



DIET AND THE CANCER PATIENT

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Introduction

Food contributes much to the quality of our lives and is more than just a physical need. Meal times are an important enjoyable part of family and social life.

Many people with cancer experience eating problems. This section is divided into four parts and is intended to help you overcome these difficulties.

Part One, The building-up diet is a diet high in energy and protein and has been designed specifically for people with cancer who have lost, or are losing, weight or can only manage to eat a little. This diet is not recommended for people with cancer who are eating well and have not lost weight.

Part Two, Eating problems has helpful hints for people with cancer who have eating problems caused by their disease or treatment. For example, you may be feeling sick, have mouth ulcers or be too tired to cook a meal.

Part Three, A healthy eating guide is for people with cancer who do not have eating or weight loss problems, but would like to follow a healthy diet.

Part Four, Information on alternative diets discusses whether alternative or complementary diets can be helpful, or not, for people who have cancer. Information on diet as part of complementary therapy is included in the booklet 'Cancer and complementary therapies'. If you find it hard to discuss your eating problems with your family or friends, you may like to show them this booklet so they can help you with your diet.

If you have any problems that are not covered by this booklet, please do not hesitate to discuss these with your doctor, nurse or dietitian.

If you have any problems with your diet you can ask to be referred to a dietitian at your hospital. Dietitians are experts in assessing dietary needs for people who are ill and they can review your diet. They can advise you on which foods are best for you to eat and also whether any food supplements would be helpful in your situation.

PART ONE

The building up diet

Many people with cancer find there are times when they cannot eat as much as usual and sometimes they lose weight. There are lots of reasons for this.

Cancer itself, or its treatments, may make you lose your appetite. Some people find that they do not feel hungry, or feel full soon after starting a meal. Others find that food makes them feel sick or they notice a change in the taste of some foods.

Some types of cancer make your body use up more energy, even if you are not very active, and this can make you lose weight even though you may still be eating well.

People who are not eating enough, especially those who are losing weight, need more energy and protein in their diet. If you have often tried to lose weight previously, it can be difficult to change your eating habits when you have cancer. However, if you have cancer and are losing weight you may need to eat differently to try and maintain your weight. Your doctor or dietitian may recommend foods that you would normally think of as unhealthy, but don't worry, they have good reasons for doing this.

This section of the booklet shows you how to get more energy and protein without necessarily having to eat more food. Not everyone will be able to put on weight with this building-up diet, but the suggestions should help to slow down or stop weight loss.

A good diet is one that gives you everything you need to keep your body working well. The key to a good diet is variety and balance. You should try to include everyday foods from each of the following groups:

Carbohydrates

Breads, rice, pasta, potatoes, breakfast cereals, cakes, biscuits and sweets are carbohydrate sources which provide energy, fibre, vitamins and minerals. Wholemeal and whole grain varieties are especially high in fibre.

Vitamins, minerals and fibre

Fresh fruit and fresh vegetables are good sources of vitamins, minerals and fibre when eaten raw or lightly cooked. If the skins are left on, they retain more vitamins.

Protein

Meat, poultry, fish, beans, lentils, nuts, eggs, milk and cheese are protein sources which provide vitamins, minerals and energy as well.

Fats

Oil, butter, margarine, fatty meats, oily fish, eggs, cheese, cream, nuts, salad dressing and mayonnaise, full-fat milk, yoghurts and fromage frais are fat sources which also provide protein, vitamins and energy.

NB: Make sure that eggs are well-cooked, and use commercial, not home-made mayonnaise. Avoid cheeses made from unpasteurised milk: these include Brie and blue-veined cheeses because these foods carry a risk of infection.

Energy

Energy is measured in calories. A calorie is simply a unit of energy and is labelled as 'kcal' for kilocalories on food packaging. We all need a certain number of calories each day to provide the energy to live. We need energy even if we are not very active, just sitting in a chair we need energy to breathe. If there are too many calories in our diet we gain weight and if there are too few we start to use up our body's stores of energy and lose weight. The amount of energy each person needs per day varies and depends on how quickly their body uses the energy and their level of activity. An adult man needs approximately 2500 kcal per day and an adult woman approximately 2000 kcal.

Proteins

Proteins make up the basic building blocks of the body. Every part of the body contains protein and we need to eat protein every day to maintain and repair our body tissues. The body must have extra protein, as well as extra energy when we are ill, injured or under stress, in order to repair any damage.

Vitamins and minerals

Vitamins are essential substances which help our bodies to work normally, but we only need tiny amounts of them. If you are eating even a little of the main foods that contain vitamins, you are probably getting a good enough supply. However, if you are not able to eat well for a long period of time, you may need a multivitamin tablet to top up your body's stores. Your doctor, dietitian or the pharmacist at your local chemist can advise you about these.

There is no scientific evidence to prove that taking large amounts of vitamins is helpful. In fact it can be harmful to take excessive amounts of certain vitamins, especially Vitamins A and D.

