

Women & Nutrition

A Practical Guide for Healthcare Professionals



Ministry of Women, Family and
Community Development



Nutrition Society of Malaysia



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A Practical Guide for Healthcare Professionals

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Ministry of Women, Family and
Community Development

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Women & Nutrition

A Practical Guide for Health Professionals

This booklet is published by the Ministry of Women, Family and Community Development in collaboration with the Nutrition Society of Malaysia. It is developed as a reference for doctors, nurses and other healthcare professionals involved in nutritional care for Malaysian women.

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Director-General, National Population and Family Development Board

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Chairman, Woman@Heart Programme

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Sekapur Sirih

Message from The Minister Of Women, Family & Community Development

A woman's nutrition is central to her ability to carry out her duty as a wife, mother and citizen. With good health and well-being, she can continue to contribute to her family and to her nation.

Women determine not only the nutrition they receive, but the nutrition their families receive as well. This Woman@Heart manual aims to educate women on good nutrition and show them ways to turn it into a family practice. With good nutrition, individuals and families can enjoy health and have a better quality of life.

I heartily congratulate the Nutrition Society of Malaysia for producing this manual as the first phase of the Woman@Heart programme. It is hoped that this manual will become a useful guide for doctors, nurses and other health professionals who care for women.

Salam hormat,

DATO' SERI SHAHRIZAT ABDUL JALIL

Minister of Women, Family & Community Development

Towards healthier women



LPPKN aims to create a quality population of strong, healthy and harmonious families as well as communities. We are therefore greatly concerned with the health status of families in Malaysia.

Research has shown that the number of overweight and obese women has increased. This is why the Woman@Heart manual was produced as a handy guide on women's nutrition to promote a healthy lifestyle among women, for doctors, nurses and healthcare professionals.

We would like to congratulate the Nutrition Society of Malaysia for cooperating with us in jointly producing this manual.

I hope that this manual will be able to help all healthcare professionals increase awareness among women on how to lead active and healthy lives.

A handwritten signature in black ink, reading "Fatimah Saad". The signature is fluid and cursive, with a horizontal line underneath it.

Dato' Fatimah Saad

Director-General

National Population and Family Development Board

Ministry of Women, Family & Community Development

Introduction to this practical guide

Unlike a man, a woman's body changes greatly as she goes from adolescence to adulthood to motherhood and finally, to old age. Her nutrient needs at each main stage of life are different.

The physiological and biological changes a woman experiences make her vulnerable to certain health threats. This is seen in the increasing number of women suffering from iron deficiency anaemia, osteoporosis, overweight and obesity, diabetes, cardiovascular diseases and cancers.

The solution to these problems is women's nutrition. Through good nutrition, a woman is able to prevent or minimise the risk of infections, nutrition-related disorders and chronic diseases.

This user-friendly booklet is a guide to women's different nutritional needs at each life stage. Its proactive approach that emphasises prevention rather than cure, offers information that will help health professionals recognise nutritional problems in the women they treat. They will learn how to advise and recommend appropriate nutritional approaches to help women overcome these problems, as well as monitor nutritional status to ensure long-term improvements.

I am grateful for the time and effort my colleagues in the Woman@Heart Expert Panel have contributed towards this booklet. It is our hope that every health professional will benefit from this comprehensive guide and that the invaluable knowledge it contains will be successfully passed on to the women under their care.



Dr Tee E Siong

Chairman, Woman@Heart Programme
President, Nutrition Society of Malaysia



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nutrition fundamentals

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why women's nutrition deserves special attention

As healthcare professionals intent on the treatment of illnesses, we overlook the fact that nutrition is what prevents illnesses in the first place. Good nutrition is the most essential building block to good health and well-being.

This is especially true in the care of women. Unlike men, women's bodies undergo changes as they go through major life stages – the most dramatic of which is pregnancy and lactation. Their nutritional needs also change to meet the demands of these physiological changes and to protect themselves from the health risks that come with each life stage.

Truly effective preventive healthcare is when we are able to provide the women in our community with sound nutrition advice while being sensitive to their uniqueness. Only then are we able to empower them towards taking responsibility for their personal well-being and that of their family.



Physiological differences

Women's bodies differ from men's in terms of body composition (fats, lean body mass), bone density, hormonal composition and physical strength.

Biological differences

Women go through several life stages and each stage needs different nutritional requirements.

- **Adolescence:** Certain nutrients become increasingly important as young women undergo puberty, which is marked by growth and development, as well as menstruation.
- **Pre-pregnancy:** Women need to build sufficient maternal stores of nutrients to prepare their bodies for pregnancy.
- **Pregnancy:** The nutrients women receive during pregnancy ensure their health and foetal growth and development. These nutrients also enable them to go through the process of childbirth and lactation.
- **Lactation:** Women who breastfeed need increased amounts of energy and appropriate nutrients to produce sufficient milk that is high in quality. This ensures the infant's health and well-being.
- **Menopause:** Women are at higher risk of developing certain chronic diseases due to the hormonal changes they experience during this time.

Nutritional differences

- Women need less energy, protein, zinc, niacin, Vitamins B1, B2 and E, and iodine than men (see Table 1).
- Women show a greater need for iron than men (see Table 2).
- The difference in women's nutrient needs become even more pronounced during pregnancy and lactation (see Section 3, Chapter 3).
 - Energy needs increase in the 2nd and 3rd trimesters of pregnancy as well as during lactation.
 - Pregnancy requirement of folic acid increases due to foetal-placental growth.
 - Increase in the maternal blood volume during pregnancy greatly increases the demand for iron.
 - Calcium needs increase greatly during pregnancy to aid foetal bone development.

Table 1a: Comparison of nutrient requirements between men and women

Age (years)	Male	Female	Male	Female	Male	Female	Male	Female
	Energy (kcal/day)		Protein (g/day)		Zinc (mg/day)		Niacin (mg/day of niacin Equivalents)	
10 – 12	2180	1990	45	46	9.0	7.5	16	16
13 – 15	2690	2180	63	55				
16 – 18	2840	2050	65	54				
19 – 29	2440	2000	62	55	6.7 (6.2)*	4.9 (4.3)*	16	14
30 – 59	2460	2180						
≥ 60	2010	1780	59	51				

* 65 years

Source: Recommended Nutrient Intakes for Malaysia (RNI), Malaysia, 2005

Table 1b: Comparison of nutrient requirements between men and women

Age (years)	Male	Female	Male	Female	Male	Female	Male	Female		
	Vitamin B ₁ (mg/day)		Vitamin B ₂ (mg/day)		Vitamin E (mg/day)		Iodine (µg/day)			
10 – 12	1.2	1.1	1.3	1.0	10	7.5	144	148		
13 – 15							106	98		
16 – 18							118	104		
19 – 29				1.1			124 (114)*	110 (98)*		
30 – 59										
≥ 60										

* ≥ 65 years

Source: Recommended Nutrient Intakes for Malaysia (RNI), Malaysia, 2005

Table 2: Comparison of iron requirements between men and women

Age (years)	Male (mg/day*)	Female (mg/day*)
10 – 14	15	14 ¹
		33
15 – 18	19	31
≥ 19	14	29 ²
		11 ³

¹ non-menstruating

² premenopause

³ postmenopause

* based on 10% bioavailability

Source: National Coordinating Committee on Food and Nutrition (NCCFN), Ministry of Health Malaysia. Recommended Nutrient Intakes for Malaysia (RNI), Malaysia, 2005

what nutritional problems do women face?

Women around the world, regardless of their economic state, suffer from both extremes of malnutrition: under-nutrition and over-nutrition. Physiological and biological changes during the various life stages significantly increase their nutritional needs, thereby increasing their vulnerability to nutrient deficiencies. Over-nutrition increases women's risk of developing chronic diseases.

Nutritional problems can adversely affect their quality of life and can even be life-threatening in some situations.

As healthcare professionals, we need to make women aware of nutritional problems so that they can be prevented through proper nutrition.



Malnutrition

Under-nutrition

- Under-nutrition can be caused by inadequate or imbalanced food intake resulting from ignorance or inappropriate dietary practices. It can be aggravated by infections and parasitic infestations.
- It results in weight loss, growth failure and anaemia, as well as developmental problems, poor academic performance and low work productivity.

Over-nutrition

- "Over-nutrition" is the result of inappropriate dietary patterns characterised by excessive intake of energy (particularly from fat, oils and sugars), which is accompanied by insufficient intake of fibre and lack of certain vitamins and minerals.
- It results in obesity, hypertension, stroke, coronary heart diseases, diabetes mellitus (type 2), some forms of cancer, osteoarthritis and sleep disturbances.
- The risk and severity of these diseases are greatly increased by unhealthy lifestyle practices such as lack of physical activity and smoking.

