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Diabetic Diet Essentials for Preventing and Managing Chronic Diseases

Padilla Hartigan[1]

[1] *Institute of Health Policy and Development Studies, National Institutes of Health, University of the Philippines Manila, Philippines. E-mail: padiharo@up.edu.ph*

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Abstract

Diabetic diet has a significant role in the prevention and controlling of the chronic diseases like type 2 diabetes, cardiovascular diseases and metabolic syndrome. This article focuses on the basics of diabetic diet plan to provide an understanding on the types of foods that are suitable to support a diabetic dietary plan with consideration on foods that are low on glycemic index. These comprise high fibre carbohydrates, lean meats and good fats, all of which work to improve insulin outlook and decrease inflammation. Some of the factors that are touched on include glycemic index of the foods to be consumed, the portion size and the time of food intake to ensure excessive rise in blood sugar levels is prevented. Furthermore, the article describes the potential benefits of consuming vegetables, whole grains and legumes in enhancing the diseases eb health quality of diabetes. As such, it takes into account the calorie intake requirements of each patient taking into consideration their age, activity level and other illnesses. Therefore, it is crucial to stress on educating patients about consuming literate foods through reading the labels and making sensible actions regarding the chronic disease management. Based on the diabetic diet, people may control their situation and prevent themselves from having complications of the disease. The latter integrated approach in nutrition constitutes the basis for enhancing quality of life and decreasing the disease burden of diabetes-related chronic complications.

Keywords: Blood Glucose, Chronic Diseases, Glycemic Index, Insulin Sensitivity, Nutrient-Rich Foods, Portion Control.

1 INTRODUCTION

Diabetes is a dangerous and long-term disease that touches millions of lives globally and thus need to be handled carefully through proper diet and nutrition. A diabetic diet that is carefully worked out is important in checking high glucose levels and preventing the undesirable side effects of the sugar. Not only does it play a role in controlling diabetes but this dietary pattern affects such areas as cholesterol and heart disease.

The moral of this story is to know the Glycemic index, pay attention to the proportion of macronutrient, and learn how to choose your foods. That way, because portion sizes are controlled, high fiber, low saturated fat and added sugar foods and nutrients can improve the control of diabetes. This article will aim at highlighting the specifics of foods to be taken in diabetes, how to balance the meals, and special diets that would assist in combating other diseases associated with diabetes (Kulzer et al., 2024).

2 UNDERSTANDING DIABETES AND DIET

Diabetes: This is a perpetual disease that affects the manner, in which glucose is processed in the human system. It also influences how fats and other form of energy is stored and metabolized in the body. Each cell in the body requires fuel and the food that provides this fuel is sugar; another hormone known as insulin assists in the transport of sugar in the cells. In type 2 diabetes, the cells of the body no longer pay attention to normal or even high levels of insulin or perhaps the pancreas can no longer make enough insulin to enable the body's cells to absorb glucose.

Types of Diabetes

There are some types of diabetes (In figure 1), and among all of them, the most spread is type 2 diabetes. Rather, in type 2 diabetes, having excess body weight or having excess fat, particularly in the liver and abdominal region raises the body's requirements for insulin. But if the production of this hormone cannot cope with this load, the levels of sugar in the blood increase, which can cause certain complications if necessary measures are not taken.

Diabetes type 2 patients need periodical checkup and lifetime management with the necessary medications for reaching and sustaining target blood glucose levels. Lifestyle changes include change of diet and exercise; self-management entails maintenance of healthy lifestyles; medications include the use of drugs in managing this disease. It is noteworthy that concurrent application of these strategies can be helpful for decreasing the likelihood of complications.