Minerals are substances needed by the body for a variety of functions such as making bones and teeth, maintaining body fluids and tissues, maintaining healthy nerves, and building necessary chemicals (enzymes).

Some minerals are needed in larger amounts than others, such as calcium, phosphorus, magnesium, sodium, potassium and chlorine. Others are needed in smaller quantities and are called trace minerals, eg iron, zinc, iodine, fluoride, selenium and copper. Despite being needed in smaller amounts, trace minerals are no less important than other minerals.

Different foods supply different amounts of minerals. Eating a varied diet will give an adequate supply of most minerals for healthy people.

Fluids

The body needs a certain amount of fluid each day in order to function properly. If you feel unwell it may be difficult to drink enough liquid, but it is important to drink at least one and a half litres of fluid a day (two pints). This can be taken as water, fruit juice, squash or weak tea.

How to boost your energy and protein

If you have a good appetite, you should have no trouble eating the extra energy and protein foods that you may need if you are ill. However, if your appetite is not very good there are two ways to add extra energy and protein to your diet, without actually having to eat more food.

The first is to use everyday foods high in energy and protein, and the second is to use manufactured food supplements. These can be taken as nourishing drinks, which are available as milkshakes or soups. Some supplements are high protein powders that can be added to your normal food.

Manufactured food supplements

There are many supplements available which can add extra energy and/or protein to your diet. They are usually available from your chemist. Some are available on prescription from your doctor.

Some supplements are available ready to drink or use and others are powders that need to be mixed with liquid. Some can be added to food.

Important note:

High protein supplements should only be used with advice from your doctor or dietitian. Most people will need extra energy balanced with extra protein.

Many of these products can be used by diabetics. However, if you are diabetic you should always seek advice from your doctor or dietitian before using food supplements.

Complete milk-tasting supplements and powders once mixed, should be drunk slowly over a period of 20 minutes.

High-energy and juice-tasting supplements have a high carbohydrate (sugar) content and people who are diabetic should seek the supervision of a dietitian before using them.

How to add extra energy & protein to every-day foods

Fortified milk

You can make fortified milk by adding two to four tablespoons of dried milk powder to a pint (60cl) of full cream milk. Keep it in the fridge and use in drinks and cooking. Use fortified milk, Fortisip Neutral or Entera Neutral instead of water to make up soups, jellies, custard and puddings.

Most supermarkets sell dried milk powder, and it is usually stocked close to the coffee and tea section, or near the milk.

Breakfast foods

Combination of cereals and pulses or cereals with non-vegetarian foods increases quality and availability of protein from the diet. Fermentation also increases nutritive value of foods. Therefore the following recipes are suitable for cancer patients:

Idli sambar, khaman dhokla, Missi roti (thalipeeth), cheese sandwiches, chicken sandwiches, stuffed dal parantha, Dosa, Utthapam and paneer parantha. Breakfast cereals (sattu, cornflakes, rice flakes, oatmeal, ragi dalia, dalia, lapsi, sprouted germ dalia.

Sprouted germ dalia is prepared from sprouted, dried, roasted and powdered wheat and Green gram (moong) in proportion 2:1) with fortified milk and sugar.

Soups

Mix one tablespoon cooked and mashed moong dal in a bowl of any soup. Boil it and serve it with cream and soup sticks.

Nibbles

If you feel hungry between meals, try JSBD laddoo (laddoo made from Jaggery 1 kg, Til (sesame seeds) 1 kg, Bengal gram flour (besan) 250 gm, dried dates 250 gm without seeds) or Garden cress seeds laddoo. These laddoos are made from Garden cress 50 gm. (Halu in Hindi, Aaliv in Marathi), tender coconut 1 (nariyal) and Jaggery 150 gm. Both laddoos are rich in proteins, iron, calcium and vitamins. A research study conducted in Indore found that these laddoos increase hemoglobin level as well weight gain.

Other suitable foods are chikki, nuts and dry foods, Milkshakes, fresh fruit juices with ice-cream. Kheer made from Garden cress seeds is highly nutritious food (Calcium, Iron, Proteins and Calories) for those patients who have difficulty in chewing or swallowing.

Roti

Fortified wheat flour should be used to make roti. This flour is prepared by the addition of 30% roasted & de-husked soybean or Chana flour (proportion 10 kg wheat and 3 kg soybean or chana).

Rice

Addition of nutri-nuggets, or soya-nuggets or Badi during cooking of rice increases its nutritive value.

'Khichdi' is a good source of nutrition. In our country rice and roti are consumed along with dal or dahi or milk. This is a good practice of eating cereals with pulses or with animal protein rich foods. Cereals are low in Lysine amino acids while rich in Methionine and Cystine. Pulses are low in Methionine and Cystine but rich in Lysine amino acid (amino acids are building blocks of protein). Animal protein rich foods contain Methionine, Cystine and Lysine and essential amino acids in sufficient quantity. Thus, this type of food combination provides amino acid supplementation.