Nutritional problems at different life stages

Adolescence

- Lack of iron in the diet results in iron deficiency anaemia, which is worsened by periodic blood loss due to menstruation.
- Misconceptions of body image may lead to eating disorders (such as anorexia nervosa, bulimia nervosa or compulsive overeating) which can result in serious medical problems.

Reproductive age

- Underweight women risk becoming infertile, having miscarriages or giving birth to infants with low birthweight or congenital defects.
- Overweight women may experience infertility or high risk pregnancies associated with gestational diabetes and high blood pressure. High risk pregnancies can lead to complications, resulting in increased risk of foetal, infant or maternal morbidity and mortality.
- Iron deficiency anaemia, which is common among women, can be further aggravated by the increased demand for iron during pregnancy. Anaemic pregnant women are at risk of giving birth to a low birth weight baby and experiencing complications during childbirth.

Older Adults and Elderly

- Older women are prone to overweight and obesity which, coupled with the hormonal changes of menopause, significantly increase the risk of certain chronic diseases especially cardiovascular diseases, diabetes and certain cancers (for example, of the breast and uterus).
- Older women experience a higher rate of bone loss which increases the risk of osteoporosis.
- The elderly are particularly susceptible to under-nutrition and weight loss as a result of poor food intake due to the physiological and psychosocial changes that occur in the later years of life.

In Malaysia

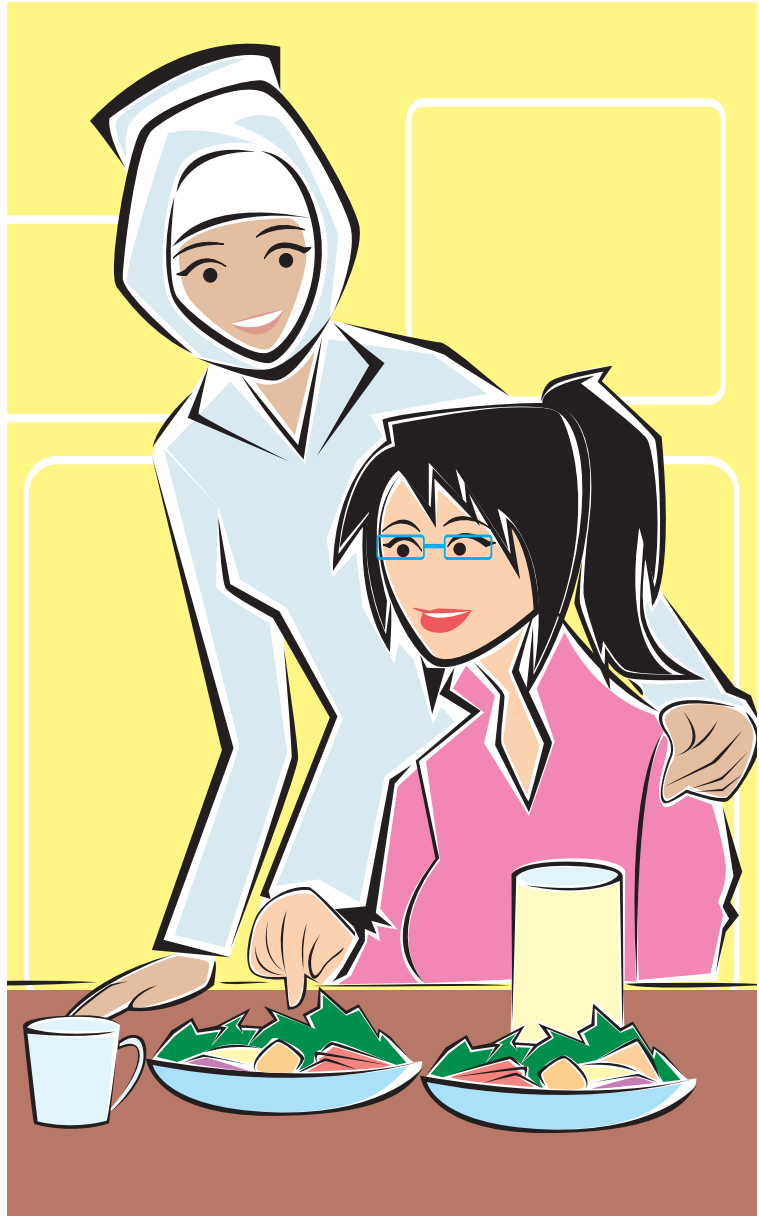
- 30 to 40% of pregnant women and 25% of women from rural communities suffer from iron deficiency anaemia.
- 14.1% of Malaysian women suffer from Chronic Energy Deficiency.
- 21.4% of women are overweight compared to 20.1% of men whereas the problem of obesity among women is twice that of men (7.6% women compared with men 4.0 %.)
- 6.9% women have Type 2 diabetes compared with 6.8% men. This condition increases women's risk of pregnancy complications, which might lead to maternal and foetal mortality.
- 30% of deaths among women are due to diseases of the circulatory system (comprising mostly of ischaemic heart disease, cerebrovascular disease and hypertensive disease) and is also the major cause of death in the country.
- The incidence of hip fracture in Malaysian women (218 per 100,000) is approximately 2.5 times higher than in men. Similar rates have been reported for other Asian cities.

Source: Compiled from studies conducted from 1980-2005.

how to help women meet their nutritional needs

Diet-related health problems in women can be prevented with good nutrition. Irrespective of the nutritional demands occurring in different life stages, there is one set of guidelines that will help all women meet their daily nutritional requirements and avoid deficiencies and excesses that may lead to nutrition-related problems.

Begin by understanding the woman's eating patterns. Using the table below, conduct a quick food habits survey by ticking the box that most accurately indicates how regularly she eats, how often she consumes foods from certain food groups and how her food is usually prepared. The information you gather through this food habits survey will help you provide appropriate dietary advice.



Food Habits Survey

Please make copies for clinic use

Name: _____

Date: _____

Question	Meals/Foods	Frequency of Consumption					
		Every day	4-6 days a week	2-3 days a week	once a week	once in 2 weeks	rarely or never
Section 1: How often do you take these meals?	Breakfast						
	Morning tea						
	Lunch						
	Afternoon tea						
	Dinner						
	Supper						
Section 2: How often do you consume these foods?	Fruits						
	Vegetables						
	Rice, noodles and/or bread						
	Meat, fish and/or poultry						
	Eggs						
	Milk						
	Cheese and/or yoghurt						
	Sweetened food and drink						
Section 3: In what ways do you usually cook the following foods?	Salted fish, vegetables and eggs						
	Preparation style	Deep-fried	Stir-fried	Steamed	Grilled	Boiled	Cooked in santan
	Rice						
	Vegetables						
	Chicken						
	Fish						
	Seafood (eg. squid, prawns, crabs)						
	Meat (eg. beef, lamb)						
	Eggs						

How to interpret the Food Habits Survey and provide healthy eating tips

Section 1:

- It is important that the woman consumes three main meals every day, namely breakfast, lunch and dinner.
- It is not necessary to regularly have morning and afternoon tea, unless the woman eats very little during each main meal.

Section 2:

- Vegetables and fruits must be consumed every day.
- It is important to vary the type of foods consumed within each food group.
- If sweetened foods and drinks and salted foods are consumed every day, advise the woman to reduce the amount taken.
- If eggs and milk are consumed rarely, encourage her to take these foods more frequently.
- Bread, rice and noodles can be consumed every day. However, do vary the types consumed.
- The consumption of meat, poultry and fish should be varied and in moderate amounts every day.

Section 3:

- Excessive consumption of deep-fried dishes and dishes cooked in santan is unhealthy.
- It is important to vary the ways in which foods are cooked.

Help the women under your care to improve their daily dietary practices and nutritional intake by following the guidelines below. When it comes to food choices and practices, remember that balance, variety and moderation are key.

1 Eat a variety of foods every day

- It is important to eat a diet which combines all the food groups in the Food Guide Pyramid. Within each food group, vary the types of food consumed.

The Food Guide Pyramid. Your Key To Healthy Eating



Source: Panduan Diet Malaysia, Kementerian Kesihatan Malaysia, Kuala Lumpur, 1999

2 Maintain a healthy body weight

- Being overweight or underweight places women at greater risk of developing health problems. Therefore, it is important to maintain a healthy body weight, meaning a Body Mass Index within the normal range (details in Section 2, Chapter 2).

