespoon)
Whole wheat pita bread: $\frac{1}{2}$
Peach: 1 small sized

Snack:

Hummus Dip: 2 tablespoons, with baby carrots and bell pepper (sliced)

Dinner:

Sunflower Seed–Crusted Turkey Cutlets (baked): $\frac{1}{2}$ serving
Mixed vegetables (roasted) like green beans, asparagus: 1 $\frac{1}{2}$ cups
Sweet potato (baked): $\frac{1}{2}$ medium-sized
Mexican Fruit Salad: $\frac{1}{2}$ serving

DAY 12

Breakfast:

Protein Bowl: 1 serving
Whole wheat toast: 2 slices
100% fruit jam: 2 tablespoons
Green tea

Lunch:

Greek Salad with Lemon Vinaigrette (1 tablespoon): 1 serving
Grilled or baked boneless, skinless chicken breast: 4 ounces
Apple: 1 medium-sized
Almonds: 20

Snack:

Nonfat plain yogurt: 8 ounces

Berries (mixed): 1 cup

Dinner:

Thai Curried Vegetables: 1 serving

Baked or grilled boneless, skinless chicken breast: 3 ounces

Brown rice: 1 cup

Mini Banana Split: 1

[For 1500 calories per day \(Modification\)](#)

Breakfast:

Protein Bowl: $\frac{1}{2}$ serving

Whole wheat toast: 1 slice

100% fruit jam: 1 tablespoon

Green tea

Lunch:

Greek Salad with Lemon Vinaigrette (1 tablespoon): 1 serving

Grilled or baked boneless, skinless chicken breast: 2 ounces

Apple: 1 small sized

Almonds: 10

Snack:

Nonfat plain yogurt: 4 ounces

Berries (mixed): 1 cup

Dinner:

Thai Curried Vegetables: 1 serving

Baked or grilled boneless, skinless chicken breast: 2 ounces

Brown rice: $\frac{1}{2}$ cup

Mini Banana Split: $\frac{1}{2}$

DAY 13

Breakfast:

Wake Up Call! Smoothie: 1 serving

Hard-boiled egg: 1

Whole wheat toast: 1 slice

Lunch:

Beef tacos: 2

Grandma's Guacamole: $\frac{1}{4}$ cup

Orange: 1 medium-sized

Snack:

Whole wheat English muffin: 1

Peanut butter or almond butter: 2 tablespoon

Banana (sliced): 1

Dinner:

Spice-Rubbed Salmon: 1 serving

Sautéed Vegetables: $1 \frac{1}{2}$ cups

Cilantro-Lime Brown Rice: 1 cup

Frozen grapes: 1 cup

For 1500 calories per day (Modification)

Breakfast:

Wake Up Call! Smoothie: 1 serving

Hard-boiled egg: 1

Whole wheat toast: 1 slice

Lunch:

Beef tacos: 1

Grandma's Guacamole: $2 \frac{1}{2}$ tablespoons

Orange: 1 small sized

Snack:

Whole wheat English muffin: $\frac{1}{2}$

Peanut butter or almond butter: 1 tablespoon

Banana (sliced): $\frac{1}{2}$

Dinner:

Spice-Rubbed Salmon: $\frac{1}{2}$ serving
Sautéed Vegetables: 1 $\frac{1}{2}$ cups
Cilantro-Lime Brown Rice: $\frac{1}{2}$ cup
Frozen grapes: 1 cup

DAY 14

Breakfast:

Egg Muffins: 2
Whole wheat English muffin: 1 with 2 tablespoons goat cheese
1/2 grapefruit

Lunch:

Grilled Chicken with Black Bean Salsa: 1 serving
Green salad with 1 tablespoon Garlicky Balsamic Vinaigrette: 1 $\frac{1}{2}$ cups
Corn tortillas: 2
Grapes: 1 cup

Snack:

Unsalted nuts (raw): $\frac{1}{4}$ cups
Apple: 1 medium-sized

Dinner:

Turkey Chili: 1 serving
Beet and Heirloom Tomato Salad: 1 serving
Whole wheat pita bread: 1
Berry Cobbler: 1 serving

For 1500 calories per day (Modification)

Breakfast:

Egg Muffins: $\frac{1}{2}$
Whole wheat English muffin: 1, with 2 teaspoons goat cheese
1/2 grapefruit

Lunch:

Grilled Chicken with Black Bean Salsa: $\frac{1}{2}$ serving
Green salad with 1 tablespoon Garlicky Balsamic Vinaigrette: 1 $\frac{1}{2}$ cups
Corn tortillas: 1
Grapes: 1 cup

Snack:

Unsalted nuts (raw): 2 tablespoons

Apple: 1 small sized

Dinner:

Turkey Chili: 1 serving

Beet and Heirloom Tomato Salad: 1 serving

Whole wheat pita bread: $\frac{1}{2}$

Berries (mixed): 1 cup

DAY 15

Breakfast:

Berry Banana Green Smoothie: 1 serving

Coffee with up to 8 ounces of nonfat milk

1 whole-wheat toast with 1 tbsp. 100% fruit raspberry jam

Lunch:

Tuna Salad with 1/2 sliced avocado topped

Whole wheat pita bread: $\frac{1}{2}$

Orange: 1 medium-sized

Snack:

Apple (sliced): 1 medium-sized

Peanut butter: 2 tablespoons

Dinner:

Turkey Chili (1 serving), with shredded cheddar cheese (2 tablespoons)

Small spinach salad with assorted veggies, like tomato, cucumber, carrot, bell pepper, and 2 tablespoons Basic Vinaigrette

Berry Sundae: 1 serving

For 1500 calories per day (Modification)

Breakfast:

Berry Banana Green Smoothie: 1 serving

Coffee with up to 4 ounces of nonfat milk

Lunch:

Tuna Salad with $\frac{1}{4}$ sliced avocado topped

Orange: 1 small sized

Snack:

Apple (sliced): 1 small sized

Peanut butter: 1 tablespoon

Dinner:

Turkey Chili (1/2 serving), with shredded cheddar cheese (1 tablespoon)

Small spinach salad with assorted veggies, like tomato, cucumber, carrot, bell pepper, and 1 tablespoon Basic Vinaigrette

Berry Sundae: 1 serving

DAY 16

Breakfast:

Healthy "Lox" English muffin: 1

Grapefruit: $\frac{1}{2}$

Coffee with up to 8 ounces of nonfat milk

Lunch:

Roasted Butternut Squash Soup: 1 serving

Strawberries (sliced): $\frac{1}{2}$ cup

Baby carrots: 1 cup

Snack:

Nonfat plain yogurt: 8 ounces

Blueberries: $\frac{1}{2}$ cup

Almonds: $\frac{1}{4}$ cup

Dinner:

Fish Tacos: 2

Tropical Salsa: $\frac{1}{2}$ cup

1 cup mixed berries with 2 tablespoons homemade Whipped Cream: 1 cup

For 1500 calories per day (Modification)

Breakfast:

Healthy "Lox" English muffin: $\frac{1}{2}$

Grapefruit: $\frac{1}{2}$

Coffee with up to 4 ounces of nonfat milk

Lunch:

Roasted Butternut Squash Soup: $\frac{1}{2}$ serving

Strawberries (sliced): $\frac{1}{2}$ cup

Baby carrots: 1 cup

Snack:

Nonfat plain yogurt: 6 ounces

Blueberries: $\frac{1}{2}$ cup

Almonds: 2 tablespoons

Dinner:

Fish Tacos: 1 taco

Tropical Salsa: $\frac{1}{4}$ cup

1 cup mixed berries

DAY 17

Breakfast:

Healthy French Toast (2 slices), with 2 tablespoons real maple syrup

$\frac{1}{2}$ cup mixed berries

8 ounces nonfat milk

Lunch:

1 serving Italian Veggie Pita Sandwich

2 tablespoons hummus

1 medium peach

Snack:

1 banana

$\frac{1}{4}$ cup raw unsalted cashews

Dinner:

- 1 serving Turkey Roulade with Cider Sauce
- 1 medium baked sweet potato
- 1 cup steamed spinach
- 1 Brie-Stuffed Apple

[For 1500 calories per day \(Modification\)](#)

Breakfast:

- Healthy French Toast (2 slices), with 1 tablespoon real maple syrup
- 1/2 cup mixed berries
- 4 ounces nonfat milk

Lunch:

- 1 serving Italian Veggie Pita Sandwich
- 1 tablespoon hummus
- 1 small peach

Snack:

- 1 banana
- 2 tablespoons raw unsalted cashews

Dinner:

- ½ serving Turkey Roulade with Cider Sauce
- ½ medium baked sweet potato
- 1 cup steamed spinach
- 1 Apple

[DAY 18:](#)

Breakfast:

- 1 serving Green Avocado Smoothie
- Green tea
- 1/2 100% whole wheat English muffin with 2 tablespoons peanut butter

Lunch:

- 1 Chicken Fajita Wrap
- 1/2 cup Grandma's Guacamole
- 1 cup baby carrots
- 1 medium orange

Snack:

1/2 cup sliced strawberries

1/2 cup sliced banana

Dinner:

1 serving Healthier Mac 'n' Cheese

1 serving Greek Salad with 2 tablespoons Lemon Vinaigrette

1/2 100% whole wheat pita bread

1 serving Banana Chocolate Dessert Smoothie

For 1500 calories per day (Modification)

Breakfast:

1 serving Green Avocado Smoothie

Green tea

1/2 100% whole wheat English muffin with 1 tablespoon peanut butter

Lunch:

½ Chicken Fajita Wrap

¼ cup Grandma's Guacamole

1 cup baby carrots

1 small orange

Snack:

1/2 cup sliced strawberries

1/2 cup sliced banana

Dinner:

1 serving Healthier Mac 'n' Cheese

1 serving Greek Salad with 1 tablespoon Lemon Vinaigrette

½ serving Banana Chocolate Dessert Smoothie

DAY 19

Breakfast:

Veggie Omelet

1/2 cup mixed berries

Coffee with up to 8 ounces of nonfat milk

Lunch:

Chicken Pasta Salad: 2 servings

1 cup sliced carrot, bell pepper, and cucumber with 2 tablespoons Basic

Vinaigrette

1 medium pear

Snack:

4 ounces nonfat cottage cheese

1/4 cup raw unsalted cashews

1 medium sliced apple

Dinner:

1 serving Sesame Salmon Fillets

1 serving Grilled Asparagus

1 cup brown rice

1 serving Grown-Up Berry Parfait

[For 1500 calories per day \(Modification\)](#)

Breakfast:

Veggie Omelet

1/2 cup mixed berries

Coffee with up to 4 ounces of nonfat milk

Lunch:

Chicken Pasta Salad: 1 serving

1 cup sliced carrot, bell pepper, and cucumber with 1 tablespoon Basic

Vinaigrette

1 small pear

Snack:

4 ounces nonfat cottage cheese

2 tablespoons raw unsalted cashews

1 small sliced apple

Dinner:

½ servings Sesame Salmon Fillets

1 serving Grilled Asparagus

½ cup brown rice

½ serving Grown-Up Berry Parfait

DAY 20

Breakfast:

Melon Mélange smoothie: 1 serving

Anna's Homemade Granola: 1 serving

Lunch:

Grilled Romaine Salad with 1 tablespoon Garlicky Balsamic Vinaigrette, and (3 ounces) grilled boneless, skinless chicken breast: 1 serving

1 cup grapes

Snack:

Air-popped popcorn: 1 cup

Baby carrots: $\frac{1}{2}$ cup

1/2 sliced medium apple

Dinner:

Turkey Meat Loaf: 1 serving

1 medium-sized mashed sweet potato, with 1 teaspoon butter

Greek Salad with 1 tablespoon Lemon Vinaigrette: 1 serving

Mixed berries: 1 cup

For 1500 calories per day (Modification)

Breakfast:

Melon Mélange smoothie: 1 serving

Anna's Homemade Granola: $\frac{1}{2}$ serving

Lunch:

Grilled Romaine Salad with 1 tablespoon Garlicky Balsamic Vinaigrette, and (2 ounces) grilled boneless, skinless chicken breast: 1 serving

1 cup grapes

Snack:

Air-popped popcorn: 1 cup

Baby carrots: $\frac{1}{2}$ cup

1/2 sliced medium apple

Dinner:

Turkey Meat Loaf: 1 serving

1 small-sized mashed sweet potato, with 1 teaspoon butter

Greek Salad with 1 tablespoon Lemon Vinaigrette: 1 serving

DAY 21

Breakfast:

Energy Oatmeal: 1 serving

Nonfat milk: 8 ounces

Lunch:

Healthy Cobb Salad with 1 tablespoon Basic Vinaigrette: 1 serving

Whole wheat pita bread: $\frac{1}{2}$

Grapes: 1 cup

Snack:

$\frac{1}{4}$ cup hummus with 1 cup cherry tomatoes, sliced bell pepper, and cucumber

Hazelnuts: 2 tablespoons

Dinner:

Mexican Pizza (2 slices), with 5 ounces grilled or baked boneless, skinless chicken breast

2 servings Greek Salad with 2 tablespoons Lemon Vinaigrette

1 Grilled Peach with Ricotta Stuffing and Balsamic Glaze

For 1500 calories per day (Modification)

Breakfast:

Energy Oatmeal: 1 serving

Nonfat milk: 4 ounces

Lunch:

Healthy Cobb Salad with 1 tablespoon Basic Vinaigrette: 1 serving

Grapes: 1 cup

Snack:

$\frac{1}{4}$ cup hummus with 1 cup cherry tomatoes, sliced bell pepper, and cucumber

Hazelnuts: 1 tablespoon

Dinner:

Mexican Pizza (1 slice), with 3 ounces grilled or baked boneless, skinless chicken breast

2 servings Greek Salad with 1 tablespoon Lemon Vinaigrette

1/2 grilled peach with cinnamon, no ricotta or glaze



CHAPTER 8

RECIPES

SHOPPING LIST FOR DASH DIET:

Fruits and vegetables:

Always choose fresh and a variety of fruits such as bananas, apples, oranges, apricots, dates, berries. When it comes to canned fruits, try to select the fruits that are canned in their own syrup, not some heavy syrup. Also, choose the frozen fruits with no added sugar in them. Vegetables like tomatoes, carrots, broccoli, and spinach should be on your list. Choose the canned vegetables without added salt, or butter. Most of the added salt comes from the processed food items like canned food products, so choose them wisely and always read the labels.

Low-fat dairy:

The DASH diet focuses on consuming low-fat dairy products like milk, buttermilk, ice cream, yogurt, etc.

Grains:

Always aim for whole grains if you are to follow a healthy dietary pattern like bread, bagels, pitas, rice, cereal, pasta, crackers, etc. Whole grains have high fiber content, which is proven to have many positive effects on our health i.e. slows down the digestion of carbohydrates, prevents the risks of cancer, diabetes, etc.

Nuts, Legumes, and Seeds:

Walnuts, almonds, lentils, kidney beans, chickpeas, and sunflower seeds are included in this dietary pattern. They are low in saturated fats, and high in unsaturated fatty acids which are healthy for our heart.

Fish, Poultry, and lean meat:

Fish, skinless chicken, turkey, extra-lean ground beef, pork tenderloin are among the healthy choices in this diet. Always choose lean meat, and limit smoked, processed meat.

Condiments, spreads, and seasonings:

Olive oil, herbs, spices, flavored vinegar, salsa can add taste and some flavor to your meals. But also read the labels and choose only the ones with less added salt.

RECIPES FOR DASH DIET:

Blueberry Green Smoothie

Serves 2

2 cups chopped mixed greens (such as kale, collard greens, mustard greens, Swiss chard, and spinach)

water: 1/4 cup

carrot: 1/3 cup chopped

frozen blueberries: 1/2 cup

coarsely chopped unpeeled cucumber: 1/2 cup

unsweetened almond milk: 1/4 cup

4 ice cubes

Place the greens and water in a blender. Start blending on low, and as the greens begin to break down, increase to medium speed until they are completely broken down and smooth. Add the remaining ingredients, and blend on medium to high speed until desired consistency is achieved about 1 minute. Serve immediately.

Insalata di Farro (Farro Salad)

Serves 6

roasted chopped zucchini: 1/2 cup (see below)
Italian semi-pearled farro: 2 cups
chopped fresh mozzarella cheese: 8 ounces
jar roasted red peppers chopped: 1 (8-ounce)
finely chopped fresh parsley: 2 tablespoons
finely chopped fresh basil: 2 tablespoons
dried marjoram: 1/8 teaspoon
Juice of 1/2 lemon
extra virgin olive oil: 2 tablespoons
sea salt: 1/4 teaspoon
cracked black pepper: 1/2 teaspoon

ROASTED ZUCCHINI

2 zucchini, cut lengthwise into 1/4-inch slices
extra virgin olive oil: 4 tablespoons
balsamic vinegar: 4 tablespoons
cracked black pepper: 1/4 teaspoon
dried Italian herbs: 1/2 teaspoon

To roast the zucchini, preheat the oven to 400°F. Coat a cookie sheet with olive oil spray, and arrange the sliced zucchini on it. Drizzle with olive oil and balsamic vinegar, and then sprinkle with pepper and dried herbs. Place on the middle rack of the oven, and cook until the zucchini starts to wrinkle and is soft to the touch, 8 to 10 minutes.

Healthy Italian Pasta Salad

Serves 4

Whole wheat penne pasta: 4 cups
Toasted pine nuts: 1/4 cup
Halved cherry tomatoes: 2 cups
Chopped fresh mozzarella cheese: 1 cup
Coarsely chopped fresh basil: 1 bunch
Extra virgin olive oil: 4 tablespoons
Sea salt: 1 Pinch
Cracked black pepper: 1/8 teaspoon

Boil a large pot of water, adding a drizzle of olive oil to prevent the pasta from sticking. Add the pasta to the boiling water, stirring once, and cook 8 to 10 minutes, or until al dente.

Strain the pasta. To toast the pine nuts, heat a large, flat pan over medium-high heat. Add the pine nuts, and stir frequently to avoid burning. Toast for about 2 minutes or until the nuts smell buttery and they are light brown on the outside. Remove them from the pan immediately.