Vegetables

To improve protein and energy value of vegetables, milk should be used instead of water to cook vegetables. Paneer, grated or shredded cheese or hard boiled egg should be used to garnish

vegetables. Use of Badi or soya / nutri-nuggets with vegetables give same effect. Marathi Patalbhaji, Sindhi Kadhi, Palak with Dal are good examples of such recipes. Sprouted grain's Salad, Russian Salad, vegetable or sprouted grain Raita, fruit Raita (instead of plain curd) are good sources of protein and energy.

Deserts

Easy to digest and nutritious deserts are:- Bengali sweets made from Paneer, like rasagolla, rasmalai, chamcham, etc., Custard (Plain or fruit) with jelly, chinagrass jelly, bread pudding, soufflé, Ice-cream and kheer.

Sweet made from colostrums (chika) is a good source of protein, energy, vitamin A, minerals and anti-bodies. If possible eat it daily.

Tea and coffee

Use fortified milk to make tea or coffee.

Nourishing drinks

If you sometimes cannot face a meal, have a nourishing drink instead. You can also drink these between meals to help put on some weight.

- **Ready Available mixes.**

Add 2 tablespoons of Complan / Bournvita / Horlicks / Maltova / Milo / Proteinules / Glutameal / Tinolip / Resource to a glass of milk.

- **Home Made drinks.**

- i) Add one tablespoon of Doodh (Milk) Masala to a glass of milk. This masala is made from 3 almonds, 1 pistachio, 1 cashew nut, a pinch of Kesar and cardamom powder.
- ii) Milk shakes – like mango-shake, banana-shake, chikoo-shake, etc.
- iii) Lassi and Shikanji. Lassi is made by mixing curd, sugar, a pinch of cardamom powder and kesar with toppings of grated pistachio. Shikanji is similar to Lassi except that the curd in this case is prepared from boiling the milk until it reduces to half the volume taken originally.
- iv) Flavored Soya milk. Soak soya at night, de-dusk and grind with water and then strain. Mix sugar and flavor and drink.

Your feelings about weight loss

Weight loss is something that often happens to people who have cancer and it can be upsetting because it is a reminder of your illness. It is natural to be upset by weight loss as over the years we all develop an image in our minds about what our bodies look like. Although we may not be completely satisfied with this image, most people are used to the way they see themselves.

When you lose weight, perhaps as a result of the cancer itself or maybe the treatment you are receiving, you will see a different image of yourself when you look in the mirror from the one you have developed in your mind. It can be hard for someone who has seen themselves as well-built and robust, to accept that they now look different because they have lost weight.

You may also worry that the change in your looks will affect what your partner, family and friends think of you. Weight loss can also be worrying for your friends and family. However, despite your loss of weight, you are still the same person with the characteristics for which your family and friends value you.

Some people worry that the change in their looks will affect their personal relationships. You may be worried about rejection or carrying on a sexual relationship. Many people find, once they have summoned up the courage to talk openly to their partner, their fears of rejection are unfounded. Relationships are built on a number of things – love, trust, common experiences and many other feelings. Although weight loss can be distressing for you both, it can help to discuss this openly and talking about the problem may help you feel closer.

People who have lost their appetites may feel self-conscious about eating at home with the family or eating out with friends. Eating is usually a social event, so even if you feel you cannot manage a full meal, there is no reason for you to feel excluded. Your friends and family will understand and will enjoy being with you, even if you can't eat as much as usual.

Sometimes, perhaps when you are feeling tired or sick, you may not be able to prepare food. If you are the person in your family who usually makes the meals, it can feel strange to stand back and let someone else take charge. It is important not to feel guilty about letting someone else do your tasks when you are unwell. After all, when you feel better again you can always take up your responsibility for cooking once more.

Don't hesitate to seek professional help if you are finding it difficult to cope with your illness and your emotions. Talking about your feelings can often help to clarify your own thoughts and give others the opportunity to understand how you are feeling. You may find it helpful to talk to a professional counsellor who lives near you, or a local support group.

Don't see it as a sign of failure that you have not been able to cope on your own. Once people understand how you are feeling they can be more supportive.

PART TWO

Eating Problems

Apart from a poor appetite and loss of weight, some people with cancer have other difficulties with eating. Some of these problems may be related to the cancer itself, while others may be temporary side effects of treatment.

In this section some of the possible difficulties are discussed and some suggestions are given to help you overcome them.