3 Enjoy rice, cereal products, legumes, fruits and vegetables

- These foods contain complex carbohydrates, vitamins, minerals, fibre and other components that are beneficial for health.
 - Unpolished/unrefined varieties of cereals are preferred because they have a greater amount of iron, phosphorous, B vitamins and fibre.
 - Various types of legumes such as peas, beans and lentils are rich in protein, carbohydrates, fibre and some vitamins, especially B vitamins.
 - Choose at least one fruit or vegetable that is rich in Vitamin A and carotenoids every day. For example, dark green leafy vegetables, carrots, tomatoes, mangoes and papaya. Fruits rich in Vitamin C such as guava, papaya and oranges should also be eaten daily.
 - Taking the recommended amounts of these foods can provide sufficient fibre to reduce symptoms of constipation and may reduce risk of heart disease and some forms of cancer.

4 Cut down on fat and cholesterol

- Excessive consumption of all types of fat can adversely affect health because they contain more energy than protein or carbohydrate.
- A diet should provide an optimum balance of saturated, monounsaturated and polyunsaturated fatty acids in order to promote cardiovascular health.
- The table below provides examples of foods that are rich in certain fatty acids. jantung dan sesetengah jenis kanser.

Table 3: Types of Fatty Acids and Their Sources

Types of Fatty Acids	Examples of Foods
Saturated fatty acids	animal fats, coconut milk, butter, ghee
Monounsaturated fatty acids	olive oil, canola oil
Polyunsaturated fatty acids	corn oil, soya bean oil, sunflower oil, fish oil
Trans fatty acids	margarines and shortenings made from hydrogenated fats
Palm oil contains an equal proportion of saturated and unsaturated fatty acids.	

- Excessive intake of saturated fats and trans fats can increase risk to cardiovascular disease and certain cancers.
- In most healthy individuals, dietary cholesterol has little effect on raising blood cholesterol levels. However, for individuals who are at high risk of cardiovascular diseases, consumption of cholesterol rich foods should be reduced. For example, organ meats (brain, liver, kidney), fish roe and egg yolk.
- Here are some tips to prevent excessive fat and cholesterol intake:
 - Choose foods that are low in fat and cholesterol, for example fruits and vegetables which are also high in dietary fibre, vitamins and minerals
 - Select lean cuts of meat and remove visible fat and skin

- Use cooking oil in small amounts
- Minimise use of 'visible' fats like margarine, butter, salad oils, cream and mayonnaise.
- Limit the use of coconut milk, lard and ghee in food preparation
- Instead of always frying food, opt also for low-fat cooking methods such as steaming, grilling, roasting, boiling or stewing

5 Minimise sodium intake

- Sodium is naturally present in many foods. It is especially high in salt. The body needs a very small amount of sodium for proper function. Excessive intake should be avoided as it is associated with high blood pressure.
- To keep sodium intake to a minimum, follow these guidelines:
 - Use salt, salty sauces (soya sauce and oyster sauce) and MSG (monosodium glutamate) sparingly in cooking and when eating
 - When seasoning food, use spices, herbs and lemon instead of salt
 - Limit consumption of fast foods, and commercially prepared snack foods such as crisps, chips, preserved fruits and pickles
 - Check labels for the amount of sodium in processed foods and snack items
 - Limit consumption of processed meats (eg sausages, luncheon meat, corned beef), salted fish, salted eggs and salted vegetables
 - Avoid excessive consumption of belacan, cinaluk, budu
 - When eating out, ask for food to be prepared with less salt

6 Cut down on sugar

- Other than simple carbohydrates (which provides energy), sugar does not contain any other nutrients. Excessive consumption of sugar tends to displace nutritious foods which can lead to nutritional inadequacy while contributing unnecessary weight gain.
- Follow the tips below to reduce sugar intake:
 - Limit the amount of sugar added to food or beverages. Learn to enjoy food and drinks with minimum sugar
 - When eating out, ask for less sugar to be added to desserts and drinks
 - Cut down on foods containing 'hidden' sugar such as desserts, cakes, traditional kuih-muih, cookies, chocolates and sweet pastries
 - Choose fresh fruit instead of canned fruits or juices
 - Drink plain water instead of sweetened beverages

7 Drink more water

- Water is essential for the body's functions. Drink at least 6 to 8 glasses of water to stay hydrated throughout the day. It is not necessary to wait until thirst sets in before replacing the fluid that has been lost through sweating and urination.

Section *two*

body weight issues & management

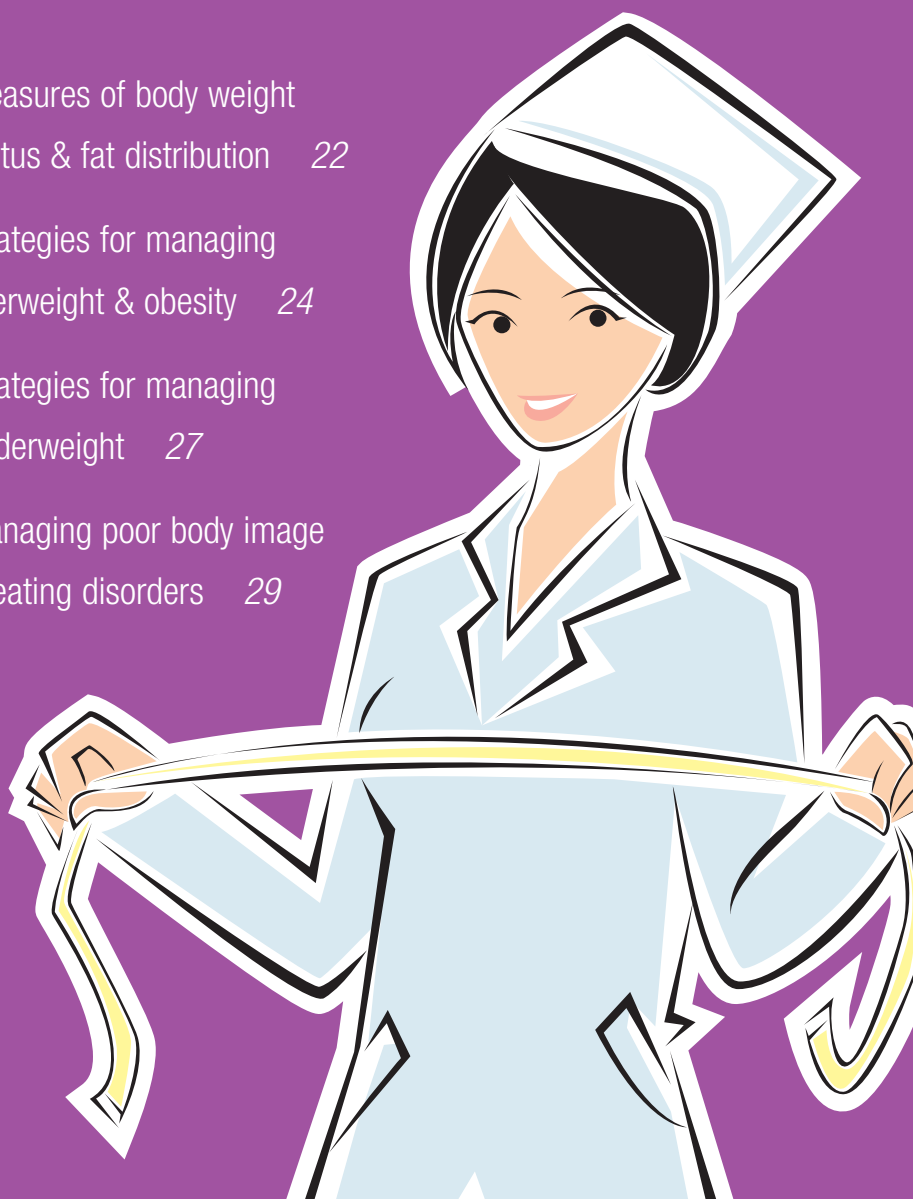
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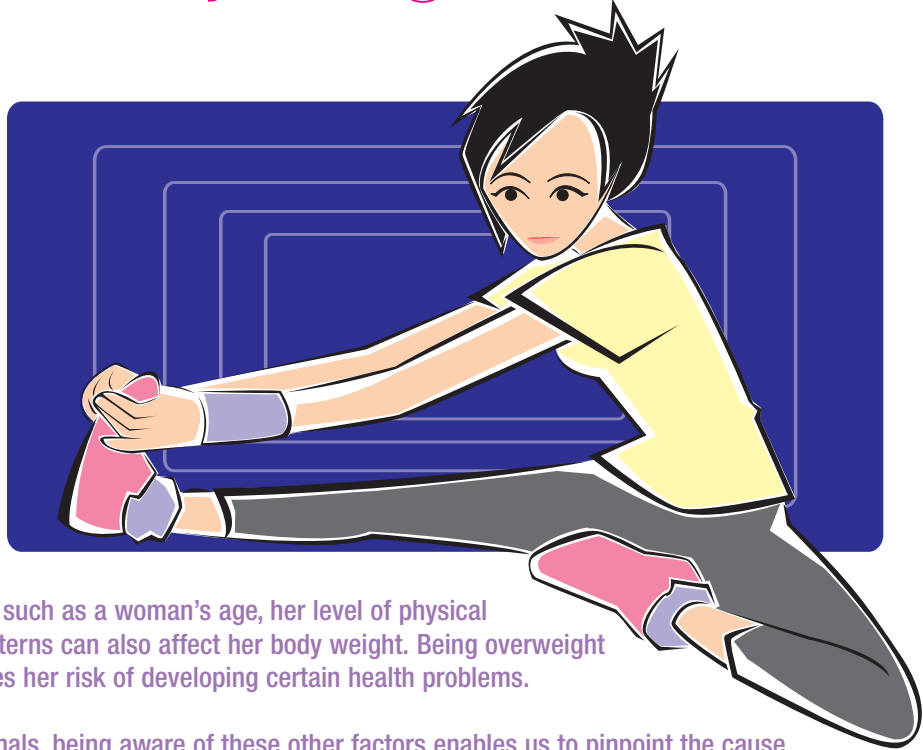
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factors affecting body weight