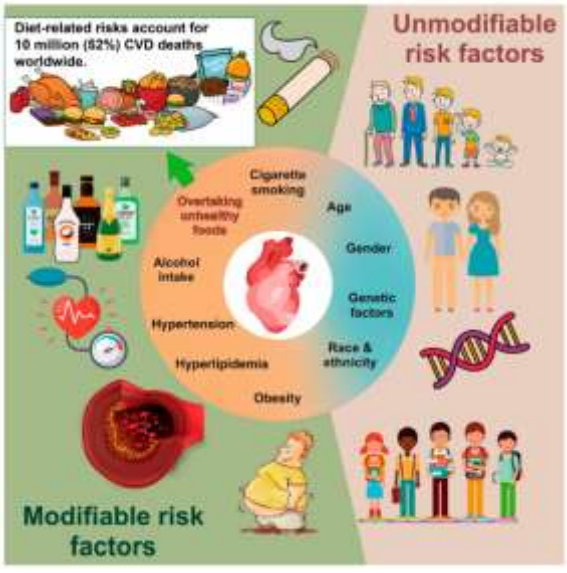


Figure 1: Types of Diabetes

Role of Diet in Blood Sugar Control

Another factor greatly influenced by a person is food and nutrition since it is a significant factor in controlling diabetes. Diabetes management involves coming up with changes for better eating habits especially for the type 2 diabetes. A diabetes diet is not really a diabetes diet but it is a healthy eating

diet that aims at managing the blood sugar level. It is also virtually fat-free, low in calories and packed with essential nutrients and it components include fruits, vegetables and whole grains.

The 'ABCs of diabetes' refer to three aspects of health that should be well-managed in diabetes care: Blood test – A1C (that measures average blood sugar level for the past few months), Blood pressure, Cholesterol. This way, one can maintain blood glucose levels as low as possible and therefore reduce the possibility of developing various complications such as those concerning the eyes, kidneys and nerves (Gamage et al., 2024).

Proteins and fats have no effect on the blood sugar level, the kind of carbohydrates consumed has the biggest impact. Having the same amount of carbohydrates with each meal allows one to better manage blood glucose levels more so if one is on oral hypoglycemic agents or on long-span insulin. A dietitian knows how many carbohydrates a person should consume daily depending on the eating plan, weight, nutrition objectives and physical activity level.

Low glycemic index carbohydrates such as fruits and vegetables and whole grains, legumes and low fat milk are necessary. People suffering from diabetes should ensure that they balance on the amount of carbohydrates they consume in order to regulate their blood sugars and the necessary injections of insulin. A fibre rich diet may also be of benefit in controlling blood sugar levels.

Most of those who have been diagnosed with type 2 diabetic can manage their blood sugar easily after losing some weight. For weight reduction in a healthy manner one has to reduce the actual calories that are required to maintain ones weight by 500 – 1000 calories. When using both the approach along with exercise, then a person can lose about 1 to 2 pounds per week.

Exercise is the other ndering factor in the management of diabetes. It helps to make the body to respond better to insulin; this assists in controlling the level of blood sugar. It is important to note that physical activity if accompanied by proper diet and weight loss can help control diabetes.

Therefore, a diabetes diet is not about eliminating certain foods from your diet but it simply means eating a healthier version of foods one and three meals a day. Diabetes management through the proper course of a healthy-eating plan will allow a person with diabetes to control their blood glucose level, reduce health risks and enhance their overall quality of life (Samuel et al., 2024).

3 KEY NUTRIENTS FOR DIABETES MANAGEMENT

Diabetes must be well managed by a good nutritional plan, which should be taken carefully. Knowledge concerning the importance of the nutrients of concern in management of blood sugar and complications is important (In figure 2). Now, it worthwhile to examine the essential nutrients, which have bearing on diabetes (Kulzer et al., 2024).



Figure 2: Key Nutrients for Diabetes Management

Carbohydrates

Carbohydrates are most closely related to the blood sugar level. Eaten they are converted into glucose making the blood sugar level go high. Particularly for the people who suffer from diabetes, it is very important to pay attention to the consumption of carbohydrates.

Flooding the market with high carbs food and diets is discouraged by the American Diabetes Association where it is advised that carbs should be consumed as per an individualistic nature. From the research it was clear that the total carbohydrates consumed had the biggest impact on blood Glucose levels, after consumption. But not all people who have this condition need to avoid carbs in their diet (Wang, 2024).

Again, it will not do anyone any good to consume high amount of carbohydrates in their daily meals. Replacing complex carbohydrates with foods that are rich in fibre and whole grains is much healthier than eating refined carbohydrates. Some strategies for managing carbohydrate intake include:

- Exchanging whole-grain products for their refined grains counterparts.
- Picking whole fruits instead of fruit juices.
- Replacement of pasta dishes with quinoa and bulgur wheat.
- Choosing the milk and yogurts where the content of sugar per serving is low.