In a large bowl, toss the cooked pasta with the remaining ingredients. The warm pasta will slightly melt the cheese.

Egg Muffins

Serves 6

Spinach (chopped): 4 cups

Green bell pepper (chopped): 1/2 cup

Red bell pepper (chopped): 1/2 cup

Green onion, white ends discarded (chopped): 4 tablespoons

Egg whites: 14

Whole eggs: 3

Chile pepper flakes: 1/8 teaspoon

Dried oregano: 1/4 teaspoon

finely chopped fresh parsley: 2 tablespoons

Cracked black pepper: 1/8 teaspoon

Pinch of paprika

Preheat the oven to 375°F. In a large bowl, combine all of the vegetables, mixing them together evenly. In a separate large bowl, whisk together the egg whites, whole eggs, chile pepper flakes, oregano, parsley, pepper, and paprika. Spray a muffin tin with olive oil spray, making sure to spray the sides, as well. Scoop vegetables into each muffin cup, filling each about halfway. Pour about 1/3 cup egg mixture into each muffin cup, slowly so as not to displace the vegetables. Place the muffin tin on the middle rack of the oven, and bake for 25 to 30 minutes, or until the eggs are no longer runny in the middle. Remove from the oven immediately to prevent overbaking or drying the eggs. Serve warm.

Broccoli Soup

Serves 4

Coarsely chopped broccoli: 8 cups

extra virgin olive oil: 2 tablespoons

chopped white onion: 1 cup

large cloves garlic: 2

low-sodium chicken broth: 3 cups

Chile pepper flakes: 1/8 teaspoon

cracked black pepper: 1/4 teaspoon

low-fat milk: 1/2 cup

Bring a large pot of water to a boil. Add the broccoli, and boil about 8 to 10 minutes, or until an inserted fork easily pierces the stems. Drain the broccoli, and set it aside. In the same pot, heat the oil over medium heat. Add the onion and garlic, and cook for about 2 minutes, stirring until the onion is translucent. Add the cooked broccoli and the broth to the pot, and simmer for another 4 to 5 minutes. Turn off the heat, and transfer the veggies and a little bit of broth in small batches to a blender. Blend on low at first, and then on high until smooth. Pour the blended soup into another pot, and repeat until all of the broccoli mixtures has been blended. Add chile pepper flakes, black pepper, and milk to the soup, and bring to a boil. Ladle into bowls and serve.

Serving Suggestion: Top with shredded cheddar cheese or whole wheat croutons before serving.

Turkey Meatballs in Marinara Sauce

Serves 4 (Makes about 16 meatballs)

Lean ground turkey: 1 pound

Red onion, finely (small and chopped): 1/2

Cloves Garlic, minced: 2 large

Red bell pepper, finely chopped: 1/4 cup

finely chopped fresh parsley: 3 tablespoons

Chile pepper flakes: 1/2 teaspoon

Ground cumin: 1/8 teaspoon

Dried Italian herbs (premixed, or use thyme, rosemary, oregano, parsley, and basil): 1/2 teaspoon

cracked black pepper: 1/8 teaspoon

1 large egg

whole wheat bread crumbs: 1/4 cup

Sea salt: 1/8 teaspoon

extra virgin olive oil: 4 tablespoons

low-sodium marinara sauce: 1 (16-ounce) jar

low-fat feta cheese: 1/2 cup

Preheat the oven to 375°F.

In a large bowl, combine all ingredients except the oil, marinara, and feta. Mix well by hand until ingredients are incorporated into the meat, being careful not to overmix. Roll the meat mixture into meatballs the size of golf balls.

Heat a large nonstick skillet over medium-high heat. Once the pan is hot, add the oil and then the meatballs in batches of five. Sear on each side (do not cook all the way through), and place in an ovenproof dish. Once all the meatballs have been seared and placed in the dish, top with the marinara sauce, and cover with foil. Bake for 20 to 25 minutes.

Remove from the oven, and raise the temperature to 400°F. Remove the foil from the dish, top the meatballs with the feta, and bake for 4 minutes. Remove and serve immediately.

Toast with Almond Butter and Banana

Serves 1

Whole wheat bread: 2 slices

Almond butter: 2 tablespoons

banana, sliced: 1 small

1/8 teaspoon ground cinnamon

Toast the bread, and spread each slice with almond butter. Arrange the banana slices on top, and sprinkle with cinnamon

Mexican Summer Salad

Serves 6

3 heads romaine lettuce, chopped

Roma tomatoes (chopped): 5

Unpeeled cucumber (sliced): 1 1/2 cups

White onion (very thinly sliced): 1/4 cup

Fresh lime juice: 1/4 cup

extra virgin olive oil: 1/8 cup

Sea salt

Cracked black pepper

In a large bowl, combine the lettuce, tomato, cucumber, and onion. Pour the lime juice and oil over the salad, and toss well. Season to taste with salt and pepper.

Stuffed Bell Pepper

Serves 4

Extra virgin olive oil: 2 tablespoons

White onion (small), chopped: 1/2

Cloves garlic, minced (small): 2

Carrot (chopped): 1/2 cup

Dried thyme: 1/4 teaspoon

Dried basil: 1/4 teaspoon

95%-lean ground beef: 1/2 pound

Zucchini (chopped): 1 cup

fresh parsley (chopped): 1 tablespoon

1 (15-ounce) can kidney beans, rinsed and drained

Red bell peppers(large): 4

low-sodium marinara sauce: 2 cups

Preheat the oven to 350°F.

Heat the oil in a large pan over medium to high heat. Add the onion, garlic, carrot, thyme, and basil. Cook for 1 to 2 minutes, and then add the beef, breaking up any clumps with a spatula. Once the beef starts to brown, after about 5 to 6 minutes, add the zucchini, parsley, and kidney beans. Cook for 5 more minutes, or until the beef is no longer pink.

To prepare the peppers, cut the tops off just below the stems. Remove the seeds and ribs. Fill each pepper with the meat mixture, and place it in an 8-inch square baking dish so that the peppers are standing upright. Pour water into the dish to cover the bottom. Cover the pan with foil, and bake for 20 to 25 minutes, or until the peppers are tender when pierced with a fork.

Heat the marinara sauce in a small saucepan, and pour over each plated bell pepper before serving.

Grown-Up Berry Parfait

Serves 2

Strawberries (sliced): 1/4 cup

Blueberries: 1/4 cup

Raspberries: 1/4 cup

Grand Marnier liqueur: 4 tablespoons

Grated lemon zest: 1 teaspoon

Low-fat plain Greek yogurt: 2 cups

Vanilla extract: 1/2 teaspoon

1/4 cup toasted unsalted chopped pecans

In a medium bowl, combine the berries, Grand Marnier, and lemon zest, and let sit for about 20 minutes, stirring occasionally. In a large bowl, mix the yogurt and vanilla together. In two tall glasses, create parfaits by alternating layers of the yogurt mixture and the berry mixture. Top with pecans.

Berries Deluxe Oatmeal

Serves 2

Unsweetened plain almond milk: 1 1/2 cups

Vanilla extract: 1/8 teaspoon

Old-fashioned oats: 1 cup

Blueberries, blackberries, and coarsely chopped strawberries (mixed): 3/4 cup

Toasted pecans: 2 tablespoons

Heat the almond milk and vanilla in a small saucepan on medium heat. Once the mixture begins to simmer, add the oats and stir for about 4 minutes, or until most of the liquid is absorbed. Stir in the berries. Scoop the mixture into two bowls, and top with toasted pecans.

Garlicky Balsamic Vinaigrette

Makes 6 (2-tablespoon) servings

1/2 teaspoon Dijon mustard

1 large clove garlic, finely minced

1/2 teaspoon reduced-sugar raspberry marmalade

1/4 cup balsamic vinegar

1/2 cup extra virgin olive oil

Pinch of dried oregano

1/8 teaspoon sea salt

cracked black pepper

In a small bowl, whisk together the mustard, garlic, marmalade, and vinegar. Very slowly drizzle in the oil, and continue whisking the mixture together. Add the oregano and salt and pepper.

Sesame Salmon Fillets

Serves 2

Sesame oil: 1 tablespoon

2 (4-ounce) salmon fillets, skin on

Ginger (ground): 1/8 teaspoon

Sea salt: 1/8 teaspoon

1/8 teaspoon cracked black pepper

Black sesame seeds: 2 teaspoons

Heat the oil in a medium pan over medium heat. Once the pan is hot, add the salmon, skin side down. Top each fillet with the ginger powder, salt, pepper, and sesame seeds. Pat the seeds down softly so they stick to the fillet. After about 3 to 4 minutes, turn the fillets over, and sear the other side. After 1 to 2 minutes, remove the fillets from the pan and serve immediately.

