Nutritional Counselling in Management of Diabetes Mellitus*

Kalyani Singh **

Nutritional counselling forms an essential component in the management of diabetes.

The dietician should play a very active part as a very important member of the multidisciplinary team providing diabetes care.

To maximize the effectiveness of diet as the very basis of diabetes management, nutritional counselling should be based on:-

i) Effective communication.
ii) Provide motivation for participation of patients on their own.
iii) Directed to achieve set metabolic goals.
iv) Provide optimum nutritional constituents and
v) Accommodate personal preferences for a better compliance.

Dietary advise should start with evaluation of patients own's food habits, type of medication and glycaemic status. This should be incorporated into patient's self management regime and evaluated in the context of nutrition related parameters as blood glucose, serum lipids, blood pressure and body weight.

A person with diabetes requires to know –

How much to eat?

What to eat?

When to eat?

What is to be done during illness or in relation to other complications?

In children energy requirement are calculated as 1000 calories + 100 calories per year of age. Individual requirement are further altered depending on presenting weight, growth, physical activity and existing glycaemic status.

For adults, caloric allowance is as follows

	Activity	Sedentary	Moderate	Heavy
NIDDM	Calories/Kg		Body Weight	
	Obese	25	30	35
	Normal wt.	30	35	40
	Under wt.	35	40	45

Dietary constituents

The following distribution of constituents is recommended –

Carbohydrates 60 – 65%

Carbohydrates should be given mostly in complex form (coarse cereals) to provide fibre of 25 gm / 1000 Cal (Items with low glycaemic index are preferred.)

Protein 15-20% (Less from animal sources, to use mostly lean meats)

Fates 15-25% (Equal proportion of saturated, unsaturated & monosaturated fats)

One need to familiarize diabetics as to food exchanges – amount of food that has equivalent calories (80 calories) in each food group, for example
1 Chapati or ½ cup rice or 1 slice bread.
1 cup milk or curd or 30 g cheese
30 gm lean meat, 45 g fish or one egg.

Distribution of food during day

This will depend on medication advised. For IDDM and those on insulin therapy, 6 meals and snacks and its timing are usually advised :-

	Break-fast	Mid day	Lunch	Tea	Dinner	Snack
2000 Cal	400 Cal	150 Cal	600 Cal	150 Cal	600 Cal	100 Cal

In NIDDM this may be kept to 3 – 4 meals a day with following break-up

	Break-fast	Lunch	Tea	Dinner
1400 Cal	300 Cal	500 Cal	100 Cal	500 Cal

Special diabetes food items, jams, biscuits, confectionery are often expensive, caloric-dense and contain compounds as sorbitol that may have laxative effect.

Non-caloric sweetners – aspartame provides 4 cal / packet and are permitted in moderate amounts.

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Alcohol provides only empty calories, (1 gm alcohol = 7 calories). Patients may be warned regarding alcohol-induced hypoglycaemia, its effects on liver function and neurological system.

On a sick day patients should continue consuming fluids in some form e.g. soup, fruit juice, aerated drinks or butter milk.

Later they can try soft or bland diets and go back to usual meal plan on recovery.

Those with chronic complications need extra inputs, for example for hypertension low salt diet or for renal decompensation low protein diet, for hyperlipidaemia, low cholesterol diets.

Effectiveness of Nutrition plan

Mere calculation of calories, often do not bring the desired effects as it is not easy to modify one's eating habits and social life.

A more practical approach and flexibility in choice of food items may only come about by spending more time on part of dietician and patient and letting the patient make his / her choices. It need not be one time session but for reinforcement or innovation, it may be continued on periodic basis. Nutrition-related goals eg. achieving ideal body weight should be the end point for the dietician and the patient to strive for.