Protein

It should however be noted that protein and its consumption is an important factor when it comes to diabetes. It is used in the creating of tissues and in repairing them and it does not cause a rush of insulin to be released in the body unlike carbohydrates. Many recommendations, including those from the American Diabetes Association, have suggested that an intake of protein, greater than 30% of total calories may be better for cardiovascular risk factors in patients with Diabetes.

In the case of diabetics, there is a need to pay special attention to protein containing foods. Some recommended protein sources include:

- Plant-based proteins: beans, hummus, peas, soy nuts and nuts.
- Seafood: also recommend fish like, tuna, salmon and others fish twice a weak.
- White meat: poultry such as fowls and ducks, and game; poultry in the form of; chickens and turkeys
- Dairy: skinned rduced-fat cheese and cottage cheese
- Lean red meat: costs sliced off unnecessary FrontierPaleo is proud to be the ONLY Paleo restaurant in Southern California to successfully complete the SECOND ROUND of the SHOWCASE.

However, it is worthwhile to mention that the requirement of proteins also differs depending on certain conditions including the functioning of the kidneys. Patients with less kidney function, may require low protein intake.

Fats

Even though fats are not implicated in blood glucose levels, they far have an important function in the body in general, as well as in Diabetes. This brings a concern of nutrients density; while containing healthy fats they should not contain high amounts of saturated and trans fats.

Healthy fat sources include:

- Avocados
- Nuts and seeds
- Olive oil
- Fatty fish like salmon

These fats have been found to be beneficial to the heart thus beneficial to individuals who have diabetes since they are prone to developing heart diseases.

Fiber

There is need for fiber in the management of diabetes. This as a result aids in controlling of blood sugar levels, enhance the feeling of satiety, and also plays a crucial role in the digestive system. The ADA has endorsed a fibre intake of at least 14 grams a day for every 1,000 calories consumed for everyone with diabetes.

Benefits of fiber for diabetes management include:

- The often fluctuating figure, blood sugar or glucose level.
- Exercising in the aims of increasing efforts towards weight loss.
- Preventing heart disease.
- Maintaining digestive health.

Examples of fibre rich foods are fruits, vegetables, whole grains and legumes. To prevent any uncomfortable symptoms related to consuming more fiber, one has to be careful to gradually introduce fiber into the diet, and also to drink lots of water.

Thus, paying attention to the contents of these nutrients and making proper dietary decisions are useful for managing diabetes and enhancing general health among people with this disease. Also recall, that the topic's nature is individualistic, and it is always essential to consult a healthcare provider or registered dietitian to design the most optimal nutrition plan for an individual.

4 RECOMMENDED FOODS FOR A DIABETIC DIET

Diabetic diet plan is a balanced meal incorporating foods with low glycemic index to reduce the impact on diabetic patients especially the blood sugar levels. The following food groups are essential components of a diabetes-friendly eating plan (ElSayed et al., 2023):

Non-Starchy Vegetables

Vegetables specifically the non-starchy meal is considered to be an essential element of a portions that a diabetic person should take. These vegetables are low in calorie and carbohydrate content, therefore play an important role in management of blood sugar. This is because they contain vitamins, minerals, fibre as well as phytonutrient compounds which enhance health.

People with diabetes can enjoy a wide variety of non-starchy vegetables, including:

- Leafy greens: spinach, kale, collard greens, and lettuce
- Cruciferous vegetables: broccoli, cauliflower, and Brussels sprouts
- Root vegetables: carrots, beets, and radishes
- Other options: asparagus, green beans, peppers, tomatoes, and cucumber

This means that the principles encourage the consumption of not less than six servings of vegetables in a day. It is important to note, and as is the case with other vegetables, a serving is considered half a cup if cooked or one cup of raw vegetables. Depending on the vegetables variety you choose to buy from the can or the frozen foods, avoid food that have undergone through the addition of sodium, fat or sugar. People who wish to use canned vegetables containing sodium, should first drain and rinse the canned vegetables to reduce the amount of sodium found in them.

Lean Proteins

People with diabetes need to take protein is important in their diets. It aids in the regulation of blood sugar, keeps one full, and maintains muscle mass Intake of proteins should range between between 20-35 percent of the total caloric intake as recommended by American Diabetes Association but this depend on the kidney function (Pradhan et al., 2023).