Grilled Peaches with Ricotta Stuffing and Balsamic Glaze

Serves 4

4 large peaches, halved and pitted

extra virgin olive oil: 1 tablespoon

Low-fat ricotta cheese: 1 cup

Cinnamon (ground): 1/4 teaspoon

Nutmeg (ground): 1/8 teaspoon

Low-fat milk: 2 tablespoons

Balsamic Glaze: 2 tablespoons

Brush both sides of each peach half with oil, and place flat side down on a heated grill or grill pan. Grill for about 4 minutes, turn the peach halves over, and cook for a few more minutes, until soft. While the peaches are grilling, mix the ricotta, milk, cinnamon, and nutmeg in a small bowl, stirring to incorporate flavors evenly. Remove the peaches from the grill, and scoop 1/4 cup of the ricotta mixture into the center of each peach half. Drizzle balsamic glaze over each, and serve.

Banana Almond Smoothie

Serves 1

1 large banana

unsweetened almond milk: 1 cup

Unsalted almond butter: 1 tablespoon

Wheat germ: 1 tablespoon

Vanilla extract: 1/8 teaspoon

Cinnamon (ground): 1/8 teaspoon

3–4 ice cubes

Place all the ingredients in a blender. Start blending on low, and as the contents begin to break down, increase to medium speed until desired consistency is achieved about 1 minute. Serve immediately.

Tuna Salad

Makes 4 (1-cup) servings

Celery (chopped): 1/4 cup

1/2 jalapeño chile pepper, seeded and chopped

Roma tomato (chopped): 1/4 cup

red onion (chopped): 1/4 cup

2 (6-ounce) cans albacore tuna in water, no salt added, drained

brown mustard: 1 teaspoon

low-fat plain Greek yogurt: 3 tablespoons

cracked black pepper: 1/8 teaspoon

1 small avocado, thinly sliced

In a medium bowl, combine the celery, chile pepper, tomato, and onion. Mix in the tuna, mustard, yogurt, and pepper until well combined. Top the salad with avocado slices, and serve.

Thai Curried Vegetables

Serves 4

coconut oil: 2 tablespoons

1 medium onion, cut into 1/4-inch pieces

1 medium red bell pepper, coarsely chopped

1 medium green bell pepper, coarsely chopped

1 cup coarsely chopped broccoli

3–4 cups cubed eggplant, 1/2-inch pieces

1 small jalapeño chile pepper, thinly sliced (seeded for less heat)

fresh ginger (chopped): 1 tablespoon

2 large cloves garlic, coarsely chopped

curry powder: 1 teaspoon

cinnamon (ground): 1/2 teaspoon

turmeric (ground): 1/2 teaspoon

1/2 teaspoon cracked black pepper

unsweetened light coconut milk: 2 cups

low-sodium vegetable broth: 1/2 cup

1 heaping tablespoon unsalted peanut butter

4 tablespoons coarsely chopped Thai basil

Heat a large pot over medium heat, and add the coconut oil. Once it has melted, add the onion, bell peppers, and broccoli, stirring constantly. Add the eggplant, chile pepper, ginger, garlic, curry powder, cinnamon, turmeric, and pepper. Stir to incorporate the ingredients and spices and cook until the eggplant browns and the vegetables soften a bit, about 4 to 5 minutes.

Add the coconut milk, broth, and peanut butter. Stir well to incorporate the peanut butter, and then cover the pot. Simmer on low for about 10 minutes. Then remove the lid, and simmer uncovered for an additional 5 minutes, or until the sauce thickens to the desired consistency. Stir in the basil right before serving.

Macerated Strawberries with Homemade Whipped Cream

Serves 6

Strawberries (sliced): 2 cups
balsamic vinegar: 2 tablespoons
brown sugar: 3 tablespoons
cracked black pepper: 1/4 teaspoon

WHIPPED CREAM

1/4 cup cold heavy whipping cream
vanilla extract: 1/2 teaspoon
brown sugar: 2 tablespoons
1 1/2 teaspoons grated orange zest

Place the strawberry slices in a large bowl. Add the vinegar and sugar, mix together, and let sit for at least 30 minutes so that the flavors meld and a syrupy sauce forms.

In a separate large bowl, whip the cold cream and vanilla with a hand mixer at high speed until bubbles form and the cream starts thickening. Add the sugar gradually while mixing and continue mixing until stiff peaks form. Fold in the orange zest with a spatula.

Dish the strawberries into small bowls, and top with black pepper and whipped cream. Drizzle some of the syrup from the strawberry bowl over the top.

Warm Quinoa with Berries

Serves 2

Uncooked quinoa: 1 cup
unsweetened coconut milk: 1 cup
1 cup water
blackberries: 1/2 cup
toasted chopped pecans: 2 tablespoons
raw honey (optional): 2 teaspoons l

Rinse the quinoa (if not pre-rinsed). In a small covered pot, bring the quinoa, coconut milk, and water to a boil on high heat. Reduce the heat to low and simmer for 10 to 15 minutes or until the liquid has been absorbed. Cooked quinoa should be slightly al dente; it is ready when most of the grains have uncoiled and you can see the unwound germ. Let the quinoa sit in the covered pot for about 5 minutes. Fluff gently with a fork and scoop into two bowls, and top with blackberries, pecans, and honey (if using)

Chicken Fajita Wraps

Serves 4

extra virgin olive oil: 3 tablespoons

2 (6-ounce) boneless, skinless chicken breasts

oregano (dried): 1 teaspoon

sea salt: 1/8 teaspoon

black pepper: 1/8 teaspoon

1/2 large white onion, thinly sliced

1 large green bell pepper, thinly sliced

1 large red bell pepper, thinly sliced

4 100% whole wheat tortillas

rinsed and drained canned black beans: 1 cup

shredded romaine lettuce: 1 cup

low-fat plain Greek yogurt: 4 tablespoons

Heat the oil in a large pan over medium heat. While the pan heats, remove the fat from the chicken breasts, slice them lengthwise about 1/4 inch thick, and cut the longer pieces in half. Season with oregano, salt, and pepper. Add the chicken to the pan, and sauté until the pieces are no longer pink in the center, 5 to 6 minutes. Remove the chicken from the pan, and set it aside. Add the onion and bell peppers to the same pan, and sauté until the onions are soft but not completely transparent, about 4 minutes. Warm the tortillas in a flat pan over low heat. Divide the black beans, lettuce, chicken, and sautéed peppers and onions among the four tortillas. Top with yogurt, wrap and serve.

Tropical Salsa

Serves 10 (Makes 5 cups)

1 large mango, peeled, pitted, and diced

2 large avocados, peeled, pitted, and diced

1 small red bell pepper, diced

2 large Roma tomatoes, diced
1/2 cup diced red onion
fresh cilantro (chopped): 3 tablespoons
1/2 large jalapeño chile pepper, finely chopped (seeded for less heat)
Juice of 1 lime
sea salt: 1/8 teaspoon
cracked black pepper: 1/8 teaspoon

Combine all the ingredients in a large bowl. Before serving, refrigerate for at least 20 minutes so that the flavors blend.

Fish Tacos

Serves 4

4 (3-ounce) Mahi-mahi fillets
extra virgin olive oil: 3 tablespoons
4 cups thinly shredded red cabbage
red wine vinegar: 3 tablespoons
8 corn tortillas
ground cumin: 1/2 teaspoon
cracked black pepper: 1/8 teaspoon
2 large avocados, pitted, peeled, and thinly sliced
3 large Roma tomatoes, chopped

SAUCE

Low-fat plain Greek yogurt: 3/4 cup
low-fat milk: 1/4 cup
Juice of 1 large lemon
cracked black pepper: 1/8 teaspoon
sea salt: 1/8 teaspoon

To make the sauce, whisk all ingredients together in a small bowl. The consistency of the sauce should be relatively thin, to drizzle over the top of the tacos, adding more milk if it isn't thin enough. Set aside.

Heat a large pan over medium heat. Season both sides of each fillet with cumin and pepper. Add the oil to the hot pan, and when the oil is hot add the fillets, two at a time. Cook each side for about 3 to 4 minutes, or until each side is seared and the center of the fish is no longer transparent. Remove from the pan, and drain on paper towels. Repeat with the other two fillets. In a separate bowl, toss the cabbage with the vinegar. With two forks, break apart each fillet into two pieces. Warm the tortillas in a flat pan on low heat, then place a couple of pieces of fish in each tortilla, top with the cabbage mixture, avocado, and chopped tomato, and then drizzle with sauce. Fold tortilla over and serve.

Anna's Black Beans

Serves 8

Dried black beans: 4 cups

1–2 bay leaves

ground cumin: 3/4 teaspoon

sea salt: 3 teaspoons

1/4 small white onion, slivered

2–3 large cloves garlic, whole

1–2 dried red chiles/chiles de arbol

8–10 cups water

Place all the ingredients in a large pot, and bring to a boil. Lower the heat, and simmer for 2 to 3 hours. Check and stir every 30 to 40 minutes, adding water if necessary.

Grilled Pineapple

Serves 6

1 large pineapple, sliced into rounds, and cored

Cut the pineapple by laying it on its side and cutting off the top and bottom. Stand it up on its newly flat base. Working in a circular direction, cut the skin off in a downward motion, starting from the top and going to the base. Be careful not to cut off too much of the fruit with the skin. Once the skin has been removed, cut away any brown spots. Then lay it lengthwise again, and slice rounds to desired thickness. Use a cookie cutter or knife to cut out the inedible core at the center of each round.

Place the pineapple rings directly onto a hot grill. Grill for about 3 minutes, or until char marks appear. Then turn the rings over, and grill for another 2 to 3 minutes. Serve warm or chilled.