A woman's body weight is a tell-tale sign of the quantity and nutritional quality of the food she consumes. A diet based on the seven principles of healthy eating will result in a body weight that falls within the healthy range (Section 1, Chapter 3).



While dietary habits are important, other factors such as a woman's age, her level of physical activity and lifestyle patterns can also affect her body weight. Being overweight or underweight increases her risk of developing certain health problems.

As healthcare professionals, being aware of these other factors enables us to pinpoint the cause of overweight or underweight in women. When we understand that not every weight problem can be solely attributed to poor eating habits, we will adopt a more complete approach to body weight issues.

Body weight factors

Age

- Women tend to put on weight as they age
- This is because of increases in body fat, which may double from 20 to 60 years old

Gender

- Women are naturally more prone to overweight and obesity than men for the following reasons:
 - Women have higher amounts of body fat
 - They develop maternal stores in preparation for childbearing
 - They tend to retain some of the maternal stores developed during pregnancy even after childbirth

- Especially for overweight women, repeated, closely-spaced pregnancies tend to contribute to significant weight gain
- The reduction of oestrogen in menopause results in muscle mass decreasing and being replaced by fat tissues

Physical activity

- Women who are less physically active tend to have a higher amount of body fat.

Medical problems and medications

- Uncontrolled weight gain can occur as a result of conditions such as hypothyroidism and polycystic ovarian syndrome
- Wasting diseases such as cancer or hyperthyroidism increases the metabolic rate and energy needs, leading to excessive weight loss
- Contraceptive pills can lead to weight gain
- Certain medications may cause weight gain or weight loss

Psychological/social factors

- Stress, depression and anxiety can lead to unhealthy eating behaviours that cause weight gain or weight loss

Lifestyle factors

- Dietary practices are affected due to working women's lack of time to purchase and prepare meals for themselves and their families
- Desk-bound jobs and increasing automation cause women to become more sedentary
- Smoking tends to suppress the appetite, resulting in weight loss and nutrient deficiency.
- Over-consumption of alcohol can lead to excessive weight gain

measures of body weight status & fat distribution

It is important for health professionals to monitor the body weight status of women regularly.

In addition to this, fat distribution should also be investigated because it reveals information that body weight does not provide. Therefore, waist circumference and waist-to-hip ratio of a woman should also be measured routinely.

Information on body weight status and fat distribution are necessary in order to help a woman manage her weight.



Body Mass Index (BMI)

- BMI indicates the relationship between weight and height that is associated with body fat and health risk.
- Body Mass Index (BMI) can be calculated with the following formula:

$$\text{BMI} = \frac{\text{weight (kg)}}{\text{height (m)} \times \text{height (m)}}$$

- Check the BMI against the table below to see what it indicates:

Table 4: Correlation between Body Mass Index and Risk of Chronic Illnesses

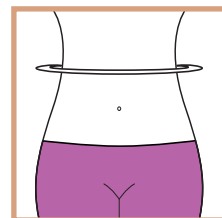
BMI (kg/m ²)*	Status	Risk of Chronic illnesses
Less than 18.5	Underweight	Low (but the risk of other clinical problems are increased)
From 18.5 to 24.9	In the normal range	Average**
From 25.0 to 29.9	Overweight	Increased
30 or above	Obese	Moderate to severe

* The BMI cut-offs indicated above apply to women aged 18 years and above

** More attention should be given to individuals whose BMI is more than 23 kg/m²

Waist circumference

- Fat that accumulates around the waist and stomach area (abdominal fat) poses greater health risk than fat stored in the lower half of the body.
- Waist circumference is a convenient measure of the extent of abdominal fat.
- To measure a woman's waist circumference, place a measuring tape around her abdomen just above the navel. Ensure that the tape is snug, but does not squeeze or compress the skin.
- A waist measurement of over 32 inches or 80 cm is unhealthy.

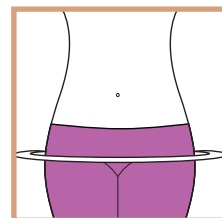


3 Waist-to-hip ratio

- A woman with a normal BMI can still be at high risk of chronic diseases if her waist measurement is much greater than her hip measurement.
- To measure a woman's hip circumference, place the measuring tape at a level where her hip is the widest.
- Here is how to calculate waist-to-hip ratio:

$$\text{WHR} = \frac{\text{waist circumference (cm)}}{\text{hip circumference (cm)}}$$

- A waist-to-hip ratio of more than 0.85 is unhealthy.



strategies for managing overweight & obesity

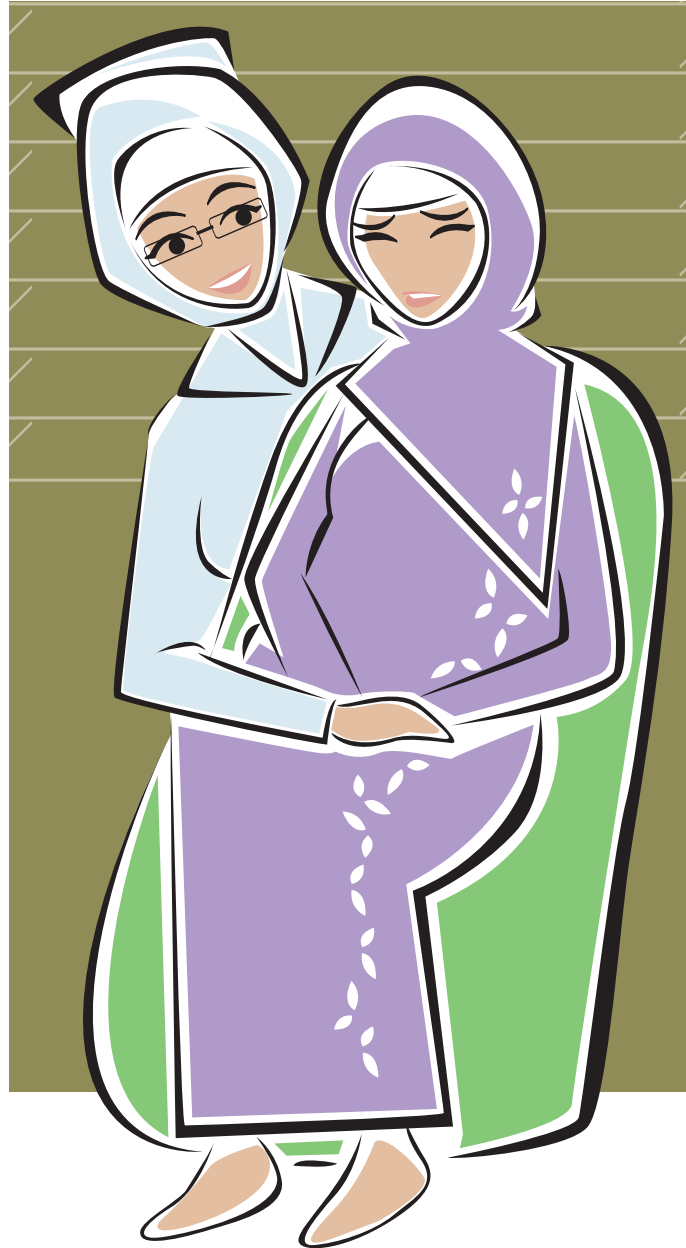
A woman whose body weight status falls into the overweight or obese category is at great risk of developing coronary heart disease, stroke, diabetes, high blood pressure and certain cancers, particularly of the endometrium, kidney and breast. Excessive weight also aggravates osteo-arthritis and breathing problems.