Recommended lean protein sources include:

- Fish and seafood: Most nutritionists recommend that people should try to have fish at least two days a week; even better if it is fatty fish such as salmon, mackerel and sardines etc.

- Poultry: Avoid using chicken and turkey with skin on them and do not buy chicken and turkey with the skin intact.
- Plant-based proteins: Use Lentils, beans, tofu and nuts as part of your foods.
- Eggs: They contain calories and they can actually fit in someone's diet if that person is a diabetic.
- Lean cuts of meat: Beef Select or Choice grades of beef bared of fat lean pork cuts and lamb.

Choose baking, roasting your proteins, grilling or poaching where possible avoid frying your proteins. This goes a long way in preventing absorbed fats and extra calories from being incorporated in to the body.

Healthy Fats

Fat is an element that needs to be included in the diabetic diets in order to have a healthy heart and body. Avoid intake of saturated and trans fats; instead opt for mono and poly unsaturated fat that reduce the risk factor of heart diseases.

Good sources of healthy fats include:

- Monounsaturated fats: prehenses which include avocados olive oil, canola oil, nuts such as almonds, cashew, pecans and peanut butter.
- Polyunsaturated fats: walnuts, flax seed, chia seed and fish rich in omega-3 fatty acid.
- Omega-3 fatty acids: present in oily fish, walnuts and flaxseeds.

These fats however should not be consumed in large quantities because they are calorie dense. To reduce the intake of SFA and TFA choose the following instead while cooking or preparing dishes.

It is therefore possible to include these recommended foods in the diabetic diet and with proper management of the portion size, choice of foods and frequent monitoring the diabetic individuals can control their blood sugar levels, minimize complications and live healthier lives. It is always wise to seek professional advice from a physician or a nutritionist on portion size and the individual nutritional requirements of an individual.

5 FOODS TO LIMIT OR AVOID

Controlling diabetes calls for a lot of consideration in the meals that one eats. There are some foods that should be encouraged because they control high blood sugar levels while other foods are known to cause harm. This section (In figure 3) concentrates on products which ought to be taken in little sums or avoided by those who have diabetes (Britos et al., 2024).

Refined Carbs

Diabetic diets are mainly focused on the limitation of Refined carbohydrates. Such foods bring about sudden a surge in the blood sugar levels, which is detrimental to any persons managing diabetes. Some examples of refined carbs to limit include:

- White bread
- White rice
- Sugary cereals
- Highly processed snack foods

There is no doubt that negative effects of consuming refined grains especially on people with type 2 diabetes have been scientifically confirmed. These foods cause rapid glycemia and can produce transformation of Sugar to fat in the liver and deposit around the abdominal organs. Moreover, they replace healthier foods such as whole grains in the diet of people.

Added Sugars

Excessive sugar intake has been linked to the global rise in diabetes. The American Heart Association recommends that women consume no more than about six teaspoons of sugar per day (25 grams or 100 calories) and men no more than nine teaspoons (36 grams or 150 calories). Foods and beverages high in added sugars to limit include:

- Sugar-sweetened soft drinks
- Candy
- Baked goods
- Sweetened teas and juices

It's important to note that while artificial sweeteners may seem like a good alternative, they are not necessarily the right option. Some studies suggest that artificial sweeteners can influence appetite and cravings, potentially leading to increased sugar consumption.