Sore Mouth

- Take soft, non-acid blended or liquid foods such as custards, puddings, jellies, oatmeal or other cooked cereals, mashed or pureed vegetables, poached eggs or scrambled eggs, pureed meat, milkshakes or other nourishing drinks.
- Drink plenty of nourishing fluids. If you find that fresh fruit juices sting your mouth, try drinking blackcurrant or rosehip syrup, apple juice or peach or pear nectar instead as these are less acidic. Some pre-prepared, juice-tasting drinks may also be helpful. These are available from health food shops and some supermarkets.
- Cold foods and drinks can be soothing to a sore mouth. Try adding crushed ice to drinks and eating ice cream or soft milk jellies.
- Avoid salty or spicy food which may sting your mouth.
- Avoid rough textured food like toast or raw vegetables as they can scrape at sore skin.
- Keep your food moist with sauces and gravies.
- Try drinking through a straw.
- Pineapple chunks or melon slices clean the mouth and are refreshing.
- Tell your doctor. He or she can prescribe soothing or antiseptic lotions or sprays for you.
- Ask your doctor or nurse for advice about suitable mouthwashes. Mouthwashes can be very soothing, but many that you can buy may be too strong for you. Your doctor can prescribe an anaesthetic gel or mouthwash.
- Use a child's soft toothbrush to clean your teeth gently.
- If you wear dentures, leave them soaking in a denture-cleaning solution overnight and leave them out for as long as you can during the day to prevent them chafing your gums.

Has your taste changed?

Some people with cancer find that their taste changes, although most changes are only temporary. They may no longer enjoy certain foods or find that all foods taste the same, or they notice a metallic taste in their mouths after chemotherapy. Occasionally, they can't taste anything at all.

If you do have a change in taste, here are some tips for making your food more palatable:

- Concentrate on eating the foods that you like the taste of and ignore those that do not appeal to you. However, do try them again after a few weeks, as your taste may have returned to normal.
- Use seasonings and herbs like rosemary, basil and mint, and spices to flavour your cooking.
- Try marinating meat in fruit juices or wine, or dress it in strong sauces like sweet and sour or curry. Cold meats may taste better garnished with pickle or chutney.
- Sharp-tasting foods like fresh fruit, fruit juices and bitter boiled sweets are refreshing and leave a pleasant taste in the mouth.
- Some people might go off the taste of tea or coffee. You could try a refreshing lemon or green tea instead or perhaps an ice-cold fizzy drink like lemonade.
- Some people find cold foods taste more palatable than hot foods.
- Serve fish, chicken and egg dishes with sauces.

Dry Mouth

- If your tongue is 'coated' it may make your food taste unpleasant and might discourage you from eating. You can clean your tongue with a bicarbonate of soda solution: use one teaspoonful of bicarbonate of soda (available from your chemist) dissolved in a pint (60cl) of warm water. Clean your tongue with cotton wool dipped in this solution or with a soft baby's toothbrush.
- Frequent drinks, even taking just a few sips at a time, can greatly help to keep your mouth moist. You may find fizzy drinks the most refreshing.
- Try sucking ice cubes or ice lollies. Home-made lollies can be easily made by freezing fresh juice in ice-cube trays or in special lolly containers with sticks which can be bought from many kitchenware shops.
- Moisten your food with lots of gravy or sauce.
- Avoid chocolate and pastry; they stick to the roof of your mouth.
- Chewing gum can stimulate your saliva.
- Try drinking a glass of sherry before a meal.
- Salivix boiled sweets (available on prescription from your doctor, and from most chemists) stimulate saliva production.
- Tell your doctor about your mouth. He or she can prescribe artificial saliva sprays, or lozenges to suck, if you think they will help.
- Use lip balm for dry lips.

Too tired to cook or eat?

This is the time to rely on quick convenience foods such as frozen meals, tinned foods, boil-in-the-bag meals and takeaways. Remember, though, to defrost frozen foods thoroughly and to cook all foods properly so as to avoid all risk of food poisoning. Read cooking instructions carefully and stick to them.

If you know in advance the times you are likely to feel tired, for example after radiotherapy treatment, then you could try to plan ahead to help you through these times. If you have a freezer, you could prepare food while you are feeling active and freeze it for when you are more tired. You could stock up on some of the convenience foods mentioned above.

This is also a good opportunity to give friends and family the chance to help you by doing some shopping or cooking.

If you really cannot face eating, have one of the nourishing drinks suggested instead.

If you feel you need more help coping at home with your eating, tell your family doctor (general practitioner) or contact the dietician attached to your hospital.

Constipation

- Make sure you have plenty of fibre (roughage) in your diet. Good sources of fibre include wholewheat breakfast cereals like Weetabix, Shredded wheat, or muesli, wholemeal bread and flour, brown rice, wholemeal pasta, fresh fruit and vegetables with skins on.
- Favourite natural remedies for constipation are syrup of figs, prunes and prune juice.
- Make sure you drink plenty of fluids. Hot drinks can be helpful. Some people find coffee is a powerful laxative. Yogasana or gentle exercise will help to keep your bowels in working order.
- If the constipation is due to medicines that you are taking (such as painkillers or anti-sickness drugs) you will need to take laxatives. Your doctor can prescribe these for you.
- Eat daily 8 to 10 munnkka (remove the seeds) or raisins, 3-5 figs, 200 gm papaya, 1-2 sweet lime, 1 guava, 2 teaspoonful zizyphus (Ber) powder.
- Keep drinking water in a copper utensil, and drink 8-10 glasses of water daily.
- Flaxseed (linseed) can help to ease constipation and soften stools. One teaspoon or dessertspoon of the seeds can be taken daily with a glass of water. If you have cancer of the gullet (oesophagus) or bowel, ask your doctor before taking fibre or linseed.
- If the constipation persists, tell your doctor who can prescribe a laxative.

