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# DIETARY MANAGEMENT FOR DIABETES PATIENT: A BRIEF NOTE

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**ABSTRACT**

***Diabetes is a chronic disease that requires a holistic approach to care to prevent serious and long-term complications. Type I diabetes is primarily an autoimmune disease and type II diabetes is primarily a metabolic condition. Dietary interventions for both type I and type II diabetes are essentially the same, achieving and maintaining blood glucose and blood pressure levels in the normal range, or as close to the normal range as possible, and containing a lipid and a lipoprotein. Obtaining and maintaining a profile. To reduce the risk of heart disease as well as achieve and maintain a healthy body weight. Prevent, or at least slow down, the development of diabetes complications by considering individual and cultural food preferences and seeking to replace them with appropriate maintenance of the pleasure of eating by limiting food choices only when indicated by scientific evidence .***

**KEYWORDS:** ***Dietary Management, Type I, Type II, Diabetes mellitus***

## INTRODUCTION

Diabetes mellitus is a group of metabolic diseases in which a person has high blood sugar, either because the pancreas does not produce enough insulin or because the cells do not respond to the insulin produced. High blood sugar produces the classical symptoms of polyuria, polydipsia and polyphagia (Metcalf, 2011). Diabetes mellitus (also known simply as diabetes) is a metabolic disorder whereby the body cannot utilise blood sugar in the proper way owing to lack of insulin or the body's inability to use it effectively. This leads to an increase in the blood sugar level causing symptoms such as extreme thirst, passing large amounts of urine, tiredness and weight loss. In the long term, uncontrolled diabetes can lead to damage of various organs such as the eyes, kidneys and nervous system. It can also increase the risk of developing heart disease and stroke.

Diabetes cannot be cured but can be controlled. A diabetic patient must incorporate a complex regimen of self-management into their life, such as taking medication, following a diet, exercising, and identifying symptoms associated with glycosuria and hypoglycaemia. Management of all diabetes in the patient should include regular evaluation, careful monitoring. Educational training on glycaemia control and the presence and disease management of hypoglycaemia. Hypoglycaemic episodes, especially nocturnal events, occur frequently in the diabetic patient. Continuous Glucose monitoring systems can provide important insight into 24-h glycemic control and achieve positive treatment outcomes in the diabetic patient (Weinheimer SA, 2012).

Type 1 diabetes accounts for 5-10% of all diagnosed cases of diabetes (CDC, 2005). Type 1 diabetes is an autoimmune disease that cannot be prevented, typically diagnosed in children and young adults. The disease results when the body's immune system destroys pancreatic beta cells responsible for producing insulin. Insulin serves as the signal for glucose uptake into cells, so defects in insulin action or production starves the body's cells of energy in the form of glucose (ADA, 2007a). Because the body is unable to produce insulin, the hormone must be provided through insulin injections or an insulin pump (CDC).

Type 2 diabetes is the most prevalent form of diabetes, accounting for 90-95% of all diagnosed cases (CDC, 2005). In the past, type 2 diabetes was identified as adult onset diabetes; however, this term is no longer accurate due to the increased incidence of type 2 diabetes among adolescents accompanying the national rise in adolescent obesity (Pinhas-Hamiel et al., 1996). The increasing prevalence of type 2 diabetes is also associated with the national rise in metabolic syndrome, a condition characterized by insulin resistance, which can progress to type 2 diabetes if left untreated (American Heart Association, 2007). Type 2 diabetes begins when

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cells fail to properly use insulin produced by the pancreas and gradually the disease progresses to where the pancreas no 12 longer has the ability to produce insulin (CDC). Type 2 diabetes is potentially controllable before permanent beta cell failure occurs (Wing, 1995). Elevated blood glucose concentrations, overweight, and a sedentary lifestyle are all reversible risk factors of type 2 diabetes (Knowler et al., 2002).