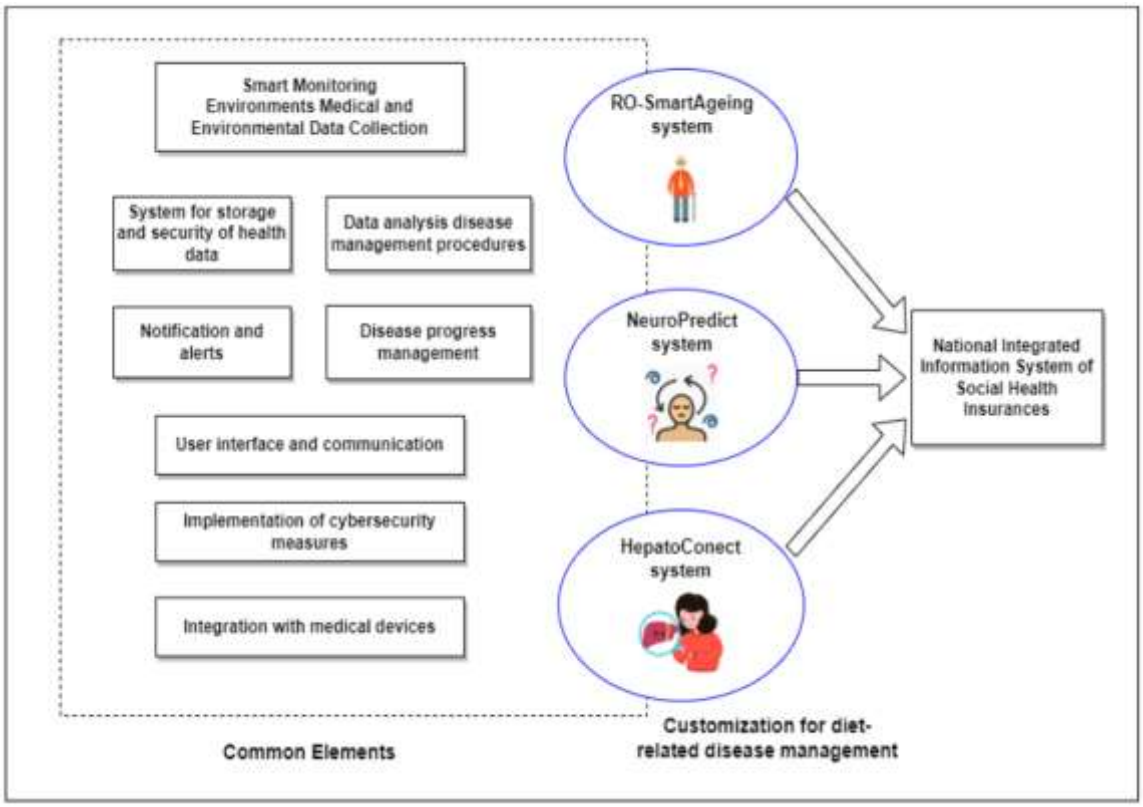


Figure 3: Foods to Limit or Avoid

Saturated Fats

Diets high in saturated fat are associated with an increased risk of heart disease and stroke, which are common comorbidities for diabetes. The American Diabetes Association recommends limiting saturated fat intake to less than 10% of total daily calories. Sources of saturated fats to limit include:

- Full-fat dairy products
- Red meat, especially processed meats
- Coconut and palm oils
- High-fat cuts of pork and beef

Research suggests that increasing the consumption of saturated fat can lead to a greater degree of insulin resistance, both in people living with and without diabetes. Furthermore, the increase of intake of saturated fats leads to inflammation and obesity, which has potential to nullify the effects of insulin medication or healthy life styles.

Here, it is noteworthy that the largest portion of excessive saturated fats in American diets is linked with sandwiches and burgers, tacos, and burritos, generally the products containing fats, especially high-fat meats and full-fat dairy goods.

It may be unnecessary and impractical to totally avoid such foods but decreasing their intake can easily enhance diabetes and general health. Diabetic people should spend more time thinking about what they should be consuming in higher quantities such as whole grains, lean proteins and non-starchy

vegetables as opposed to what they should be avoiding. It is important to use this strategy in order to keep optimal blood glucose levels, decrease the possibility of developing further problems and improve the general condition of the patient.

6 MEAL PLANNING STRATEGIES

It also strongly contributes to management of type 2 diabetes since it focuses on meal planning for people with diabetes. This way it is easier to regulate portion size and count the right number of calories, carbohydrates, proteins and other nutrients to be consumed and check the patient's blood sugar level frequently. It is therefore important for people with diabetes to adopt some of the following strategies in order to enhance their desired eating plans.

Portion Control

It will be beneficial to make you understand that portion control is among the key aspects when planning for meals especially for people with diabetes. Serving sizes and portions should be learned especially when it comes to controlling the calories as well as the blood sugar level. To be more specific, a portion means the quantity of the food a person may decide to take, while serving size is a fixed portion on labels of food nutrients.