If you have cancer of the bowel, always ask your doctor for advice on dealing with constipation.

Diarrhoea

- While you have diarrhoea it can sometimes help if you cut down on your fibre intake from cereals, fruit and vegetables.
- Make sure you drink plenty of fluids to replace the water lost with the diarrhoea, but avoid alcohol and coffee. Limit your intake of milk and milk-containing drinks.
- Acidophilus or other bacteria found in live yoghurt can help to ease diarrhoea caused by antibiotics. Antibiotics can kill off the healthy bacteria normally found in the bowel, but the bacteria found in live yoghurt can replace them.
- Eat small, frequent meals made from light foods – dairy produce, white fish, poultry, eggs (well cooked), white bread, pasta or rice. Avoid highly spiced or fatty foods and eat your meals slowly.
- Have your fruit stewed or tinned rather than fresh or dried. Bananas are 'binding'.
- Eat curd or buttermilk, or curd with banana.
- Avoid fried and fatty food, raw vegetables and fruits, spices and spicy foods.
- If the diarrhoea continues, tell your doctor, who can investigate the cause, and prescribe some diarrhoea-relieving medicines for you.

If your diarrhoea is caused by radiotherapy, changing your diet is unlikely to help, and it is important that you take anti-diarrhoea medicines prescribed by your doctor.

Wind

- Take care to avoid constipation (follow the instructions given above).
- Eat and drink slowly. Take small mouthfuls and chew your food well.
- Avoid food that you think gives you wind; for example, beans, pickles and fizzy drinks.
- A favourite natural remedy is to drink two teaspoonfuls of peppermint water dissolved in a small cup of hot water. If you like, sweeten it with a teaspoonful of sugar.
- Acidophilus and other bacteria found in live yoghurt can help to put healthy bacteria into your gut and remove the gas-forming bacteria.
- You could try taking charcoal tablets, available from your chemist.
- Do Yogasana (Pawanuktasan) daily.
- Gentle exercise, especially walking, can bring some relief.
- If the pain becomes severe or persistent, tell your doctor.

Feeling Sick

- If the smell of cooking makes you feel sick, eat cold meals or food from the freezer that only needs heating up (but remember to defrost it thoroughly before cooking, and to make sure it is properly cooked).
- If possible, let someone else do the cooking.
- Avoid greasy, fatty or fried foods.
- Try eating some dry food, such as toast or crackers, first thing in the morning before you get up.
- When you feel sick, start off by eating light foods like thin soups or egg custards and gradually introduce small portions of your favourite foods, slowly building up to a more substantial diet.
- Foods or drinks containing ginger can help to reduce feelings of sickness. You can use crystallised ginger, ginger tea, or ginger biscuits.
- Sipping a fizzy drink is a popular remedy for feeling sick. Try mineral water, ginger ale, lemonade or soda water and sip it slowly through a straw.
- Try having drinks between meals rather than with your food.
- Ask your doctor to prescribe some anti-sickness tablets (anti-emetics) for you. Take these regularly, as recommended, to prevent sickness from developing.
- Eating small meals frequently can be better than trying to eat large meals less often.

See also the section on nausea and sickness.

Difficulty in chewing or swallowing

Soft diets can become boring when people tend to rely on soup and ice cream. But with a little imagination and effort, a soft diet can be both appetizing and nutritious.

The golden rule is to eat your favourite foods, but make changes, which will soften them. For example, dress foods in interesting sauces and gravies, finely chop meat and vegetables and casserole or stew them, and cut the crusts off bread for softer sandwiches. If you have access to a blender you could blend or liquidize cooked foods.

There are several commercial products available that you may find helpful, both in terms of convenience and variety. These products can be obtained from your chemist. Your doctor may offer you a prescription for some of them.

SOME SOFT NUTRITIOUS FOODS

Home-made soups
Milk puddings
Scrambled eggs (well cooked)
Home-made soups
Poached or flaked fish in a sauce
Stewed or pureed fruit
Shepherd's pie

Pasta dishes
Pancakes
Braised meat
Pasta dishes
Egg custard
Porridge
Cottage cheese
Grated cheese
Yoghurts
Jelly made with milk

Poor Appetite

- Eat little amounts as often as possible if you cannot face big meals. Try to have a small portion of food every two hours during the day.
- Tempt your taste buds by making your food look as attractive as possible. Put small portions on your plate and garnish the food with lemon, tomato or parsley.
- A glass of sherry or brandy half an hour before a meal is a good way of stimulating your appetite. Some people find a glass of wine with their meals helps their digestion.
- Keep snacks handy to nibble whenever you can. Bags of nuts, crisps, dried fruit or a bowl of grated cheese are quite light and tasty. If these are hard for you to swallow, a yoghurt may slip down more easily.
- Sweet or savoury nourishing drinks can be used to replace small meals and can be sipped slowly over the course of a day.
- Eat your meals slowly, chew the food well and relax for a little while after each meal.
- Sometimes the smell of food cooking can be appetising, but occasionally it can put you off eating. If cooking smells ruin your appetite, keep away from the kitchen and ask your family or friends to cook, or eat cold foods attractively presented.
- Everyone's appetite fluctuates between good and bad days. Make the most of the good days by eating well and treating yourself to your favourite foods.
- Have your meals in a room where you feel relaxed and without distractions.