Tropical Smoothie

Serves 2

Mango (frozen): 3/4 cup

pineapple (frozen): 3/4 cup

1 small frozen banana, chopped

1 1/2 cups unsweetened coconut milk

1/2 cup water

coconut oil: 1 tablespoon

3–4 ice cubes

Place all the ingredients in a blender. Start blending on low, and as the contents begin to break down, increase to medium speed until completely smooth, about 1 minute. Serve immediately.

Italian Veggie Pita Sandwich

Serves 1

1 100% whole wheat pita (with pocket)

1 tablespoon prepared pesto

arugula: 1/2 cup

1 (1/4-inch-thick) slice fresh mozzarella cheese

1 (1/4-inch-thick) slice heirloom tomato

1/4 cup roasted red pepper (about 2 large pieces from jar)

cracked black pepper: 1/8 teaspoon

Warm the pita on both sides in a skillet over low heat. Remove from heat, cut the pita in half and split open, and spread pesto on the inside. Fill with arugula, cheese, tomato, and red pepper. Top with black pepper.

Grilled Chicken Skewers Marinated in Ginger-Apricot Sauce

Serves 4 (Makes about 12 skewers)

4 (4-ounce) chicken breasts, cut into 1-inch cubes

3 large red bell peppers, cut into 1-inch pieces

2 large white onions, cut into 1-inch pieces

6 apricots, pitted and cut into 1-inch pieces

MARINADE

1 heaping tablespoon reduced-sugar apricot marmalade

sesame oil: 1/2 teaspoon

1 1/2 teaspoons finely chopped fresh ginger or 3/4 teaspoon ground ginger

Dijon mustard or brown mustard: 1 tablespoon

apple cider vinegar: 4 tablespoons

extra virgin olive oil: 1/4 cup

1 large clove garlic, chopped

Mix all marinade ingredients together in a large bowl. Place the cubed chicken in a large zip-top bag, pour in the marinade, squeeze the air out of the bag, and seal tightly. Work the mixture into the chicken by hand, by moving the bag and contents around. Refrigerate for at least 2 hours.

Soak 12 large wooden skewers in water, and then chop the peppers, onions, and apricots into similar-sized pieces.

Skewer the pieces of chicken, pepper, onion, and apricot, alternating ingredients. Grill the skewers on a hot grill or grill pan, 4 to 5 minutes per side, or until the chicken is no longer pink in the center. (If using a charcoal or gas grill, close the cover on the grill so the chicken doesn't dry out.)

Roasted Cauliflower

Serves 4

cauliflower florets (1 small head cauliflower: 4 cups
extra virgin olive oil: 4 tablespoons
3 large cloves garlic, minced
chile pepper flakes: 1/2 teaspoon
Grated zest of 1 large lemon
sea salt: 1/8 teaspoon
1/8 teaspoon cracked black pepper
basil (fresh and chopped): 3 tablespoons

Preheat the oven to 400°F. Remove and discard the stems and core of the cauliflower. Place the cauliflower head in an 8- 8-inch baking dish. Drizzle with oil, and then sprinkle on the garlic, chile pepper flakes, lemon zest, salt, and pepper. Shake the pan a bit so that the oil spreads and the ingredients cover the cauliflower. Bake 15 to 20 minutes, shaking the pan after 10 minutes to prevent the cauliflower from sticking. Remove from the heat, top with fresh basil, and serve immediately.

Brie-Stuffed Apple

Serves 4

1 small wedge of Brie cheese
4 large Gala apples
lemon juice divided: 1 1/2 tablespoons
nutmeg (ground): 1/8 teaspoon
cinnamon (ground): 1/4 teaspoon
black currants: 1/4 cup
walnuts (chopped): 1/4 cup
brown sugar divided: 2 tablespoons

Preheat the oven to 375°F. Place the Brie wedge in the freezer for 10 minutes (to make for easier chopping later).

To core each apple, cut in a wide, circular motion all the way around the top of the apple toward the base. Pop the top off, and cut off, and discard any tough pieces connected to the core. Using a teaspoon, scoop out most of the inside of the apple, along with the remaining seeds. Discard the seeds, and coarsely chop the apple flesh (about 1 1/2 cups). Set aside in a medium bowl. Brush the inside of each cored apple with lemon juice. Reserve the remaining lemon juice.

Remove the Brie from the freezer, and cut into small cubes, about the same size as the apple pieces (about 1/2 cup). Add the Brie and remaining ingredients to the apple mixture, and top with remaining lemon juice. Mix to incorporate the ingredients evenly. Using a tablespoon, stuff each cored apple with the apple-cheese mixture until it reaches just above the top of the apple (so it looks overstuffed). Sprinkle with brown sugar.

Place the stuffed apples in a 9-inch round cake pan, and add about 1/2 inch of water to the pan. Cover with foil, and bake for about 20 to 25 minutes, or until you can easily pierce the apples with a fork or toothpick.

Fruity Yogurt Parfait

Serves 1

1 cup low-fat plain Greek yogurt

blueberries: 1/4 cup

strawberries (cubed): 1/4 cup

kiwifruit (cubed): 1/4 cup

flaxseeds or flaxseed meal (ground): 1 teaspoon

low-calorie granola: 1/2 cup

Scoop half the yogurt into a small glass bowl or parfait dish. Top with a thin layer of blueberries, strawberries, kiwifruit, flaxseed meal, and granola. Layer the remaining yogurt and top with the remaining fruit, flaxseeds, and granola.

Kale Vegetable Soup

Serves 6

extra virgin olive oil: 2 tablespoons

3 medium carrots, sliced

3 small sweet potatoes, diced

1 large yellow onion, chopped

3 large cloves garlic, minced

2 small yellow zucchini, cubed

oregano (dried): 1/2 teaspoon

chile pepper flakes: 1/4 teaspoon

sea salt: 1/8 teaspoon

1-quart low-sodium vegetable broth
1 (14-ounce) can of low-sodium diced tomatoes
fresh thyme chopped: 1/2 teaspoon
2 cups coarsely chopped kale
1 (15-ounce) can cannellini beans, rinsed and drained

Heat the oil in a large pot over medium heat. Add the carrots, sweet potatoes, onion, and garlic, and cook until they begin to soften about 4 to 5 minutes. Add the zucchini, oregano, chile pepper flakes, and salt, and cook for 1 minute. Stir in the broth, canned tomatoes with juice, and thyme. Bring to a boil, reduce heat, cover, and simmer for an additional 10 minutes. Then add the kale and beans, and continue simmering until the kale is wilted and the sweet potatoes are soft about 8 to 10 more minutes. Serve hot.

Hummus Dip with Curried Pita Chips

Serves 8 (1 serving is 5 tablespoons hummus and 5 chips)

PITA CHIPS

2 100% whole wheat pitas
curry powder: 1–2 tablespoons

HUMMUS DIP

2 (15-ounce) cans garbanzo beans, rinsed and drained
tahini paste: 1/4 cup

Juice of 2 lemons

2 small cloves garlic, minced
sea salt: 1/4 teaspoon
cracked black pepper: 1/2 teaspoon

extra virgin olive oil, divided: 5 tablespoons
oregano (dried): 1/2 teaspoon

Preheat the oven to 400°F.

Cut the pitas into 1-inch pieces, and place them on a cookie sheet. Sprinkle with curry powder, and bake for 5 to 8 minutes, or until crunchy.

While the pita chips are baking, make the dip by blending the beans, tahini, lemon juice, garlic, salt, and pepper in a food processor. While processing, drizzle in 4 tablespoons of the oil until there are no large pieces and the hummus is smooth. If a thinner hummus is desired, add 1 tablespoon water at a time while blending. Transfer to a serving dish, top with dried oregano, drizzle with the remaining 1 tablespoon olive oil and serve with warm curry pita chips.

Mexican Pizza

Serves 6

1/2 cup rinsed and drained canned black beans
canned chipotle pepper sauce: 1 tablespoon
Water: 3 tablespoons
1 (12-inch) prebaked 100% whole wheat thin-crust pizza
1 small zucchini, thinly sliced in rounds
red onion (thinly sliced): 1/2 cup
red bell pepper (sliced): 1/2 cup
skim mozzarella cheese (shredded): 1/2 cup
oregano (dried): 1/2 teaspoon

Preheat the oven to 400°F. In a blender or food processor, combine the black beans, chipotle sauce, and water. Puree until smooth. Evenly spread the mixture on the pizza crust. Cover with zucchini rounds, then bell peppers and onions, and finally cheese. Sprinkle oregano on top, and bake for about 15 minutes, or until the cheese is bubbling and browning.

Beet and Heirloom Tomato Salad

Serves 4

1 cup cooked, thinly sliced beets
mixed greens: 6 cups
1 cup green heirloom tomato, sliced and cut in fourths
toasted walnut pieces: 1/4 cup
crumbled goat cheese: 1/4 cup
balsamic vinegar: 1/4 cup
Cracked black pepper, to taste

Prepare the beets by cutting off the green stems and washing the beets. Cut off the very top and very bottom of the beet, and then peel off the thick skin. Place the beets in a small pot with about 1/2 to 1 cup of water, and steam over medium heat for about 15 minutes. Once cooked, let cool, and then slice and cut each slice into fourths as with the heirloom tomatoes. Place the mixed greens in a large salad bowl, and top with the beets, tomato, walnuts, and goat cheese. Drizzle with balsamic vinegar, and grind cracked black pepper over the top.