To practice effective portion control, individuals can use various techniques:

- Carbohydrate counting: Reducing consumption of carbohydrate ensures that blood sugar levels do not go higher than the recommended levels. One must also avoid other carbohydrate sources that are high in glycemic content such as white bread and sugar-sweetened beverages.
- The plate method: This is a chart that is used in determining how to prepare meals which are equal in proportion from the food pyramid. Low glycemic index vegetables should occupy one half of the plate and the other half of the plate should be split equally between lean meats and grain or starch.
- Hand measurements: One needs to control the portion size and hand is a useful tool to estimate the portions. I mean, a fist is equal to one cup or a medium fruit and when you spread your palm excluding fingers, you are measuring about three ounces of meat.

Balanced Meals

One must ensure that the meals they take are well balanced for improved management of the diabetes conditions. A good diet plan for the day should, therefore, incorporate as many nutrients as possible as well as carbohydrates to maintain blood sugar. Figure 4 displays the balanced meals chart. Here are key components to consider:

- Non-starchy vegetables: These ones should constitute the greater proportion of the meal since they contain vitamins, minerals and fiber, and do not cause a spike in the blood sugar levels.

- Lean proteins: Accomplishing protein portions also assists basic feeling of fullness and likewise manipulate blood sugar level control.
- Whole grains and starches: These should only be taken in a limited amount and if possible, taken from whole foods for adequate intake of carbohydrates and fibre.
- Healthy fats: It is possible to inoculate healthy fat into the diet and this will include taking avocados, or even nuts.
- Fiber-rich foods: A cross-sectional research published in 2020 revealed that people with T2DM who took higher amounts of dietary fiber had better health condition in comparison with those with low fiber intake.

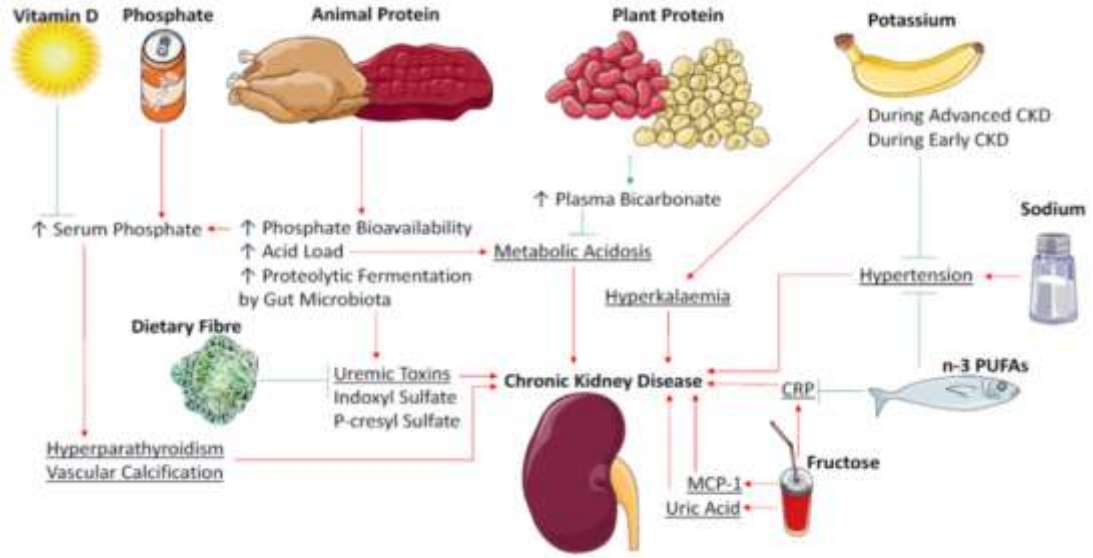


Figure 4: Balanced Meals

Regular Meal Times

Consistency with nutrition for food intake has effects on Meals Timing and Glucose control and metabolic calendar. It has also been estimated that the irregularity of ones meal times may increase health risks associated with both metabolic syndrome and cardiovascular disease. Here are some strategies for establishing regular meal times:

- Consistent daily schedule: Ideally, try to have the meals at fixed hours in a day so that this assists in controlling diabetes mellitus type 2.
- Avoid skipping meals: As such, missing meals particularly breakfast has been associated with overweight and obesity, impaired glucose tolerance and thus, metabolic syndrome.
- Meal frequency: Research shows that hunger should be limited to two to three meals a day while the time-deleted feeding with less than 10 h of food intake per day is effective in weight loss and glycemic regulation of type 2 diabetes patients.