Special eating problems

Some people with cancer may have special eating problems that are not covered by this booklet. For example, people with a colostomy or ileostomy or laryngectomy need to follow a special diet individually designed for them. Advice about these diets can be obtained from your doctor or dietitian.

PART THREE

A healthy eating Guide

So far, this booklet has dealt with the eating problems of people with cancer who have lost weight or have poor appetites. However, there are many people with cancer who never lose weight or have any difficulties with eating. For others, eating problems are only a temporary effect of their treatment and most of the time they can eat well.

This Healthy Eating section is sound nutritional advice for people with cancer, but with no weight loss or eating problems, or for anyone without eating problems who wants to follow a healthy diet, live a fuller life and feel better. In the long term, this diet may reduce the chances of getting heart disease and diabetes as well as certain types of cancer.

Some of the advice given in this section may seem contradict that given in the Building-up Diet in Part One. The advice there is for specific groups of people with cancer who are eating very little or are losing weight and is not recommended for people who can eat normally.

Recently, there have been several reports concerned with improving the diet of people of Britain. The following section is a summary of that advice.

Watch your weight

Try to maintain your weight within the normal range for your height (your family doctor can advise you on your normal weight). If you are overweight, reduce your energy intake by eating less fat and sugary foods. This allows your body to use up its surplus energy, which is stored as fat.

Eat less fat

Many experts agree that we eat too much fatty food. Instead of getting our energy from starchy foods like bread and potato, we rely too much on animal fats such as red meat, eggs, butter and cheese.

What you can do to eat less fat

- Avoid sweetmeats (mithai) which contain khoya (mawa) and fat.
- Use of fat and oil in cooking should not be more than 2 table spoons (30 gm).
- Choose a diet rich in plant-based foods.
- If you have to, eat more fish and poultry meat rather than red meat.
- Choose lean cuts of meat and trim off all the fat you can. Remove the skin from poultry.
- Eat less fried food – bake, grill, steam or poach food instead.
- Buy skimmed or semi-skimmed milk.
- Try the low-fat varieties of margarine, butter, yogurt and cheese.

- Cut out or reduce the number of fatty take-aways (e.g. fish and chips, burgers, sausages) that you eat.
- Avoid snacks which are high in fat, such as crisps and biscuits.

Avoid Soda bicarbonate (baking soda)

Sodium bicarbonate is very harmful for you. It activates regeneration of cancer cells. It is better to avoid those foods which contain baking soda, like bakery products or fruit-salt (Eno). Do not use baking soda in your cooking.

Eat more vegetables, fruit and cereals

Vegetables, fruit and cereals are all rich in fibre and vitamins. Fibre is sometimes called roughage. It is the part of the food, which passes through the body without being completely absorbed, and keeps the gut healthy.

Some experts say we should be eating much more fibre than we eat now.

Some research has shown that people who eat plenty of fruits and vegetables have a lower risk of developing cancer, so it may be helpful to try to eat fresh fruit and vegetables each day, particularly dark green, dark yellow or orange vegetables like spinach, broccoli, parsnips, swede and carrots. These contain substances called antioxidants which can play a part in preventing cancer from developing. Tea and green tea also contain antioxidants.

High-fibre foods

- Fresh fruit with skins left on where possible.
- Fresh vegetables, including potatoes, especially with skin left on.
- Wholegrain cereal, for example, brown rice.
- Wholemeal pasta and noodles.
- Wholemeal bread.
- Dried fruit, especially prunes.
- High fibre breakfast cereals like muesli, Weetabix, bran flakes or porridge.

Cut down on Sugar

Sugar contains no useful nutrients apart from energy, and we can get all the energy we need from healthier sources. We eat a lot of sugar per person per year! Most of this is unnecessary and is partly responsible for tooth decay and obesity.

- Learn to do without sugar in hot drinks or switch to an artificial sweetener.
- Cut down on cake, sweets and chocolates.
- Have fresh fruit instead of pudding. Sweeten stewed fruit with sweeteners.
- Choose foods with less or no added sugar for e.g., tinned fruit in natural juices and low calorie drinks. Try sugar free jellies, diet yogurt.

Cut down on Salt

Most people eat much more salt than they need. Most foods are salted during cooked and manufactured foods contain a lot of added salt. Some experts say we should all aim to cut down our overall salt intake by about a quarter.

- Reduce the amount of salt in your cooking and try to avoid adding it at the table. This will also help to reduce your blood pressure if it is high.
- Cut down on snacks with high salt content like crisps or salted nuts.
- Try to use low salt manufactured products, and low salt or un-salted butter or spreads.