Macerated Strawberries with Homemade Whipped Cream

Serves 6

Strawberries(sliced): 2 cups
balsamic vinegar: 2 tablespoons
brown sugar: 3 tablespoons
cracked black pepper: 1/4 teaspoon

WHIPPED CREAM

Cold heavy whipping cream: 1/4 cup

vanilla extract: 1/2 teaspoon

brown sugar: 2 tablespoons

orange zest (grated): 1 1/2 teaspoons

Place the strawberry slices in a large bowl. Add the vinegar and sugar, mix together, and let sit for at least 30 minutes so that the flavors meld and a syrupy sauce forms.

In a separate large bowl, whip the cold cream and vanilla with a hand mixer at high speed until bubbles form and the cream starts thickening. Add the sugar gradually while mixing and continue mixing until stiff peaks form. Fold in the orange zest with a spatula.

Dish the strawberries into small bowls, and top with black pepper and whipped cream. Drizzle some of the syrup from the strawberry bowl over the top.

Open-Faced Breakfast Sandwich

Serves 1

extra virgin olive oil: 1 1/2 teaspoons

2 egg whites, beaten

spinach: 1/2 cup

Cracked black pepper, to taste

brown mustard: 1 teaspoon

1 slice 100% whole wheat bread

2 thick tomato slices

1 thin slice of low-fat cheddar cheese

Preheat the oven or toaster oven to 400°F. Heat a small nonstick pan on medium heat. Add oil to the hot pan and when the oil is hot, add the egg whites. Scramble the eggs while cooking, then add the spinach and season to taste with pepper. Spread mustard onto the bread, add the tomato and scrambled eggs, and top with cheese. Heat in the oven until the cheese melts, about 2 minutes.

Healthy Cobb Salad with Basic Vinaigrette

Serves 4

turkey bacon: 4 slices

spinach: 5 cups

1 cup sliced cremini mushrooms

carrot (shredded): 1/2 cup

1/2 large cucumber, sliced

1/2 (15-ounce) can kidney beans, rinsed and drained

1 large avocado, pitted, peeled, and chopped

blue cheese (crumbled): 1/3 cup

Basic Vinaigrette

Heat a medium-sized nonstick pan over medium heat, and coat with olive oil spray. Add the turkey bacon, cook until brown, and then flip and continue cooking, 5 to 6 minutes. Remove and rest on a cutting board. Crumble the cooled turkey bacon by hand, or coarsely chop.

Place the spinach on a large serving platter. Then arrange the mushroom, carrot, cucumber, kidney beans, avocado, blue cheese, and turkey bacon in neat rows atop the spinach. Serve with vinaigrette on the side.

Grilled Portobello Burger with Caramelized Onions and Pesto

Serves 4

4 medium portobello mushrooms (about 4 inches in diameter)

extra virgin olive oil: 4 tablespoons

sea salt: 1/4 teaspoon

ground black pepper: 1/2 teaspoon

balsamic: 8 tablespoons

4 100% whole wheat hamburger buns

prepared pesto: 4 tablespoons

Caramelized Onions: 4 tablespoons

Clean the mushrooms by wiping them with a damp towel. Remove the mushroom stems, and then scoop out the brown gills with a metal spoon and discard them. Brush each mushroom top with a tablespoon of oil, and sprinkle the inside of each mushroom with salt, pepper, and 2 tablespoons of balsamic vinegar. Set aside for at least 20 minutes.

Place the mushrooms on a hot grill or grill pan, top-down. Grill for about 5 to 7 minutes, and then flip and grill for another 5 or 7 minutes, or until tender. Don't handle them too much to prevent the juices from being released.

Toast the buns while the mushrooms are grilling by placing them face down on the grill for about 1 minute. Remove from the grill, and spread 1 tablespoon of pesto on the inside of each top bun. Place a mushroom on each bottom bun, then top with 1 tablespoon of caramelized onions

Grilled Sweet Potato Steak Fries

Serves 4

1 pound (about 4 medium) sweet potatoes, unpeeled

4 tablespoons extra virgin olive oil

ground cumin: 1/2 teaspoon

cayenne pepper: 1/2 teaspoon

cracked black pepper: 1/4 teaspoon

sea salt: 1/4 teaspoon

Fill a large pot with water, and bring it to a boil. Add the sweet potatoes, and boil 10 to 12 minutes, or until an inserted fork glides in easily but the potato is slightly firm in the center. Strain the potatoes, and let them cool. Once cooled, cut them in half lengthwise and then into 1/2-inch-thick pieces lengthwise. The skin may peel a bit, but keep it on as it provides nutritious fiber. Brush oil onto each slice, and sprinkle with cumin, cayenne, and black pepper. Arrange on the grill, and cook 1 to 2 minutes per side. Remove from the heat, season with salt, and serve.

Banana Chocolate Dessert Smoothie

Serves 2

1 medium frozen banana, chopped

3/4 cup unsweetened almond milk

water: 1/4 cup

unsweetened cocoa powder: 1 1/2 tablespoons

1/8 teaspoon ground cinnamon

1 tablespoon raw, unsalted almond butter

3 drops almond extract

3–4 ice cubes

Sprig of fresh mint

Place all ingredients except the mint in a blender, and blend on high for about a minute. For a thicker, slushier smoothie, add more ice. Garnish with fresh mint.

Mediterranean Scramble

Serves 1

2 tablespoons extra virgin olive oil

1/8 cup chopped red onion

1 medium clove garlic, minced

red bell pepper (sliced): 1/4 cup
1/4 cup rinsed and drained, chopped canned artichoke hearts
2 egg whites
1 whole egg
oregano (dried): 1/8 teaspoon
cracked black pepper: 1/8 teaspoon
low-fat feta cheese: 1/8 cup

Heat a small nonstick pan on medium heat. Add oil to the hot pan and when the oil is hot, add the onion and garlic. Cook for 1 minute before adding the bell pepper strips and artichoke hearts. Sauté the vegetables for another 3 minutes, or until the onion is translucent and the bell pepper is softened. In a small bowl, whisk the egg whites and egg, and season with oregano and black pepper. Pour the eggs in and mix them with a spatula. Cook for 3 to 4 minutes, or until the eggs are no longer runny. Remove from heat, top with feta, and cover until the feta starts to melt. Serve immediately.

Asian Quinoa Salad

Serves 6

uncooked quinoa: 2 cups
low-sodium vegetable broth: 4 cups
1 cup cooked, shelled edamame
green onion (chopped): 1/4 cup
1 1/2 teaspoons finely chopped fresh mint
carrot (chopped): 1/2 cup
bell pepper (chopped): 1/2 cup
Chile pepper flakes: 1/8 teaspoon
orange zest (grated): 1/2 teaspoon
finely chopped fresh Thai basil: 2 tablespoons
Juice of 1/2 orange
sesame seeds: 1 teaspoon
Sesame oil: 1 tablespoon
extra virgin olive oil: 1 tablespoon
cracked black pepper: 1/8 teaspoon

Rinse the quinoa (if not pre-rinsed). In a small covered pot, bring the quinoa and vegetable broth to a boil over high heat. Reduce the heat to low and simmer for 10 to 15 minutes or until most of the liquid has been absorbed. Cooked quinoa should be slightly al dente; it is ready when most of the grains have uncoiled and you can see the unwound germ. Let the quinoa sit in the covered pot for about 5 minutes.

Fluff gently with a fork and transfer the cooked quinoa to a large bowl, then mix in the remaining ingredients. Cool to room temperature and serve. This dish can also be served chilled.

Orange Chicken and Brown Rice

Serves 2

2 (4-ounce) boneless, skinless chicken breasts
sesame oil: 1 tablespoon
extra virgin olive oil: 1 tablespoon
1/2 cup coarsely chopped shiitake mushroom
white onion (chopped): 1/4 cup
1 large clove garlic, minced
cracked black pepper: 1/4 teaspoon
orange zest (grated): 1/2 teaspoon
lemon zest (grated): 1/4 teaspoon
Juice of 1/2 orange
spinach: 4 cups
ground ginger: 1/4 teaspoon
brown rice (cooked): 1 cup

Trim the fat from the chicken breasts, and then cut the chicken into small cubes. Heat the sesame oil and olive oil in a medium pan over medium to high heat. Add the mushroom, onion, and garlic, and cook for 1 minute, then add the chicken, and season with the pepper, ground ginger, orange zest, and lemon zest. Cook until the chicken has browned, about 4 to 5 minutes, and then add the orange juice. Stir the chicken and scrape the bottom of the pan to incorporate flavors. Add the spinach, remove the pan from the heat, and immediately cover it to steam the spinach. Divide the cooked brown rice between two dishes, and top with orange chicken.

