Nutrition during Ramadan

Ramadan is a holy month in Islam and Muslims observe fasting from dawn to sunset. Ramadan word itself signifies the amount of heat and dryness, which indirectly signifies the increase of fluid and mineral requirement. Those who are ill, travelling long distance, pregnant and nursing women, elderly with chronic illness are exempted from fasting. However many people fast during Ramadan irrespective of their health condition. Coping with the nutrient needs becomes very essential especially for these vulnerable section. A well balanced diet will minimise the negative consequence of fasting.

Ramadan fasting is intermittent lasting from 12 - 20 hours followed by food intake and again fasting for a period of thirty days. The main source of energy during fasting is the breakdown of glycogen stores in liver and muscle and there will be some amount of fat loss and muscle tissue breakdown. There is a significant loss of fluid and electrolytes (sodium, potassium, chloride, bicarbonate, magnesium, calcium). Glycogen stores can be replenished once the food is consumed. The main concern when fasting is the fluid electrolyte balance. As this is the period of peak summer and the fluid requirement is generally high it is necessary to drink enough water before and after fast to prevent dehydration.

Ramadan fasting does not lead to malnutrition since there is no restriction on type and amount of food intake before dawn and after sunset. However factors such as unbalanced food diet, less intake, presence of any acute or chronic diseases can lead to under-nutrition. Increased intake of fatty food, refined foods, sweets, junk food can lead to over-nutrition. Thus it becomes very important to choose right food and right quantity to stay healthy.

Things to remember when fasting

Sufficient fluid intake
Drink a minimum of 8 glasses of water. Sufficient fluid intake is necessary to flush out the toxins, relieve the kidneys of the burden of concentrating the urine to maintain blood homeostasis as well as to prevent dehydration. Fluids can be in the form of soups, juices or plain water.

Conserve body water
During the day stay in cool areas and limit physical activity to prevent excess fluid loss from the body.
Diabetes

Diabetic patients who need to fast need an assessment and education before Ramadan to increase the awareness of risk of fasting.

Risk associated with fasting are:

- Hypoglycemia - low sugar levels due to decreased food intake
- Hyperglycemia - increased sugar levels, due to insulin deficiency prolonged fast may increase glycogen (glucose store) breakdown and reduced uptake by cells and clearance leading to hyperglycemia
- Diabetic ketoacidosis - increase in byproduct of excessive fat breakdown due to reduction insulin/medication intake during Ramadan
- Dehydration - limited fluid intake can cause dehydration
- Thrombosis - decrease in endogenous anti-coagulants and increase blood viscosity secondary to dehydration may enhance the risk of thrombosis.

Do not overeat

Do not overeat as body's regulatory mechanism reduce the metabolic rate and ensure efficient utilization of the body's energy reserve in times of hunger. Eating more will just add on to the calories leading to weight gain. Have balanced, nutrient rich meals to replenish the recommended allowances of protein, vitamins and minerals.

Go for low fat

Use low fat/skimmed milk & yoghurt, low fat cheese, lean meat.

Have balanced meal

Diet after fast should not be different from our normal routine diet. Make sure the meals contain complex carbohydrates such as whole grains and whole grain bread, meat (lean meat), beans, fruits and vegetables.

Avoid excess consumption of sweets and refined products

Refined products and sweets get digested very quickly in comparison to complex carbohydrates (whole grains and cereals) as they are digested slowly. Thus complex carbohydrates are a better choice as there is constant supply of energy for a longer time and gives a feeling of satiety.

Balanced calorie intake

Avoid unnecessary calorie consumption in the form of sweetened beverages, carbonated beverages instead go for healthy choices like water, fruit juice with pulp, soups (without cream). Do not eat too many nuts as they can add on to your caloric consumption and fat intake.

Say "No" to fried

Avoid fried and fatty food as it can cause heart burn or indigestion.

Rest

Schedule your sleeping hours as enough rest is also important.

Stay fit

Engage in light exercise like walk or stretching exercise. Ideal time to exercise is early in the morning, before fast or in the evening after fast. Never exercise when fasting as it makes you loose excess body water and exercising in starving state will lead to muscle tissue breakdown.

Diet management of chronic illnesses

Pregnant, lactating, diabetics and those with chronic disease should consult their physician, to know whether it is safe to fast and consult dietician for diet and meal management.

“Every individual is the judge of his or her own health” - eat balanced meals, drink enough water, stay fit, as health is a best gift and blessing one can get.

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Diet plays an important role in management of diabetes and the major dietary changes include small frequent feeding with proper distribution of carbohydrates (wheat, rice) and protein (milk, fish, egg, meat, poultry, beans) and fat (oil).

People falling in moderate and low risk can fast under the supervision of medical team and with the physician consent.