A weight reduction of 5 to 10% can significantly reduce these health risks. To achieve this, healthcare professionals can recommend a sensible weight loss plan that combines regular physical activity and healthy eating habits that will ensure effective and sustainable weight loss.

Encourage women to incorporate the plan into their daily lifestyle. Advise them not to be misled by weight loss methods that promise quick results with little or no effort.

Practical weight loss plan

For a weight loss of 0.5 to 1kg per week, it is required that energy be reduced by 500 to 1000 kcalories per day through a combination of lower calorie intake and increased physical activity.



The table below outlines some practical steps to take:

Table 5: Practical weight loss plan

Step 1: Set a realistic weight loss goal

- Based on the BMI, determine amount of excess weight.
- Set an achievable weight loss goal and time frame.
- Aim to lose no more than 0.5 to 1 kg per week.
- Weigh once a week to monitor weight status.

Example: A woman with a height measurement of 1.6m and a body weight of 80kg has a BMI of 31.25kg/m². To reach a BMI of 25, she needs to achieve a body weight of 64kg. In this case, her excessive body weight is 80kg – 64kg = 16kg. However, this might be too daunting for her to achieve in a short time. Encourage her to reduce her weight gradually, starting with a goal of 5% (4kg) to 10% (8kg) reduction in two to four months.

Step 2: Include physical activity

- Exercise 60 to 90 minutes daily. For inactive individuals, start by exercising for at least 20 minutes and increase the duration gradually.
- Do exercises of moderate intensity such as brisk walking, jogging, dancing, swimming or cycling. Choose enjoyable activities that are appropriate to health condition.
- Take up recreational sports such as badminton and tennis.

Step 3: Start moving

- Incorporate physical activities into daily routine.
- Take the stairs instead of using the elevator or escalator.
- Walk instead of driving for short distances.
- Do chores around the house, wash the car or take up gardening.

Step 4: Eat right

- Eat less high-calorie foods that are high in fat and sugar (refer to Appendix 1 for a list of common foods along with their calorie content).
- Increase fibre intake from fruits and vegetables, as well as legumes, whole grains and cereals.
- Make a conscious effort to reduce serving size.
- Avoid overeating and nibbling.
- Eat regular meals; skipping meals may result in unhealthy snacking or overeating at the next meal.

Unsafe weight loss methods

Beware of unsafe weight loss methods that may cause health problems and even pile on more pounds in the long run.

- Products and practices that promise quick weight loss may be unsafe and ineffective.
- Fad diets may lead to nutrient deficiencies or imbalances.
- Self-induced vomiting, use of laxatives or diuretics may result in nutrient deficiencies and cause health problems.

Close monitoring

- The woman who is trying to lose weight should monitor her progress by weighing herself regularly.
- Effective weight management requires a change in lifestyle and therefore, requires continuous motivation and support from a healthcare professional, as well as from family and friends.
- In cases where obesity is extreme, related to health complications, or connected to psychological factors, make appropriate referrals to the relevant experts who can prescribe further advice or treatment.

strategies for managing underweight

When a woman is underweight, she is at risk of nutrient deficiency, a lowered resistance to infections, chronic fatigue, anaemia and amenorrhoea. The functions of her pituitary, thyroid and adrenal glands as well as her gonads may also be affected.

Assess the cause and extent of underweight before recommending weight gain strategies. Women whose weight is in the lower end of the normal BMI range may not need to gain weight if they are healthy.

A woman who is underweight due to inadequate or inappropriate food intake needs to adopt a practical weight gain plan that can be easily followed.

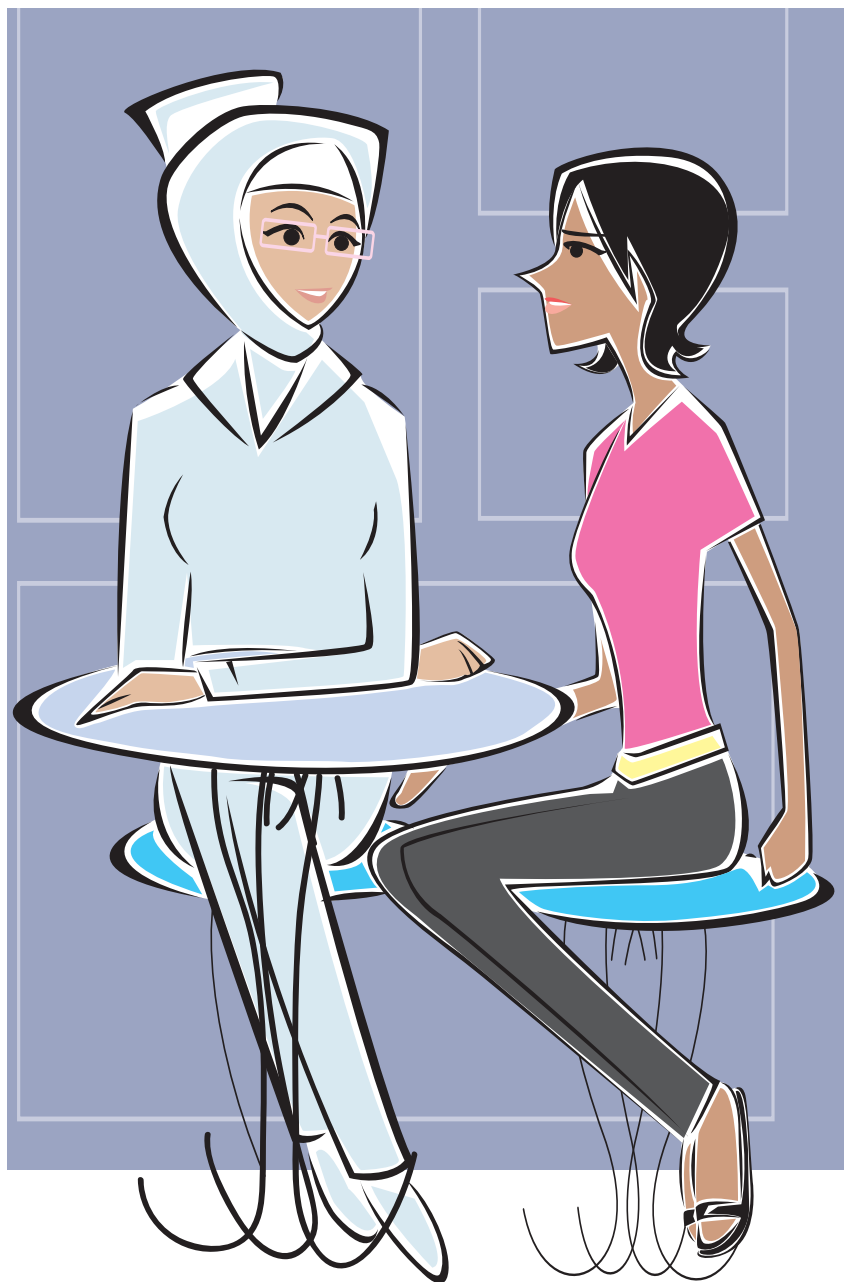


Table 6: Practical weight gain plan

Step 1: Set a weight gain goal

- Based on the BMI, determine amount of weight to be gained.
- Set a realistic weight gain goal and time frame.
- Weigh once a week to monitor weight status.

Step 2: Physical activity

- Continue with an active lifestyle and carry out weight lifting exercises to build muscles.
- Avoid strenuous exercises.

Step 3: Adopt a healthy lifestyle

- Get sufficient sleep and rest.
- Avoid excessive stress.
- Quit smoking.

Step 4: Increase Energy Intake

- Adding 500 to 1000 kcalories per day to her current energy intake enables a body weight gain of approximately 0.5 to 1 kilogramme per week.
- A list of common foods along with their calorie content can be found in Appendix 1.
- All women are different and it is therefore, important to personalise the weight gain programme.

Step 5: Eat Right

- Choose energy and nutrient-dense foods such as dairy products, nuts, dried fruits and eggs.
- Ensure mealtimes are scheduled and relaxed.
- In addition to larger, regular meals, take healthy snacks throughout the day.