Berry Cobbler

Serves 6

Cornstarch: 2 tablespoons
1/4 teaspoon ground cinnamon
cold water: 1/4 cup
1 (16-ounce) package frozen mixed berries
brown sugar: 2 tablespoons
lemon zest (grated): 1 tablespoon

CRUMBLE TOPPING

Whole wheat flour: 1/2 cup
old-fashioned oats: 1/4 cup
flaxseeds: 1/2 teaspoons
toasted chopped walnuts: 1/8 cup
Ground nutmeg: 1/4 teaspoon
5 tablespoons cold, unsalted butter

Preheat the oven to 375°F. In a large saucepan, combine the cornstarch, cinnamon, and water, and bring to a boil. Continue to boil, and stir until thick, about 2 minutes. Remove from the heat, and add the berries, sugar, and lemon zest. Stir to coat the berries.

To make the topping, combine the flour, oats, flaxseeds, walnuts, nutmeg, and cold butter in a medium bowl. Scrunch with your fingers until the mixture becomes crumbly and holds together.

Coat an 8-inch pie pan or round baking dish with olive oil spray, and pour in the berry mixture. Top the berries with the crumble topping, and bake for 20 to 25 minutes, or until the berries are bubbling and the topping is crunchy to the touch and cooked through.

For more delicious and related DASH diet recipes, follow *Mariza Snyder, Lauren Clum, Anna V. Zulaica - The DASH Diet Cookbook_ Quick and Delicious Recipes for Losing Weight, Preventing Diabetes, and Lowering Blood Pressure-Ulysses Press (2012)*



CHAPTER 9

MIXED DIETS:

KETO DASH DIET:

The main purpose of Dietary Approaches to Stop Hypertension (DASH) eating pattern, as mentioned in previous chapters, is to keep the blood pressure within normal range, which is a major risk factor for a range of heart diseases and stroke. This diet is quite easy to follow, as it only cuts down excess sodium consumption and allows one to eat a wide range of healthy and delicious food items such as fruits, vegetables, low-fat dairy, nuts, legumes, whole grains, etc. New research showed that the DASH plan lowered blood pressure in just two weeks. In multiple studies, the people experiencing the greatest results on the plan (meaning a significant decline in blood pressure after just 14 days) were those who, before starting the plan, had moderately high blood pressure or pre-hypertension. For people with severe hypertension who were unable to eliminate their blood pressure medications during the studies, DASH helped to improve their response to medication.

Additional research demonstrated that DASH is the safest dietary pattern for adults and even for teens to lose weight and that it helps with cognitive function, decreases the risk of kidney stones, protects from certain types of cancers and chronic health conditions, helps to reduce the incidence of stroke and osteoporosis, and helps to reduce insulin resistance in type 2 diabetes. DASH was thoughtfully constructed by doctors and nutritionists to provide liberal amounts of nutrients critical for optimal body function. Improved function means better internal communication within the body so that each system of the body works properly and is well connected to other body systems. This improved function and communication promotes healthy cardiovascular (heart) and gastrointestinal (digestion) systems and leads to weight management.

These critical nutrients are found in real food, which sounds simple enough. However, many diets promote the use of processed foods, which not only lack vital nutrients but contain numerous artificial ingredients that the body can't easily break down and process. The real-food crux of DASH is a very different yet simple approach: an eating plan that is rich in fresh vegetables and fruits, 100% whole grains, beans, lean meats, and low-fat and nonfat dairy. These real foods have been designed by nature to nourish and fuel the body properly and optimally.

While the ketogenic diet works on the principle of ketosis. This diet is thought to be very effective for weight loss and other purposes. Fat delivers energy via dietary ketones, just as the carbohydrates deliver via glucose, says Dr. Robert Atkins, author of Atkins New Diet Revolution. A ketogenic diet or keto diet lowers the blood glucose insulin levels and shifts the body's mechanism of using carbohydrates as a source of energy to dietary fats. There are different variants of the ketogenic diet available based on the micronutrient content (carbohydrates, protein, and fat): Standard ketogenic diet which is a very low carbohydrate, moderate protein, and a high-fat diet. Macronutrient content in this type of diet is 70 percent fats, 20 percent protein, and 10 percent carbohydrates. The second type of ketogenic diet is the cyclical ketogenic diet. This type of ketogenic diet involves a cyclical or rotational use of dietary carbohydrates. It involves specific time periods on high carb refeeds such as 4 days on a ketogenic diet followed by 2 days on a high carbohydrate diet. The next one is the targeted ketogenic diet which allows one to consume carbohydrates around the workout time. Last but not the least is high protein ketogenic diet. As the name suggests, this diet only adds more protein to a standard ketogenic diet. The macronutrient ratio on this type of diet is often 60 percent fats, 35 percent protein, and 5 percent carbohydrates.

But if you use these diets in combination, they can have a potent synergic effect on our health. DASH diet is known for reducing blood pressure, stroke, diabetes, heart disease risk. But this diet is not a specific diet for weight loss. While, on the other hand, the ketogenic diet is very effective and beneficial if you are trying to lose weight. Losing extra body weight can significantly reduce the risk of developing chronic and other health complications. So if you use both of these diets in the right manner, i.e. using dietary fiber and restricting the saturated fats, one can prevent and delay the onset of many diseases.

VEGAN DASH DIET:

This diet is a part Vegan and DASH diet. A vegan diet is the most restrictive form of a vegetarian diet, which allows only plant-based foods. This type of diet is high in dietary fiber; which has positive effects on blood sugar levels and can promote weight loss, polyphenols, and essential fatty acids. But this type of diet also lacks certain nutrients like vitamin B12 and others. Protein consumption is also very low in vegans as compared to other vegetarians. There are different forms of vegan diets. Some of which include; whole food vegan diet, which is based on whole plant-based foods such as fruits, vegetables, legumes, whole grains, nuts, and seeds. Another form of a vegan diet is the one in which raw fruits, vegetables, nuts, seeds, and other plant foods are cooked and eaten. The starch solution is another form of a vegan diet, which is low fat, and a high carb vegan diet. The thrive diet, and raw till 4 are also among this list of vegan diets. A vegan diet is proven to be very helpful to lose weight, which is why most vegans are thinner and have a Body mass index in normal and healthy ranges. Studies suggest that people who follow a vegan diet lose more weight than on a calorie-restricted diet. Individuals who adopt this type of lifestyle have normal blood glucose levels and are most insulin sensitive. Other studies (observational studies) also show that vegans have a significantly low risk of developing heart disease, and hypertension. As plant-based foods have a huge impact on total blood cholesterol, a vegan diet can reduce LDL levels and total cholesterol levels as compared to other dietary patterns. Other benefits include low cancer risk, arthritis, kidney function, and Alzheimer's disease. Foods that must be avoided in this diet include dairy; milk, yogurt, cheese, butter, cream, and ice-cream, eggs; chicken, quails, fish, ostriches, etc. Meat and poultry: lamb, beef, pork, horse, chicken, turkey, duck, quail, etc. Bee products: honey, pollen, etc.

Animal-based ingredients: Whey, casein, lactose, egg white albumen, gelatin, cochineal or carmine, isinglass, shellac, L-cysteine, animal-derived vitamin D₃, and fish-derived omega-3 fatty acids. Foods that are allowed include legumes, tofu, seeds, algae (spirulina, chlorella), nutritional yeast, whole grains, cereals, fruits, vegetables, tempeh, and seitan, etc. When the vegan diet and DASH diet is used in combination, they can add potential benefits to human health like reduce the risk of heart diseases, stroke, hypertension, diabetes mellitus type 2, cancer, obesity, kidney diseases, etc.



CHAPTER 10

OTHER WEIGHT LOSS DIETS

Today, it is easier than it had ever been to lose weight. But when it comes to weight loss, a few questions come to mind. And the most common question among them is “What would be the best diet for weight loss?”

Obesity is the unnecessary fat deposition in body parts. Earlier, obesity was not considered a disease but today, it is considered a disease that is getting common rapidly.

It is estimated that obesity worldwide has been tripled since 1975.

One of the best ways to control this anomaly is by changing your diet and lifestyle. Different diet patterns have been developed by professionals that help you lose weight and improve your overall health. By following such diet patterns you do not only lose weight but also lessen the risk of diseases that increase the rate of mortality. Various studies have also shown that only diet cannot work efficiently, physical activities and motivation matter as well. But when you start searching, you actually don't know which diet to follow or which one is the best diet for weight loss.

The best diets for weight loss are discussed below:

1.Vegetarian Diet:

One of the best diets for weight loss is a vegetarian diet, meat and meat products are completely avoided while milk and eggs are allowed to consume. Grains, beans, and oils (from the plant source) i.e. coconut oil, almond oil, and olive oil are allowed to take in this diet pattern. Experiments have been done to see the difference between the body weights of those who followed the vegetarian diet and those who did not follow.

How does it work?

In this diet, you can say, fiber is the main content that helps in weight loss. It reduces appetite by giving a sensation of fulfillment and by taking a long time in digestion. And a well-chosen vegetarian diet decreases the risk of mortality and morbidity. The potential benefit of this type of diet is that it is a disease-specific diet i.e. it reduces the risk of hypertension, type-2 diabetes, kidney diseases, prostate, and colorectal cancer.