PART FOUR

Alternative diets for treating cancer

Alternative diets for treating cancer have received much publicity over the past few years. You may have heard about diets that advise people with cancer not to eat meat and suggesting drinking amounts of carrot juice. Some recommend taking large doses of vitamins.

Many dramatic claims for cures of people with advanced cancer have been made and it is completely understandable that people with cancer should be attracted to diets which offer the hope of a cure. However, there is no scientific evidence that these diets cause the cancer to shrink, increase a person's chance of survival or indeed cure the disease. As these diets have not as yet been properly studied, their effect is uncertain.

Some people do get pleasure and satisfaction from preparing these special diets, but others find them quite boring and even unpleasant to eat and time-consuming to prepare. A further problem is that some of the alternative diets are very expensive, and some can cause people to lose a lot of weight. Some even may be harmful to people with cancer.

It can be very confusing to be faced with conflicting advice about what to eat, but most doctors recommend a well-balanced diet and one that you enjoy, as described in this booklet.

If you have any queries about these diets or are thinking of following one, ask your doctor's or dietitian's advice.

Diet for diabetic cancer patients

Diabetes is a metabolic disorder characterised by altered blood glucose regulation and utilisation caused by insufficient or relatively ineffective insulin. Hyperglycaemia is the hallmark of diabetes. Therefore, the main aim of treatment is to maintain normal glycaemia either to prevent or delay the long term complications of diabetes through diet, exercise, education and drugs.

The nutritional requirements of diabetics and non-diabetics are the same. The normal Indian diet is usually high in carbohydrates and low in fat. Carbohydrates provide 60-65%, proteins 15-25% and fats 15-25% of the total calories needed in a diet. Thus, the normal Indian diet is ideal for such types of patients.

Diabetics need not restrict carbohydrate intake but may have to alter the type of carbohydrates in their diet. Complex carbohydrates present in cereals and pulses along with high fibre diet are good for these patients. Several studies have shown that this type of diet improves glucose tolerance as a result of improved insulin sensitivity. Western diets are low in carbohydrates and rich in fat and such diets are likely to increase serum lipids and also the risk of coronary heart disease.

Simple carbohydrates present in jam, jellies, sugar, jaggery and sweets have a higher glycaemic index and are, therefore, bad for diabetics. Such patients should avoid these simple carbohydrates (sugar, jaggery, etc.) in their diets. Instead of sugar, patients can use artificial sweeteners such as saccharin and aspartame. Their limited use (10-12 tablets per day) is normally safe. Pregnant women should avoid saccharin.

Carbohydrates in the diet should be distributed properly over the day, since blood glucose depends mainly on the intake of carbohydrates. One third (33%) of the carbohydrate intake should be served during lunch and another third (33%) at dinner. The remaining third can be served during breakfast (25%) and at the evening tea or at bedtime (9%).

For individuals with IDDM (Insulin Dependent Diabetes Mellitus), it is important to establish a regular meal pattern with a consistent day to day caloric and carbohydrate intake. In addition, the distribution of carbohydrate should match with the duration of activity and type of insulin used. For some IDDM patients, it may be necessary to give additional carbohydrate in the form of snacks before going to sleep in order to prevent hypoglycaemia particularly when they are on slow acting insulin.

Proteins from vegetarian sources like germinated grains, fermented South Indian foods (e.g. idlis), fermented Gujarati foods (e.g. khaman dhoklas) whole grain pulses, beans, legumes, dals and nuts are better than from non-vegetarian foods as they add fibres and don't contribute cholesterol.

High fat diet increases body weight and adversely affects glucose tolerance, reduces insulin sensitivity and insulin receptor number and increases serum lipids and atherosclerosis. Diabetics should avoid hydrogenated oils (Vanaspati) and foods which are rich in saturated fats. Omega-3 fatty acids are present in fish oil. However, fish oils bring down glycaemic control. It is better to consume fish in natural form and avoid supplements of fish oil.

High fibre diets prescribed for diabetic (cancer) patients may interfere with the absorption of minerals. Similarly, low calorie diets prescribed for obese patients may not provide enough micronutrients.

Soluble fibres (pectins, gums, mucilages) present in vegetables, fruits, fenugreek seeds (methidana), garden cress seeds (Halu in Hindi and Aaliv in Marathi) are more effective in controlling blood glucose and serum lipids than insoluble fibre (cellulose, hemicellulose, lignin) present in cereals and millets. In addition to soluble fibres, the above mentioned foods also provide antioxidants and omega-3 fatty acids. It is beneficial to take 25g / 1000 kcal / day of dietary fibre. Apart from diabetes, dietary fibre is also beneficial in the prevention of cardiovascular disease and colon cancer. Purified fibre supplements such as guar gum are commercially available but it is always better to include fibre rich foods in the diet than use such supplements.

Depending on the blood glucose level, the quantity of fenugreek seeds to be taken daily varies from 20 to 25g. To begin with, 20g of fenugreek seeds may be taken in three divided doses along with breakfast, lunch and dinner. These seeds may be taken as such after overnight soaking in water or in a powder form as a drink in water or buttermilk or milk five minutes before the meal.