Diabetes is managed by insulin replacement, balancing of diet and exercise to maintain the glycemic control and prevent the occurrence of the complication. It is important that in order to effectively manage diabetes ,education about the components of management such as blood glucose monitoring ,insulin replacement, diet, exercise, and problem solving strategies must be delivered to the patient, education is necessary both at diagnosis, and also throughout the patients lifetime to develop self management skills and prevention of complication (Edmonton, 2010).

## RESULT WITH SOME SUGGESTIVE DIETARY MANAGEMENT TIPS

Diabetes self-management education is considered an integral component of care and is recommended at diagnosis and thereafter .diabetes self-management. Education helps people with diabetes initiate effective self care when first diagnosed and also help people maintain effective self management as diabetes. The aim of educational intervention is to manage hypoglycaemia and hypoglycaemia, maintain normal blood glucose level reduce the complications, gain skill in self management or improve quality of life. Diabetes mellitus is a silent disease and now recognized as one of the fastest growing threat to public health in almost all countries of the world. Diabetes is a autoimmune disease in which pancreases no longer produces the insulin. Insulin is a hormone that enables people to get energy from food. (Richard A, 2012).

A diabetes meal plan (diabetes diet) is a nutrition guide for people with diabetes to help them decide when to consume meals and snacks as well as what types of foods to eat. There is no one preset diabetes diet that works for all people with diabetes. The goal of any diabetes meal plan is to achieve and maintain good control over the disease, including control of blood sugar and blood lipid levels, as well as maintaining a healthy weight and good nutrition. Health care professionals and nutritionists can provide advice to help you create the best meal plan to manage your diabetes. Nutritionists can help you find recipes and cooking tips to help with meal planning and preparation.

| DIETARY MANAGEMENT TIPS FOR DIABETIC PERSON IN DAILY ROUTEIN | |
|---|---|
| 1. Eat a Balanced Diet | Diabetic person should eat a variety of foods to meet your nutritional requirements and your reliable dietician will work with you to ensure you eat a suitable amount and types of food from each of the food groups. |
| 2. Moderate Your Sugar Intake | Sugar and sugar products contain carbohydrates, which can affect your blood sugar level. They are therefore among the foods to avoid with diabetes when possible, or take very occasionally and in small amounts only.<br>• Replace sweetened drinks (e.g. soft drinks, sweetened packaged drinks and fruit juice) with unsweetened drinks (e.g. water, plain tea and unsweetened soy milk)<br>• Have fresh fruits instead of fruit juice and canned fruits soaked in syrup<br>• Choose a piece of fresh fruit for dessert instead<br>• Avoid eating snacks that are high in sugar content such as jellies, ice cream, chocolates and cake<br>• Artificial sweeteners like aspartame or saccharin can be used as a substitute for regular sugar |

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|---|---|
| 3. Moderate Your Consumption of Rice and Other Starch | Pasta, noodles and starchy vegetables (e.g. potatoes, carrots, corn and yam) contain carbohydrates, which will affect blood sugar levels.<br>• Spread these foods evenly throughout the day to manage your blood sugar level<br>• Select foods rich in fibre, such as brown rice and wholemeal or wholegrain bread, to prevent the rapid rise of glucose in your blood |
| 4. Fruits for Diabetics | It is recommended to have two servings of fruits per day to provide you with adequate vitamins, minerals, antioxidants and fibre. As fruit also contains carbohydrate in the form of sugars, your blood sugar levels will be affected if you consume too much.<br>• Spread your fruits evenly throughout the day<br>• Choose fresh fruits instead of fruit juice or canned fruits soaked in syrup<br>• Limit the amount of dried fruits you eat, as they have a higher sugar content than fresh fruits |
| 5. Limit Fat Intake | Type 2 diabetics should not consume excessive amounts of fat or oils, as this decreases the effectiveness of insulin action.<br>• Use less oil when cooking and remove all visible fat before eating<br>• Instead of deep-frying food, select healthier cooking methods such as steaming, boiling and grilling. Limit deep-fried foods to one or two times a week<br>• Choose lean meat or poultry without skin<br>• Choose fat-free or lower-fat food products such as low-fat milk and fat-free yoghurt<br>• Go for healthier cooking oils with polyunsaturated fat (e.g. corn, soybean) or monounsaturated fat (e.g. olive, canola) |
| 6. Moderate Your Alcohol Intake | Alcohol is only allowed if blood sugar is well-controlled. Avoid alcohol if you have a high blood triglyceride level, kidney disease or heart disease. A standard alcoholic drink contains 10 grams of alcohol, which translates to 100 millilitres of wine or two-thirds of a can (220 millilitres) of regular beer.<br>• Drink alcohol in moderation, i.e. not more than one standard drink per day<br>• Use sugar-free sodas or water to mix your drinks and cocktails |