It is generally a good quality diet in which there is a high intake of vegetables and fruits, a low intake of saturated fat, and a high intake of dietary fiber, carotenoids, flavonoids, and various other phytochemicals. Several nutrients are concerned including vitamin B12 and omega-3 fatty acids but alternatives have been provided by the researchers.

The mechanism in Weight loss:

A few groups of people were under observation to have a meta-analysis. The vegetarian diet was given to a group under observation that included men and women whose BMI [which is the weight (in kg) divided by height (in meter square)] were seen to be in between 25 to 53 kg/m²and their ages were between 18 to 85 years.

They had been under strict observation for 9 to 74 weeks and a prominent result was observed in their weight and body parts measurements.

Summary:

The group who followed the vegetarian diet lost more weight as compared to the group who did not follow that diet pattern.

A meta-analysis was done and it was observed that the group who had consumed the vegetarian diet pattern lost approximately 2 to 3 kg weight as compared to the other. This diet did not only lowers their weight but also maintains their body figure. Fatigue and tiredness were not observed.

2.PALEO DIET:

In this diet pattern, fish, unsaturated fats, oils, fruits, vegetables, nuts, seeds, and lean meat is allowed to consume while processed food, junk food, soft drinks, fizzy drinks, cola drinks, dairy products, margarine, and artificial sweeteners are not allowed.

It has been used since the 1970s and it was introduced by a gastroenterologist who wanted to change the eating pattern and lifestyle.

How does it work?

One of the main roles of this diet pattern is that it does not allow to consumption of processed food and ultra-processed food that helps prevent obesity and weight gain. The processed food contains a high amount of saturated fat especially junk food. This type of fat tends to increase the amount of cholesterol in body cells, especially the concentration of bad cholesterol called LDL i.e. low-density lipoproteins. LDL cholesterol causes obesity. The vegetables and fruits group in this pattern provides fiber and various phytochemicals that help in weight loss and prevent other diseases including obesity. The nuts and seeds provide vitamins especially vitamin B complex, essential fatty acids, and unsaturated fats. Fish is a good source of omega-6 fatty acids, omega-3 fatty acids, and vitamin E.

The mechanism in Weight loss:

The intake of vegetables and fruits enhances the amount of fiber that helps in weight loss and prevents other diseases, especially hypertension according to a three-month study in which the subjects were thirty-five women and one hundred and three men whose BMI were more than 36 kg/m². According to another study, a 24-hour recall of a group of people aged 20+ years was observed. The reduction in their BMI and weight was prominent.

Summary:

Conclusively, the paleo diet enhances the consumption of good quality food and refined food especially the processed food including junk is not allowed to consume as a result BMI decreases.

Thus, it reduces weight and improves overall health. So, it is regarded as one of the best diets for weight loss as it is a quite effective pattern.

3.LOW CARBOHYDRATE DIETS (KETOGENIC DIET):

Over the past few decades, low-carbohydrate diets are used as a strategy for those who are looking for the best diet for weight loss. These include Atkins's low carb diet, ketogenic diet, and low carb high-fat diet. These diets have gained special public attention nowadays. Some diets reduce carbohydrate intake more drastically than others. For example, the ketogenic diet reduces the carbohydrates to less than 50 grams per day while other varieties to 40% and above.

How does it work?

It works on the principle of the carbohydrate-insulin model. It states, "The higher the intake of carbohydrates, the more will be the insulin produced." Insulin is the anabolic hormone that helps the body store extra calories in the form of fat. This diet is high in both fats and protein but low in carbohydrates. The high protein content is important as it helps in the overall satiety, keeps the muscle mass balanced, and speeds up the metabolism. Another criterion for the selection of the best diet for weight loss is that it has to be low in carbs. Very low carbohydrate diets like the ketogenic diet appear to be more effective for weight loss as compared to the other diets. In the absence of carbohydrates, the body uses an alternate way to fuel itself up. When there is an insufficient amount of glucose in the body, it burns the stored fat to produce ketone bodies. This process is called ketosis. In a ketogenic diet, the body uses ketones as a source of energy.

The mechanism in Weight loss:

Low carbohydrate diets show more promising results than an iso-caloric diet. Many studies show that a diet reduced in carbohydrates tends to be more efficient for weight loss than a low-fat diet.

For instance, a review of 53 studies involving more than 68,000 participants shows that low carbohydrate diets can help lose more weight than a low-fat diet. Furthermore, these low carbohydrate diets burn more fat especially abdominal fat as compared to the other conventional diet patterns.

It also helps in the lowering of blood glucose level, insulin level, cholesterol level, reverse type 2 diabetes and it reduces the risk of cardiovascular diseases

Summary:

A low carbohydrate diet restricts the consumption of carbohydrates, promotes the consumption of dietary fats, and promotes protein consumption. Potential benefits that are associated with these diets are weight loss, satiety, maintenance of muscle mass, and increased energy expenditure.

It has been proven to be one of the best diets that aids in weight loss and related health benefits more than any other diet pattern. It is proven to be one of the best diets for weight loss.

4.MEDITERRANEAN DIET:

The Mediterranean diet is based on the dietary patterns that were used in Greece, Crete, and Southern Italy in the 1960s. It was designed to reduce the risk of heart diseases but some studies show that it can also cause weight loss.

How does it work?

The Mediterranean diet is characterized by eating plenty of plant food such as fruits, vegetables, cereals including bread, nuts, and legumes, fish, and seafood. Healthy fats are the mainstay of the Mediterranean diet such as extra-virgin olive oil. Food such as poultry and red meat is consumed in a low to moderate amount.

This diet also includes red wine in low to moderate amounts normally with daily meals.

Furthermore, the Mediterranean diet restricts using refined grains, trans-fats, added sugars, refined oil, processed meat, and other processed food items.

The Mechanism in Weight loss:

The Mediterranean diet has also been utilized as a weight-loss strategy. It has also been associated with lowering body weight and preventing long-term weight gain with or without energy restrictions.

For instance, an analysis including 1848 participants signed to a Mediterranean diet shows profound and clear-cut evidence on weight loss. This effect was more significant with the combination of physical activity and dietary interventions

The Mediterranean diet does not only help shed the extra body fat but also maintains a long-term weight loss.

This diet is not only restricted to weight loss purposes. It also promotes certain other significant health benefits like the reduction of cardiovascular diseases. This diet is enriched with antioxidants which help the body combat inflammation. This type of diet that includes palatable food items shows more promising results towards sustainable weight loss and certain other health benefits. The challenge to overcome obesity is rising worldwide. In analysis, low carbohydrate diets are usually compared with low-fat diets.

A diet that is low in dietary carbohydrates and high in fats shows more feasible pieces of evidence for weight loss.

Summary:

So, one of the best diets for weight loss, the Mediterranean diet is high in plant-based food and relatively low in animal-based food items. It only restricts the processed food items. While this diet is not strictly used for weight loss, it also provides certain other health benefits. The Mediterranean diet also focuses on an overall increase in physical activity and it gives a good body shape by being a lifestyle modifier.

5. INTERMITTENT FASTING:

Intermittent Fasting (IF) is a very powerful tool for weight loss. Basically, it is referred to as an eating pattern rather than a diet. During this, you have to experience fasting of 16-hours daily or 24-hours twice per week. In this eating pattern, you have to fast for a specific period while in the rest of the days you can eat normally.

In this eating pattern, the time to fast may vary depending upon the type of fasting i.e., 16/8 method (fasting for 16 hours and restricting diet for 8 hours in a day), the 5/2 method (restricting calories to 500-600 for two consecutive days) and eat-stop-eat method (fasting for 24 twice in a week). Among these, the eat-stop-eat method is considered more efficient in weight loss.

How does it work?

This pattern helps prevent obesity, type 2 diabetes, Coronary Heart Diseases (CHD). This pattern also reduces depression and increases positive mood and self-confidence. It is observed that during fasting our body faces many changes including an increased level of hormones like growth hormone and norepinephrine hormone.

Studies show that in Islam, Christianity, and Buddhism, fast for religion can put up a good example of weight loss. Muslims fast for 30 days and experience 0.8 to 1.8kg weight loss.

The mechanism in Weight loss:

During fasting, we take fewer calories or no calories at all. When caloric intake is restricted our body uses fat as an energy tool. Moreover, during fasting, our body uses to have some hormonal changes that are feasible for weight loss. It has been observed if a diabetic patient fast, the glycemic control improves. If non-diabetic obese person fasts, insulin level reduces, less storage of fat occurs, and stored body fat becomes more accessible.

Summary:

Intermittent Fasting (IF) is best for weight loss. But all people cannot follow this pattern. In this eating pattern, many changes occur in the human body including hormonal changes that help in weight loss. It is beneficial for diabetic patients and it may reduce the risk of Coronary Heart Diseases (CHD) in future

CONCLUSION

DASH diet is mainly developed for hypertension, but researches have proven that it can help in weight loss and many other diseases. Healthy eating leads to healthy living and the DASH diet is the best choice to fight against chronic diseases, It has many environmental benefits. People can enjoy delicious foods in this diet. However, this diet has also downsides. We can overcome these downsides by consultation with the dietitian. This diet is effective for diabetic and heart disease patients. It can be followed in every age group, but with the consultation of a dietitian.

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