Uncertain weight gain methods

Unproven weight gain methods, including the following should be avoided:

- Appetite stimulants
- Weight gain supplements

Advise the woman to consult a nutritionist or dietitian.

Referrals

- In cases where weight gain is difficult despite much effort, make appropriate referrals to the relevant experts who may prescribe further advice or treatment.

managing poor body image & eating disorders

A woman with a good body image has a positive view of her physical appearance, size, shape and weight. A good body image greatly influences her self-esteem and confidence.

Body image perceptions develop during childhood and dissatisfaction tends to be at its strongest during adolescence and young adulthood.

The constant effort to achieve the perceived “ideal” body image may lead to the development of eating disorders such as anorexia nervosa, bulimia nervosa or compulsive overeating. Eating disorders can result in severe nutrient deficiency and in extreme cases, even death.

Therefore, it is important to help women develop a good body image by helping them understand and accept their bodies.

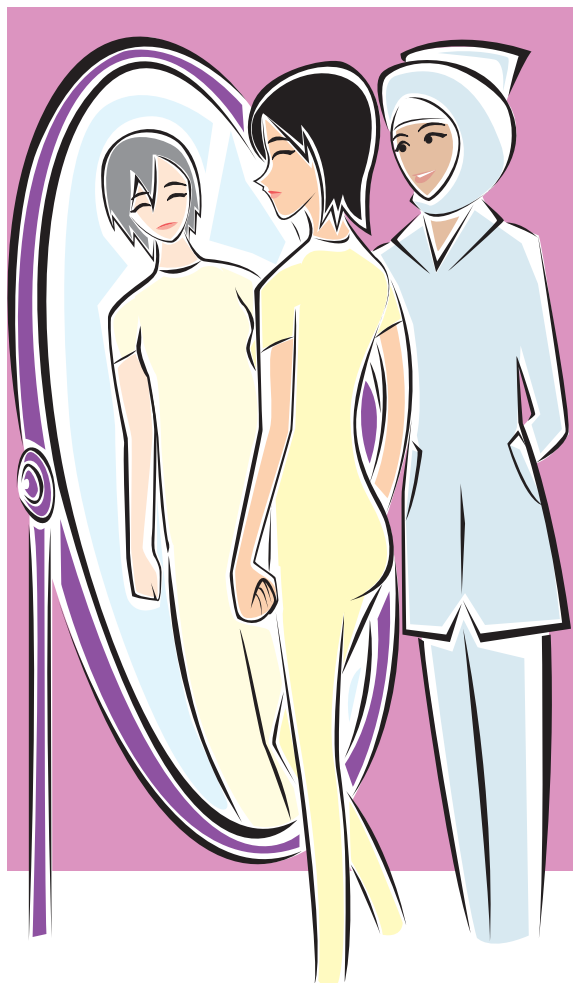
Assessing a woman's body image perception

First, measure the woman's BMI (refer to Section 2, Chapter 2). Then, ask her the following questions:

- Do you feel that you are thin, normal or fat?
- Do you want your body weight to decrease, remain the same or increase?

Question (a)

- If her answer coincides with her actual BMI measurement, this means that she has an accurate perception of her body weight.
- If her answer does not coincide with her BMI, this means that she has a distorted perception of her body weight. In this case, advise her on how to develop a good body image (refer to the section *Developing a good body image*).



Question (b)

- Compare her BMI with her desired weight change. The appropriate response should fall into the boxes with a tick (see table below).
- If her response falls into any of the boxes marked with an 'x', inform her that it is not advisable. For instance, an underweight or normal weight woman should not wish to further decrease her weight.

Table 7: Correlation between Body Mass Index and Desired Weight Change

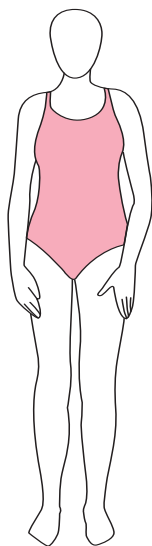
BMI – Desired weight change	Underweight	Normal weight	Overweight
Decrease	x	x	✓
Remain the same	x	✓	x
Increase	✓	x	x

Developing a good body image

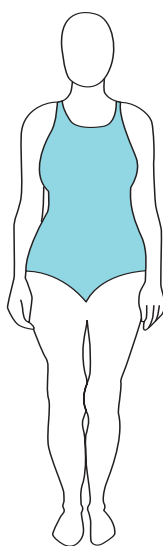
If your assessment identifies the woman as having a poor body image, do advise her on how to develop a good body image.

Be realistic

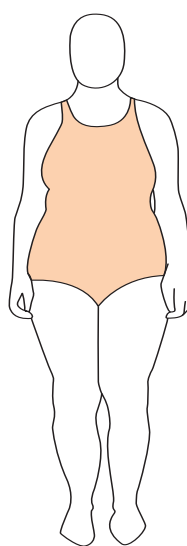
- Help the woman identify her natural body shape based on the diagram below:



Ektomorph



Mesomorph



Endomorph

- Encourage her to accept her natural shape and be realistic about how she should look.
- Advise her to groom herself well and dress to enhance her body shape so that she looks her best at all times.

Disregard negative influences

- Realise that the media's portrayal of the 'ideal' female body is often unrealistic and in most cases, unachievable.
- Limit interactions with people who are critical of their physical appearance.

- Avoid basing their self-worth on other people's opinions or remarks.
- Do not allow their desire to be loved or accepted by others distort their body image.

Eat right and exercise daily

- A balanced and varied diet according to the Food Guide Pyramid (refer to Section 1, Chapter 3) is the foundation for a healthy diet.
- Stay away from starvation diets, crash diets, yo-yo dieting, weight-loss supplements and medications as these may cause medical problems and even more weight gain in the long run.
- Avoid smoking as it affects the body's intake of vitamins, minerals and fibre.
- Avoid alcohol as it is high in empty calories which lead to weight gain.

Detecting an eating disorder

- Poor body image can lead to eating disorders such as anorexia nervosa, bulimia nervosa or compulsive overeating disorder. If your assessment shows that the woman has a poor body image, conduct a SCOFF Eating Disorders Test (refer to Appendix 2).

Managing eating disorders

- The treatment of eating disorders can be a long process because of the emotional and psychological issues involved.
- Healthcare professionals need to handle women with eating disorders with great care and sensitivity.
- Refer women with symptoms of eating disorders to trained and experienced psychologists, nutritionists and dietitians for counselling and therapy.

Section *three*

pregnancy & birth

Chapter 1 pre-pregnancy nutritional
status 33

Chapter 2 nutritional needs in
pregnancy 35

Chapter 3 nutrition after birth &
during lactation 39



pre-pregnancy nutritional status

A woman who has been practicing sound eating habits enters pregnancy with full nutrient stores and a healthy body weight. Any extra care she takes during her pregnancy will further benefit her and her unborn child.

When counseling a woman who intends to have a baby, assess her body weight status and dietary practices. Help her understand the importance of a healthy body weight before pregnancy because being overweight or underweight will increase her risk pregnancy and labour complications. Her body weight will also affect the birth weight of her baby and the baby's current and future health status.

Nutritionally prepared for pregnancy

Proper pre-pregnancy nutritional status is very important to ensure healthy foetal growth and development:

- Rapid multiplication of cells to form support tissues that are essential for foetal development (such as the placenta, amniotic sac, umbilical cord and the expanding uterus) begin from the moment of conception and often, before the woman becomes aware of her pregnancy (most often, six weeks after conception).
- The foetus' neural tube closes as early as 28 days (4 weeks) after conception.

Implications of body weight on pregnancy

- Pre-pregnancy body weight affects the progression and outcome of pregnancy.

Underweight women are at greater risk of:

- Giving birth to a low-birthweight baby, especially if they do not gain enough weight during pregnancy.
- Haemorrhaging during delivery.
- Giving birth to premature babies or babies with congenital deformities



Overweight women are at risk of:

- Difficulty in conceiving.
- Developing gestational diabetes which may result in the birth of big babies (weighing over 4 kg) and other complications.
- Risk of hypertension which may develop into pre-eclampsia.

Low birth weight babies

- More likely to develop complications that affect the vital organs
- More susceptible to infections
- More likely to die in the first month of life
- Predisposed to chronic diseases like type 2 diabetes, hypertension and heart disease later in life
- More likely to have lower IQ, and brain and sensory impairments.