## CONNECTION BETWEEN FOOD AND BLOOD SUGAR LEVEL

Food has a direct effect on blood sugar. Some foods raise blood sugar more than others. An important part of managing diabetes is knowing what and how much to eat, and following an eating plan that fits your lifestyle while helping to control blood sugar. The three main nutrients found in foods are carbohydrates, proteins, and fats.

- Carbohydrates in foods such as cereals, fruits, vegetables, milk products and sweets contain starch, sugar and fiber. They raise blood sugar faster and more quickly than other nutrients in foods: protein and fat. Knowing which foods contain carbs and the amount of carbs in a food is helpful for blood sugar control. Choosing carbs from healthy sources like vegetables, fruits and whole grains (high fiber) is preferred over carbs from sources with added sugars, fat and salt.
- Proteins are an essential part of a balanced diet and can keep you from feeling hungry. They

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don't directly raise your glucose like carbs. However, to prevent weight gain, use portion control along with protein. In people with type 2 diabetes, protein makes insulin act faster, so treating low blood sugar with a protein shake or mix may not be a good idea. To treat low blood sugar, consume 15 grams* of fast-acting carbs that contain glucose, such as juice, other sugar-sweetened drinks, glucose gels or tablets.

- Fats are an essential part of a balanced diet, especially healthy fats from fatty fish, nuts and seeds. They do not raise blood sugar but are high in calories and can lead to weight gain. Aim to include all three nutrients to balance your meals.

- **GUIDELINES FOR HEALTHY EATING**

- Enjoy having regular meals with proper portion sizes. Your healthcare professional can help you learn to make healthy food choices and proper portion sizes.
- Eat a variety of nutrient-rich foods in each meal, including healthy fats, lean meats or proteins, whole grains and low-fat dairy in appropriate portion sizes.
- Choose fiber-rich foods, such as fruits, vegetables and whole grains (bran cereals, whole wheat pasta, brown rice) as often as possible.
- Try alternatives to meat, such as lentils, beans or tofu.
- Choose calorie-free liquids, such as unsweetened tea, coffee or water.
- Choose sugar substitutes.
- Choose lower-salt options.

## CONCLUSION

Self care is the key to the development of the patient is independence and self esteem. Patients with diabetes must perform a complex set of self-care activities, to keep the blood glucose level in a normal range ,including insulin administration, monitoring blood glucose and following a healthy diet ,however diabetes self management is demanding and requires much effort, skill and knowledge , the diabetes skill training helps to develop skill, and ability necessary for diabetes selfcare (Stephanie Austin, 2011).

The exercise should be a part of diabetic management it should be planned according to the patient interest and capabilities. Regular exercises aid the body to use the food and often reduces the insulin requirement, the exercise may lead to hypoglycaemia during or following the activities (Bernardini, et.al,, 2013). The goal of diabetes education includes encouraging the patient to do exercises and also to acquire knowledge and skill to manage the hypoglycaemia and hyperglycemia. The main goal of the National Diabetes Prevention And Control Programme (NDPCP) is to reduce the burden of disease and to increase the awareness and knowledge on diabetes (Rivellese 2011).

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