- Evening eating habits: Eating snacks three to four hours after a meal manages the glucose levels while eating just before bedtime may not have the same effect.

Thus, adhering to these meal planning strategies can help diabetes patients and other people with similar health conditions to lead a healthy life. The use of the “this for that” approach may be required because there are so many factors affecting people’s choices in terms of food consumption, for example, availability of food, hunger, satiety, habits, etc. It’s recommended that one consult his or her healthcare provider or a registered dietitian to prepare a differential meal plan that best suits his or her needs.

7 THE GLYCEMIC INDEX AND GLYCEMIC LOAD

GI and GL are beneficial for people with diabetes; these measurements help to estimate the effect of certain types of food on blood sugar levels. They assist in the determination of a proper diet which would be necessary in stabilizing the glucose level of a person’s body as a way of realizing a better health status.

Understanding GI and GL

Glycemic index is such a scale that is used to determine the ability of carbohydrate containing foods to exert an impact on the blood glucose level. It is a range based on 0 to 100 and the highest possible score is awarded to pure glucose, that is 100. Foods are categorized into three groups based on their GI values:

- Low GI: 1 to 55
- Medium GI: 56 to 69
- High GI: 70 and higher

Low GI foods also take time to be digested and the glucose is released slowly into the bloodstream thus a steady increase in the blood sugar level. On the other hand, high GI foods make the blood glucose to rise within a short period of time.

Although the information contained in the GI is very helpful, it fails to relay the amount of carbohydrates often found in a portion. This limitation resulted to the creation of the glycemic load idea. GL takes both the quality in terms of GI and quantity of carbohydrates portion in a serving into account, which provides a better picture of the effect that a particular food will have on the blood sugar level.

GL values are categorized as follows:

- Low GL: 1 to 10
- Medium GL: 11 to 19
- High GL: 20 or more

For instance, watermelon its GI value is 80, however, its GL value is around 5 because one serving contains relatively low amounts of carbs. This they give how GL can give a more actual representation of the effects of a food on blood glucose levels in the real world.

Low GI Food Choices

A low GI food can therefore be taken by people with diabetes and particularly those with type 2 diabetic to lower their HbA1c levels in the long run. Here are some examples of low GI foods:

- Non-starchy vegetables: Raw green vegetables Carrots
- Fruits: A majority of fruits for instance cherries and raw pineapple contain bromelain enzyme
- Legumes: Examples of vegetables that contain high amounts of Lectins include the kidney beans, chickpeas, and lentils.
- Dairy: Plain milk and other dairy foods (because of their protein and fat content)
- Whole grains: Oat breakfast cereals, foods made with multigrain bread, rye bread

The key things that need to be understood in this context are that it is not necessarily a low GI diet that is a healthy diet. For instance chocolate fall under low GI because fat hinders the rate of carbohydrate absorption. Hence, one can make a conclusion based on the increased consumption of such products that it is beneficial to assess the level of nutrition of foods consumed daily.

To maximize the benefits of a low GI diet, individuals can:

- For further preparation choose properly basmati or easy cook rice, pasta or noodles.
- Rather go for new potatoes or even sweet potatoes to avoid using old potatoes.
- Choose between granary, pumpernickal and rye bread rather than the white and the whole meal bread.
- Consumers should have porridge, natural muesli, or whole grain breakfast cereals in their diets.

Thus, paying attention to values of GI and GL may be useful, let not forget that amount of carbohydrates consumed has a more pronounced effect on blood glucose levels that GI value alone. For instance, pasta is known to possess a low GI than watermelon, but can contain a large amount of carbohydrates, its consumption in large portion sizes are likely to have high impact on the blood sugar levels.

Finally, it’s is important as much as one is concerned with the GI and GL values to also have an an eye on fiber and whole grain content and the nutritional quality of the foods in question. It thus becomes very easy and efficient to manage blood sugar levels and general overall health of diabetic persons by ensuring that one takes the right portions of foods that have low GI and taking foods at the right time in the right portions.