Big babies

- At greater risk of growing into overweight children and adults
- Predisposed to chronic diseases like type 2 diabetes, hypertension and heart disease later in life

Pre-pregnancy body weight status and dietary practices

- Body weight status:
 - To determine appropriateness of body weight status, please refer to Section 2, Chapter 2.
 - For overweight women, refer to Section 2, Chapter 3 for appropriate weight loss measures.
 - For underweight women, refer to Section 2, Chapter 4 for guidelines on weight gain.
- Dietary practices:
 - Emphasise the importance of achieving optimum nutritional status in preparation for a healthy pregnancy.
 - This is especially important because women's nutritional needs increase during pregnancy, especially for folic acid, iron and calcium.
 - To provide advice on healthy eating guidelines, please refer to Section 1, Chapter 3.

2

nutritional needs during pregnancy

When a woman becomes pregnant, the nutritional requirements outlined in Section 1 of this booklet no longer suffice. Her nutritional needs increase tremendously and healthcare professionals need to assist her in ensuring that all these needs are met.

Pregnant women can meet most of their increased nutritional needs by consuming a variety of nutrient-dense foods. These foods will provide her and baby with much needed nutrients while ensuring sufficient weight gain throughout her pregnancy. Good nutrition will also help alleviate common pregnancy problems such as morning sickness, heartburn and constipation.

Pregnant women need to take extra care with their eating habits during this time as they are also preparing their bodies for the challenges of lactation.



Nutrient needs during pregnancy

- The need for all nutrients increases, especially during the second and third trimesters (please see Table 8).
- Dramatic increases are seen for energy, protein, Vitamin B1, Vitamin B2, Vitamin B3, folate, Vitamin A, Vitamin C, Vitamin E, calcium, iodine and zinc.
- The increased need for iron is so tremendous that it cannot be adequately met by normal diet alone.
- The requirements for essential fatty acids (alpha linolenic acid and linoleic acid) are increased to meet the needs of the developing fetus.

Table 8: Comparison of Nutrient Requirements between Non-Pregnant Women and Pregnant Women

Nutrient	Non-Pregnant Women	Pregnant Women	
	19 – 50 years	2nd trimester	3rd trimester
Energy (kcal/day)	2000 – 2180	+360	+470
Protein (g/day)	55	+7.5	+7.5
Vitamin B ₁ (mg/day)	1.1	1.4	1.4
Vitamin B ₂ (mg/day)	1.1	1.4	1.4
Vitamin B ₃ (mg/day NE)	1.1	1.4	1.4
Folat (µg DFE/day)	400	600	600
Vitamin A (µg RE/day)	500	800	800
Vitamin C (mg/day)	70	80	80
Vitamin E (mg TE/day)	7.5	10	10
Calcium (mg/day)	800	1000	1000
Iron* (mg/day)	20*	**	**
Iodine (µg RE/day)	110	200	200
Zinc (mg/day)	4.9	7.0	10.0

* Based on bioavailability of 15%.

**Iron supplements in tablet form are recommended for all pregnant women. In non-anaemic pregnant woman, daily supplements of 100 mg iron given during the second half of pregnancy are adequate. In anaemic women, higher doses are usually required.

Source: Recommended Nutrient Intakes for Malaysia (RNI), Malaysia. 2005

Healthy diet during pregnancy

- A pregnant woman should eat sufficiently for herself and her unborn child but this does not mean that she needs to double her food portions.
- A pregnant woman is encouraged to eat a varied and balanced diet comprising foods shown in the Food Guide Pyramid in Section 1, Chapter 3.
- Emphasis should be given to a variety of nutritious foods, as listed in Table 9:

Table 9: Nutrient and Food Sources

Nutrient	Food Sources
Calcium	Milk and dairy products, fish with edible bones (eg. canned sardine, ikan bilis), beans and bean products including yellow dhal, tofu and tempeh (fermented soybeans), vegetables like spinach, watercress, mustard leaves, cekur manis, tapioca leaves, kai-lan and broccoli, calcium-fortified products such as high-calcium milk, yogurt, breakfast cereals, biscuits and rice.
Iron	Fresh cockles, anchovy (whole), liver, lean meat, chicken, egg, chickpea, fried soya bean curd, fern shoots (pucuk paku), bitter gourd, spinach and kangkung. <u>Note:</u> a) Daily iron supplements are highly recommended. b) Iron sources are best taken with foods rich in vitamin C for better absorption.
Iodine	Seafoods such as cockles, mussels, marine fish, seaweed, eggs, meat, milk and milk products, cereal grains, dried legumes, dried vegetables and dried fruits.
Zinc	Meat, fish, shellfish, nuts, seeds, legumes and whole grain cereals (especially bran and germ).
Folate	Green leafy vegetables, lady's fingers, asparagus, lentils and legumes, fortified grain products and liver.
Vitamin A	Liver, milk, eggs, yellow and red coloured fruits (mangoes, papaya), yellow and red coloured vegetables (carrot, pumpkin) and green leafy vegetables.
Vitamin B₁	Yeast, lean pork and legumes, fortified products such as bread, cereal products and biscuits.
Vitamin B₂	Legumes (chickpeas, lentils, red and black gram and soya bean), meat, hen eggs and beef extract.
Vitamin B₃	Beef, liver, pork, fish, anchovies, peanuts and other nuts, whole grains and whole-meal wheat flour.
Vitamin E	Vegetable oils, seeds, nuts and cereal grains.

Sumber: Recommended Nutrient Intakes for Malaysia (RNI), Malaysia, 2005

Are supplements necessary during pregnancy?

- Daily iron supplements are encouraged for all pregnant women because most are unable to meet the exceptionally high demands of iron from normal diet alone.
- Daily multivitamin-mineral supplements may be required by pregnant women who do not eat adequately and for those in high-risk groups such as teenagers, women over 40, as well as those who are carrying multiple fetuses.
- Women who are pregnant or planning to have a baby should avoid taking excessive amounts of Vitamin A as this can increase the risk of foetal deformity.

Weight gain during pregnancy

- Women who are underweight or of normal weight should experience a progressive weight increase of approximately 12.5 kg (about 25% of their pre-pregnancy weight) by their full term.
- For such women, weight will tend to increase by 0.5kg/month in the first five (5) months and 0.5kg/week in the last trimester.
- Overweight women should not gain a total of more than 9-12kg whereas very obese women should not exceed total weight gain of 6-9kg.
- Adequate nutrient intake during pregnancy will result in weight gain that falls within the recommended range.

Food cravings and aversions

- Food cravings and aversions do not reflect physiological needs and tend to arise due to hormone-induced changes in taste and sensitivities to smells.
- Cravings and aversions, especially of short duration, that do not result in marked changes in nutrient intake will probably not affect the nutritional status.

Table 10: Nutritional recommendations for common pregnancy problems

Problem	Causes	What to do
Morning sickness	<ul style="list-style-type: none"> • Hormonal changes that normally occur in the early stages of pregnancy 	<ul style="list-style-type: none"> • Eat dry toast or crackers when nauseated • Eat frequent small meals as often as possible when not feeling nauseated • Avoid foods with offensive odours • Take prenatal vitamin and iron supplements if prescribed, on a full stomach or when feeling well • Consult the doctor if vomiting is severe and prolonged
Heartburn	<ul style="list-style-type: none"> • The pressure put by the growing fetus on the stomach causes acid to back up and create a burning sensation in the throat 	<ul style="list-style-type: none"> • Eat frequent small meals • Drink liquids between meals • Avoid spicy or greasy foods • Sit up while eating • Wait an hour after eating before lying down • Wait 2 hours after eating before exercising
Constipation	<ul style="list-style-type: none"> • Reduced gut motility • Lack of physical activity • Pressure put on the bowel by the enlarged uterus 	<ul style="list-style-type: none"> • Take fibre-rich foods (eg. wholegrain bread and cereals, vegetables, fruits) • Drink plenty of fluids • Drink prune juice or eat prunes • Go to the lavatory as soon as bowel movements are felt • Perform appropriate, light exercise
Gestational diabetes/impaired glucose tolerance	<ul style="list-style-type: none"> • Altered regulation of insulin due to placental hormones 	<ul style="list-style-type: none"> • Continue close monitoring of progress of pregnancy and blood sugar level by O&G specialist and dietitian • Emphasise importance of diet to control blood sugar level and to ensure normal development of the fetus
Pregnancy-induced hypertension (preeclampsia and eclampsia)	<ul style="list-style-type: none"> • A syndrome characterised by hypertension, proteinuria and fluid retention (edema) 	<ul style="list-style-type: none"> • Consume recommended daily amount of calcium

nutrition after birth & during lactation

Breast milk is best for baby. It is recommended that baby be exclusively breastfed for up to six months and maintained on breast milk up to two years or more, if possible.