References

The information in this booklet is based substantially on the CancerBACUP booklet 'Diet and the Cancer Patient' but has been extensively modified and Indianised by the Author Dr. Nandini Sarwate.

A special section has also been added by her on "Diet for the diabetic cancer patient".

The information in the CancerBACUP booklet has been written in accordance with the following nutritional reports and guidelines:

- EPIC. European Prospective Investigation into Cancer and Nutrition. June 2001.
- Committee on Medical Aspects of Food and Nutrition. (COMA). Report 1999-2000.
- Guidelines of the Scientific Committee on Food for the development of tolerable upper intake levels for vitamins and minerals. European Commission. October 2000.
- Nutritional Aspects of the Development of Cancer. Department of Health. HMSO, London. 1998.

Author's Note

- Maintain a healthy weight and hemoglobin and be physically active.
- Whole grain cereals, pulses and sprouts should be used as a major source of protein and energy.
- Eat plenty of fresh vegetables and fruits.
- Fat intake should be between 20 to 25% of the total calories.
- Select foods low in fat.
- Sprouted grains (eg. wheat germ), amla, onion, garlic and turmeric are considered preventive foods for cancer. To be used in plenty.
- Select foods low in salt and avoid foods containing baking soda.
- Intake of processed and preserved food to be reduced.
- Fried, burned, smoked, salted and pickled foods to be limited.
- Fungal and contaminated foods to be avoided. Prepare and store food safely.
- Beverages to be used in moderation.
- Do not use tobacco in any form.

Always remember

- Think positively and be happy.

Dietary Factors in Cancers-aetiology by Site

| | Cancers | Dietary Factors |
|--------|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Oral Cavity, Pharynx | Alcohol, tobacco smoking, betel nut, gutka |
| 2 | Esophagus | Opium, alcohol, tobacco, brackenfern, low intake of fruits and vegetable |
| 3 | Stomach | Pickles and salted foods, red chillies, grilled, smoked and fried foods, foods rich in starch with very little fresh fruits and vegetables, alcoholic drinks, preserved foods with Nitrogen addition |
| 1 4 | Colon and Rectal | Refined carbohydrates, low fibre, low green and yellow vegetables, high meat intake |
| 5 | Nasopharyngeal | Salted fish |
| 6 | Larynx | Tobacco, alcohol |
| 7 | Lung | Tobacco, low intake of green and yellow vegetables |
| 8 | Bladder | Industrial chemicals, artificial sweeteners, coffee |
| 9 | Prostrate, breast, cervical | Low intake of green and yellow vegetables |
| 10 | Pancreas | Tobacco, coffee and meat |
| 11 | Liver | Mycotoxins (fungal infection of foods) |
| 12 | Cervix | Low intake of fruits and vegetables |

Sample Plan for normal eating pattern

(2000 calories and 60 gm proteins)

| | |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| On rising | One lemon juice (fresh) with one teaspoon honey and a glass of water without sugar and salt. |
| Breakfast | <ul style="list-style-type: none">• Sprouted germ dalia one bowl (60 gm) mixed with fortified milk and sugar / any other breakfast cereal / idli sambhar / cheese or chicken sandwich / stuffed Dal or Paneer parantha• Turmeric Amla ball (haldi powder 2.5 gm, amla powder 2.5 gm, jaggery 5 gm mix, knead and make a ball) swallow with water• Sweet Lime / fresh fruit one• Milk with Doodh masala one glass |
| Nibbles | JSBD laddoo one / garden cress seeds laddoo one / khajoor / nuts & dry fruits 30 gm |
| Lunch | <ul style="list-style-type: none">• Fresh vegetable Soup one bowl• Roti and / or Rice (as needed, minimum 2 –3)• Dal / chicken one serving (100 gm)• Salad (sprouted grains along with fresh vegetables) one plate• Curd / fruit raita one serving (100 gm)• Vegetables 1 - 2 servings• Dessert (occasionally, as mentioned in details above) one serving |
| Evening tea | <ul style="list-style-type: none">• Tea / coffee one cup• Seasonal fruits / fruit chat one bowl |
| Dinner | Same as lunch |
| Bed time | Milk one cup along with 2 figs and 4 raisins / munakka |

People with eating problems can achieve this by eating more frequently, as detailed earlier.

Wheat grass juice preparation

Wheat grass juice is prepared from the grass (plant) of wheat. Take 100 gm of wheat and sow in an earthen pot. Make a set of 7 such pots and sow the wheat in one by rotation. On the 7th day, cut the grass from the first pot. Extract the juice and drink fresh. A set of 7 pots will provide juice for 7 days. In next week follow the same cycle. Use the grass from one sowing 3 times. Then sow fresh wheat and repeat the procedure.

About the author

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Note:

Readers of this booklet may please communicate with the author about any questions they may have on this subject or for specific advice on any particular problem.