**SELF ANALYSIS**
At which risk do you come under?

**High risk**
- Those with severe and recurrent episodes of hypoglycemia
- Poor diabetes control
- Those with ketoacidosis (complication of diabetes involving excess fat breakdown and increase in ketone bodies which is dangerous to health)
- Pregnant women
- Those who perform intense physical labour
- Those with macrovascular complications, renal disease with dialysis, uncontrolled epilepsy

**Moderate risk**
- Well controlled but on short acting insulin

**Low risk**
- Well controlled treated with diet alone and mono therapy, with one medication who are otherwise healthy

Diabetics who are considered safe to fast by physician assessment should follow the below mentioned meal plan and dietary advice;
- A healthy balanced diet
- Slow energy releasing food (whole grains and cereals, like whole wheat bread, brown rice) should be taken before and after fast whereas foods high in saturated fat should be minimised.
- Use small amount of mono-unsaturated oil (olive oil) in cooking.
- Consume high fibre rich food like vegetables, salad, whole grains and cereals.
- Regular light exercise is safe for type 2 diabetics, rigorous exercise is not recommended.
- Monitor glucose level regularly if possible everyday (with the help of glucometer)
- When patient feels the symptoms of hypoglycaemia, and dehydration like dizziness, weakness in the limbs, sweating stop the fast immediately.
- Check with your physician for change of dosage of medications and timings.
- After Ramadan follow up of HbA1c, body weight, blood pressure and lipid profile as well as readjustment of medications becomes essential.

**Renal Disease**
Those with stable CKD and not on dialysis can fast but under close medical supervision with strict attention to fluid intake daily activities and adjustment of medications with special attention for the management of diabetic CKD patients as diabetes is a leading cause of chronic kidney disease. It is unsafe for persons on dialysis to fast, they should maintain their normal food and fluid intake and continue taking prescribed medicine and undergo dialysis as planned.

**Chronic heart disease**
Those with controlled hypertension with no other coexisting cardiovascular disease can fast. Fasting is unsafe for those with coronary artery disease with uncontrolled hypertension

**Pregnant & lactating women**
It is unsafe and not advisable for pregnant and lactating women to fast. However those without any other complications and by physician consent can fast, but make sure that recommended nutrients is consumed in non-fasting period.

**Geriatrics or elderly**
It is safe to fast for persons aged over 65 years provided they are in good health without any diseases. Have balanced meals before and after the fast. Ensure sufficient water is taken.
Sports and Ramadan

- Athletes should consume similar amount of food and fluids as per non fasting periods.
- The suhoor meals should be had as latest as possible.
- Consume low glycemic index food (those food which release glucose gradually) such as whole grain cereals, fiber rich food. this helps to provide energy for longer period of time.
- Exercise / training should be done preferably after breaking fast. have light meals, then do the training followed by a proper dinner.
- Fluid intake is same as per the daily requirement of the individual irrespective of fasting, e.g., if daily fluid consumption is 2.5 to 3 litres per day then he/she should have same amount of water between iftar and suhoor.

Sample menu

*Do not add excess sugar, 1/2 tsp per serving is ideal

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**Suhoor**
- Lentil soup
- Foul medames with Arabic bread (whole wheat)
- Grilled humour/salmon, Salad with lemon and olive oil dressing
- Fruit

**Iftar**
- Fruit juice or date milk shake with dates/whole apricots/figs or fresh fruit

**Iftar dinner**
- Cucumber/pumpkin chilled soup
- Grilled chicken and vegetable pilaf
- Toubouleh
- Yoghurt salad
- Fruit

*Also include the following low calorie nutritious drink
- Green tea
- Lemon juice
- Low fat lemon with finely chopped cilantro and ginger (low fat, less salt)
- Honeydew mint juice (blend honeydew melon chunks with few mint leaves)

Medical Consultant for July 2013

Deepa D. Almeida is DHA certified nutritionist at CEDARS – Jebel Ali International where she plans food and nutrition programs to achieve the goals set by the physician for each patient and supervise the preparation and serving of meals to patients. She is also in-charge of the hospital’s food services through its cafeteria.

She has previously worked as Nutritionist at Affinity International, Bangalore, India where she took charge of nutritional assessment of individuals based on anthropometry, biochemical parameters and other clinical indicators, prescribed diet, counseling.

She has undergone training and internship in clinical nutrition at St. John’s Medical College Hospital, Bangalore, St. Martha’s Hospital Bangalore, Sagar Apollo Hospital, Bangalore, Roti Ghar, Sri Jaydeva Institute of Cardiology, Bangalore. She has also undergone industrial training in food and beverage service and production at Le Meridian hotel, Bangalore and Atria Hotel, Bangalore.

Deepa speaks English, Hindi, Kannada and Konkani.