

Medi Quest BRS Hospital

A monthly News letter from BRS Hospital

ORAL ANTIDIABETIC DRUGS: CLINICAL OVERVIEW *For Type 2 Diabetes Management*

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Price Rs. 5/- Only

October - 2025

Medi - 19

Quest - 10

Yearly Subscription

Rs 50/- only

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Medical Nutrition Therapy in Diabetes

Medical nutrition therapy is the one of the pillars in the management of diabetes . The diet recommended would be a combination of complex carbohydrate , low fat , lean protein and high fibre diet .

The ideal diabetic diet takes into consideration the following factors

1. Total Caloric Content
2. Glycaemic index
3. Fibre content
4. Consistency or physical form of the food

Total Caloric Content

The caloric content of foods has gained importance in planning diet, high caloric intake results in obesity, glucose intolerance, dyslipidemia and cardiovascular diseases. Obesity is an important factor in terms of target cell resistance to insulin action .

BMI :

The body mass index (BMI) categories for Asian Indians has been revised based on

consensus guidelines. The revised guidelines categorize overweight as a BMI of 23.0 - 24.9 and obesity as a BMI ≥ 25 .

Category Calorie Requirement

Overweight 25 K cal /kg

Ideal weight 30 k cal /kg

Under weight 35 K cal /kg

Distribution of Nutrients in the diet

Several attempts to identify the optimal mix of macronutrients in meal plans for patients with diabetes have been addressed. However, there is no ideal distribution of macronutrient proportions for patients with diabetes . The Dietary Guidelines for patients with diabetes state that the adequate intake values of CHOs, fat, and protein consumption are 45-60%, 20-35%, and 15-20% of total energy intake, respectively. Non starch polysaccharides (NSPs) are included in total CHOs, for which their recommended daily intake should be 25-38 g/day . NSPs are the major component of dietary fiber that is not starch

| Distribution of Nutrients in the diabetic diet | | |
|--|---------------------|----------------------|
| | % of Total Calories | In gms /day |
| Carbohydrates | 45-60% | 130-200 gms |
| Fats | 20-35 % | 30 gms |
| Proteins (without diabetes as well) | 15-20 % | 50 gms (0.8gms/kg) |

Carbohydrates

The dietary requirement of a diabetic without complications is 45-60% of the total calorie consumption per day . There are three main types of carbohydrates in diet starch,sugars and fiber. Starch is a complex carbohydrate and are converted into simple sugars for utilization of energy .

While potato and whole grains eg brown rice have starch , the carbohydrates in brown rice have a lower glycemic index than potato , additionally have vitamins , minerals and fiber.

When choosing carbohydrate foods in Diabetics , the American Diabetes Association advises to

- **Eat the most of these:** whole, unprocessed, non-starchy vegetables. Non-starchy vegetables like lettuce, cucumbers, broccoli, tomatoes, and green beans have a lot of fiber and very little carbohydrate, which results in a smaller impact on your blood glucose.

- **Eat some of these:** whole, minimally processed carbohydrate foods. These are your starchy carbohydrates, and include fruits like apples, blueberries, strawberries and cantaloupe; whole intact grains like brown rice, whole wheat bread, whole grain pasta and oatmeal; starchy vegetables like corn, green peas, sweet potatoes, pumpkin and plantains; and beans and lentils like black beans, kidney beans, chickpeas and green lentils.

- **Try to eat less of these:** refined, highly processed carbohydrate foods and those with added sugar. These include sugary drinks like soda, sweet tea and juice, refined grains like white bread, white rice and sugary cereal, and sweets and snack foods like cake, cookies, candy and chips.

Protein

People with and without diabetes are recommended to eat about 0.8 gms/kg of protein and those with Kidney disease 0.6gms/kg

Best Protein Sources for People with Diabetes

Nutrient-dense, heart-healthy foods are the best protein sources for people with diabetes. Here are some excellent options:

- **Lean meats and fish:** Lean poultry (such as chicken) and fish are low in saturated fat, which is beneficial for heart health. A 90 gm portion of baked salmon (Kilangan in Tamil) provides around 17 grams of protein and is a good source of heart-healthy omega-3 fatty acids.

- **Eggs:** One large egg provides 6 grams of protein and makes for a convenient snack or side to a complete meal. Choose egg whites or cholesterol-free egg products if you are concerned about cholesterol.

- **Dairy:** Low- or non-fat Greek yogurt (5.5 ounces) offers 16 grams of protein. Choose the plain variety to avoid added sugars.

- **Plant-based proteins:** If you want to avoid meat or are looking to add more plant-based foods to your diet, try getting your protein from beans, and dals. These protein sources also add more fiber, which may help further manage blood glucose. A half-cup of cooked dal provides about 9 grams of protein and 8 grams of fiber. Nut butters, such as almond or peanut butter, are also great options, but be sure to select varieties without added sugars.

Fats

General guidelines

- **Total fat:** 20-35% of total daily calories.