8 SPECIAL DIETARY APPROACHES

Specific dietary patterns which can effectively prevent diabetes as well as the risk of other chronic diseases include the following. These approaches detail intake of certain classes of foods as well as dietary plans that work positive impacts in managing blood glucose, cholesterol and standard well-being.

Mediterranean Diet

The Mediterranean diet has been acknowledged for a great possibility to treat and even prevent type 2 diabetes. This eating pattern emphasizes:

- Abundant consumption of vegetables, fruits, legumes, and whole grains
- Olive oil as the primary source of fat
- Moderate intake of fish, poultry, and dairy products
- Limited consumption of red meat and sweets

Research has demonstrated that adherence to the Mediterranean diet has an impact on reducing the risk of developing type 2 diabetes by approximately 20%. In another Spanish largest clinical trial done on the elderly with high cardiovascular risk, the PREDIMED study on Mediterranean diet supplemented with either extra-virgin olive oil or nuts cut the risk of diabetes by 52%.

Thus, the Mediterranean diet's advantages do not only restrict to the prevention of diabetes. Research has demonstrated benefits in the subjects with diabetes such as changes in glycemic control, weight, and cardiovascular disease factors. This eating pattern has also been linked with reduction in fasting blood glucose level and enhanced sensitivity to insulin.

DASH Diet

There is another approach which is known as DASH (Dietary Approaches to Stop Hypertension) diet that also has an added advantage for those with diabetes. Key features of the DASH diet include:

- Emphasis on vegetables, fruits, and low-fat dairy products
- Inclusion of whole grains, fish, poultry, and nuts
- Limited intake of sodium, red meat, and sweetened beverages

The DASH diet has proven effective in lowering blood pressure, which is particularly important for individuals with diabetes who often have comorbid hypertension. Research conducted has indicated that DASH diet can have positive effects of weight, insulin resistance, hyperlipidemia and obesity.

Like most diets, the DASH diet was originally intended for use in control of hypertension but also has implications for diabetes. It has also been found that the DASH eating pattern will reduce the future risk of type 2 diabetes by 20%.

Plant-Based Diets

The popular diets like veganism and vegetarianism have been discussed for its effectiveness in the prevention and control of type 2 diabetes. These diets emphasize:

- Legumes, whole grains, vegetables, fruits, nuts, and seeds
- Minimal or no consumption of animal products

Studies have shown that plant-based diets have an impact on reducing the risk of developing type 2 diabetes and are effective in its treatment. One study, comparing results of ten trials with 28,000 patients in which half of the subjects ate vegetarian diets, reported vegetarian diet to be related to a 0. Compared to other prescribed eating patterns of diabetes the meal plan has been found to produce 4% greater reduction of glycated hemoglobin (HbA1c).

Plant-based diets offer several benefits for individuals with diabetes:

- Improved insulin sensitivity
- Better weight management
- Reduced cardiovascular risk factors
- Reduced leukotriene B4 and reduced E-selectin

Some empirical evidence has shown that participants who take Vegetarian or vegan meals are likely to have low BMI as compared to non vegetarians. In real life randomised trials, treatment with plant based diets for the patients of type II diabetes has shown more loss of weight compared from the control diets which contains animal products.

These special dietary approaches provide hopeful opportunities to people searching for ways to prevent or control diabetes and the related chronic diseases. Thus, the major differences between these diets are some peculiarities while the core principles, including the focus on whole plant foods, the restriction of processed foods' consumption and the support of cardiovascular health, are similar for all of them.

9 CONCLUSION

Therefore, it can be said that, planning a diabetic diet is very important and helps to control high blood sugar along with the health state of diabetic patients. Thus, paying attention to nutrient-rich foods and organizing portion sizes as well as some types of food that are not possible to be completely excluded from the daily diet will help the patient control the illness and prevent further deterioration. Mediterranean diet, DASH diet, and plant based diets have been seen with potential in preventing and managing diabetes and given the flexibility can accommodate various food choices with easy dietary modifications. Last but not the least, a long-term diabetic diet plan that is manageable and falls within an individual's lifestyle is the best. A health care professional or a registered dietitian will assist with developing an effective nutrition plan based on personal requirements. According to the findings of this

paper, anyone diagnosed with diabetes can make positive choices and improve their general health standards thus enhancing the quality of their lives since they can manage what they eat.

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