For a 2,000-calorie diet, this is about 45 to 78 grams of fat per day, with saturated fat limited to less than 7% of total calories (around 16 grams for a 2,000-calorie diet). person on a 1,500-calorie diet needs to consume between 33 and 58 grams of fat per day

- **Saturated fat:** Less than 7% of total daily calories. For a 2,000-calorie diet, this is about 16 grams.
- **Polyunsaturated fat:** Less than 10% of total daily calories.
- **Monounsaturated fat:** Less than 20% of total daily calories.
- **Cholesterol:** Less than 200 mg per day

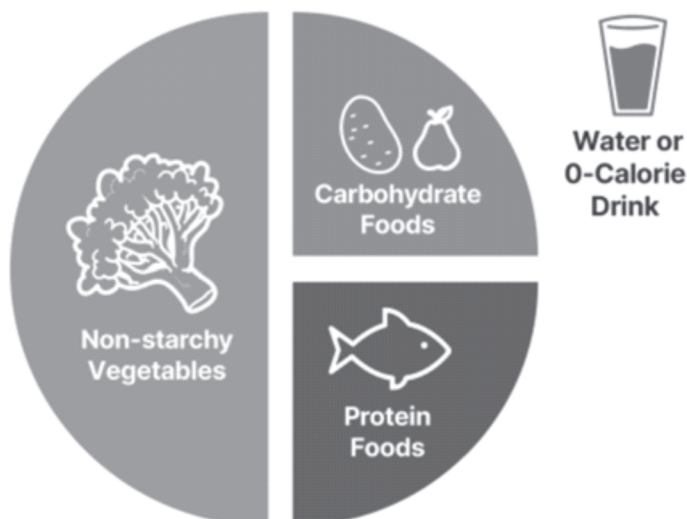
People with diabetes should consume monounsaturated and poly unsaturated fats , found in nuts , seeds and vegetable oils like olive oil and sunflower oil

Limit saturated and trans fat , found in red meat, full fat dairy products and fried foods

How to limit : Choose lean protein sources like fish , poultry and beans instead of red meat and opt for low fat or nonfat dairy products

Eat fatty fish : Consuming fish high in omega 3 fatty acids like salmon , mackerel and sardines at least twice a week .
Avoid frying , try baking or grilling it

Diabetes Plate Method



The Diabetes Plate Method is a useful process for anyone who wants to eat better and learn about variety and portion sizes . It is based on a plate 9 inches in diameter .

Fill 1/2 of the plate with non-starchy vegetables. Non-starchy vegetables are low in carbohydrates. One serving amounts to one cup raw veggies, such as a salad greens or ½ cup cooked, such as broccoli. You can have as many non-starchy vegetables as you like, but make sure at least half of your plate is filled with things like green salad, broccoli, or asparagus.

Fill 1/4 of the plate with grains, starchy vegetables, or beans and dals. Choose whole grains such as brown rice or quinoa which are rich in vitamins, minerals, and fiber. Beans and lentils contain both starch and protein with good amounts of fiber.

Fill 1/4 of the plate with Protein This section includes meat and other protein sources, such as eggs and fish. 1/4 of the plate is equivalent to a 3 oz cooked portion (about the size of a deck of cards or the palm of your hand).

Fats In the Diabetes Plate Method,

Healthy fats are used for cooking and as condiments. It's best to choose unsaturated fats, which are usually liquid rather than solid. One serving of these healthy fats (which is about one teaspoon) contains 5 grams of fat and 45 calories each. Vegetable oil, olive oil, canola oil, sunflower oil, safflower oil, or corn oil Avocado Nut butters Nuts, such as almonds, peanuts, and pecans Olives Non-dairy spreads such as margarine which contains vegetable oil. Make sure y

On the side of the plate

Dairy Milk and milk products are served on the side of your plate. Choose low-fat (skim), nonfat, or reduced-fat varieties. One serving (which is one cup) of the milk products below contains 12 grams of carbohydrate. Fat-free (skim) milk, low-fat (1%) milk, buttermilk, soy milk Yogurt, plain or Greek. You can sweeten this with an artificial sweetener.

Fruit

Fruit is a power food packed with vitamins, minerals, and fiber. In the Diabetes Plate Method, it is served on the side, depending on your needs, to help manage total carbohydrate intake.

Conclusion: Empowering Diabetes Care Through Nutrition

Medical Nutrition Therapy is not just a dietary recommendation it's a cornerstone of effective diabetes

management. By understanding the role of calories, glycemic index, fiber, and macronutrient balance, patients and caregivers can make informed choices that support blood sugar control, heart health, and overall well-being. Whether it's choosing whole grains over refined starches, incorporating lean proteins and healthy fats, or using the Diabetes Plate Method to guide portion sizes, every meal becomes an opportunity to heal and strengthen. With culturally relevant adaptations and consistent education, we can empower individuals and families to take charge of their health one plate at a time.



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