The nutrition baby receives during the first six months of life strongly influences his health for the rest of his lifetime. Being his primary source of nourishment, it is essential for mother to continue her diet of nutrient-dense foods by enjoying healthy meals and taking fluid regularly.

Restricting food intake to try to lose the pounds gained from pregnancy is not advisable. Breastfeeding naturally helps in reducing excess body weight gained during pregnancy.

A proper diet enhances the quantity and quality of the milk mother produces while keeping her in good health and providing her with the energy to care for baby. All these benefits ultimately promote the growth and development of her baby.



Nutrient needs during lactation

- The need for most nutrients are high especially during the first six months of lactation (please see table 11).
- The greatest increases are for energy, protein, Vitamin B1, Vitamin B2, Vitamin B3, folate, Vitamin A, Vitamin C, calcium, zinc and iodine.

Table 11: Comparison of nutrient requirements between non-pregnant women and lactating women

Nutrient	Non-Pregnant Women	Lactating Women		
	19 – 50 years	0 – 3 months	4 – 6 months	7 – 12 months
Energy (kcal/day)	2000 – 2180	+500	+500	Depends on amount of breast milk produced
Protein (g/day)	55	+20	+20	+15
Vitamin B ₁ (mg/day)	1.1	1.5	1.5	1.5
Vitamin B ₂ (mg/day)	1.1	1.6	1.6	1.6
Vitamin B ₃ (mg NE/day)	14	17	17	17
Folate (µg/day of DFE)	400	500	500	500
Vitamin A (µg RE/hari)	500	850	850	850
Vitamin C (mg/day)	70	95	95	95
Vitamin E (mg TE/hari)	7.5	7.5	7.5	7.5
Calcium (mg/day)	800	1000	1000	1000
Iron* (mg/day)	20*	10	10	10(21) **
Iodine (µg RE/day)	110	200	200	200
Zinc (mg/day)	4.9	9.5	8.8	7.2

* Based on bioavailability of 15%

** Lactating women with menstruation.

Source: Recommended Nutrient Intakes for Malaysia (RNI), Malaysia. 2005

Healthy diet during lactation

Eat a variety of foods according to the Food Guide Pyramid in Section 1, Chapter 3.

- Eat and drink according to the recommended intakes. There are no specific food restrictions required.
- A list of recommended foods rich in essential nutrients can be found in Section 3, Chapter 2.
- It is important for lactating women to stay hydrated.
 - To prevent dehydration, drink at least 6 to 8 glasses of fluids a day.
 - Drink frequently throughout the day and not only when feeling thirsty.
 - Increase the amount of fluids a day by consuming soup, gravies and fruits.

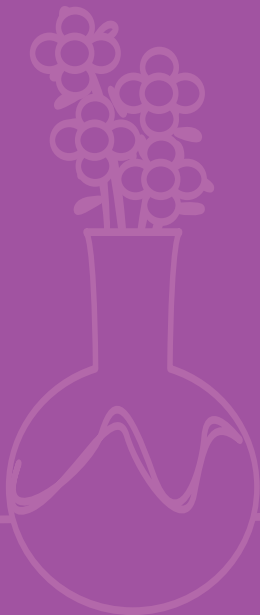
Section

four

ageing & nutritional well-being

Chapter 1 ageing & its effects on nutritional
status 42

Chapter 2 ageing & its Effects on Nutritional
Status 44



ageing & its effects on nutritional status

The nutritional needs of a sixty-year-old woman are different from those of a forty-year-old. As a woman ages, she goes through a host of physiological, psychological and social changes. Her strength decreases, her immune system declines and her bodily functions become less efficient. As a result, some of her nutritional needs may be different from when she was younger.

We need to make appropriate recommendations for ageing women to meet their nutritional needs, taking into account the possibility that her appetite and ability to eat may also be affected.

Proper nutrition during this time will help ensure their well-being and may reduce the incidence of common old age ailments.

Changes due to ageing

Physiological changes

- Lean body mass will dramatically decline as fat mass increases over adulthood.
- Bone loss commences from age 30 and the rate increases dramatically after menopause.
- Reduced sense of taste and smell.
- Loss of teeth and poor dentition leading to difficulties in chewing and swallowing.
- Gastrointestinal functions become less effective and efficient (eg. Production of digestive juices, gut motility and nutrient absorption).
- Changes in hormonal balance may adversely affect metabolism in general.
- Decreased ability to sense thirst, coupled with declining renal function, lead to increased risk of dehydration.



Social & psychological changes

- The loss of loved ones, the lack of social support, the inability to work, decreased mobility, poor self-worth can lead to suppressed appetite and other eating problems.

Health Conditions

- Increased susceptibility to infection due to weakened immune system, which may affect nutritional intake.
- Nutrient needs and the body's response to nutrients may be altered when medications are taken.
- Certain medical conditions can reduce the appetite or decrease the absorption of nutrients.

Changes in nutritional needs

- There is an increased need for calcium, Vitamin A and Vitamin D while there is a decreased need for energy, protein, iodine and zinc.
- There are no changes for the other nutrients.

Table 12: Comparison of nutrient requirements between women aged 19-59 years and women aged more than 60 years

Nutrient	19 – 59 years	≥ 60 years
Energy (kcal/day)	2000 – 2180	1780
Protein (g/day)	55	49
Vitamin B ₁ (mg/day)	1.1	1.1
Vitamin B ₂ (mg/day)	1.1	1.1
Vitamin B ₃ (mg/day of NEs)	14	14
Folate (µg/day of DFE)	400	400
Vitamin C (mg/day)	70	70
Vitamin A (µg RE/day)	500	(600 ^{**})
Vitamin D (µg /day)	5 (10 [*])	10 (15 ^{**})
Vitamin E (mg/day)	7.5	7.5
Calcium (mg/day)	800 (1000 [*])	1000
Iron [*] (mg/day) Bioavailability of 15%	20 (8 [*])	8
Iodine (µg RE/day)	110	110 (98 ^{**})
Zinc (mg/day)	4.9	4.9 (4.3 ^{**})

* > 51 years

** > 65 years

Source: Recommended Nutrient Intakes for Malaysia (RNI), Malaysia, 2005

good nutrition for healthy ageing

A combination of good nutrition and regular physical activity is the secret to healthy ageing. Encourage ageing women to enjoy a variety of nutritious foods. And there is nothing like regular exercise to maximise the health benefits of eating well.

It is natural for ageing women to experience conditions such as chewing and swallowing difficulty, a poor appetite, reduced sense of taste or poor digestion. All these can be addressed and overcome with the right foods and practices.

Caring for the elderly is a challenging, yet highly rewarding task. By being understanding, gentle and most of all, patient, we can help them enjoy their golden years.

Healthy eating

Eat a variety of foods from each food group in the Food Guide Pyramid in Section 1, Chapter 3.

- Choose the lower number of the recommended serving size of each level in the Food Guide Pyramid.
- Opt for foods with high fibre content such as legumes, wholegrain cereals (eg. brown rice, wholemeal bread and oats).
- Eat a combination of dark green, orange, red and yellow fruits and vegetables to obtain a wide range of important vitamins, minerals and other healthful food components. Consume fruit and vegetable juices with the pulp.
- Eat a variety of lean meat, poultry, fish and egg dishes. Eat legumes several times a week.
- Consume milk and other dairy products daily.
- Fat, sodium and sugar should be kept to the minimum. Limit intake of foods containing animal fats and santan.



- Ageing women with eating difficulties are encouraged to choose foods that are nutrient dense foods such as dairy products, eggs, soya products (eg. soya milk, tau foo fah and tempeh) and packaged foods that are enriched/fortified with vitamins and minerals (eg. breakfast cereals, breads, biscuits, cereal drinks and malted beverages).

Staying hydrated

- Do not forget to drink at least 6 to 8 glasses of water a day. Fluids can also come from milk, beverages, soups, fruits and vegetables.

Keeping fit

- Perform a variety of aerobic and strength training exercises daily to stay fit and flexible.
- Set aside 30 to 40 minutes for aerobic activities at least 3 to 5 times a week. Appropriate aerobic exercises are such as:
 - Walking
 - Cycling
 - Swimming
 - Aquarobics
- Perform strength training exercises 2 to 3 times a week with light to moderate weights.
 - Begin with 15 to 20 repetitions
 - Train all major muscle groups
 - There should only be mild discomfort, not pain
 - Use a chair or other aids for support and stability if necessary
- Begin and end every exercise session with light stretching 5 to 10 minutes:
 - Before an exercise session, the stretching sequence should be from head to toes and after an exercise session, from toes to head
 - Breathe in and out naturally; do not hold breath
 - Stretch muscles gently so that slight discomfort is felt, not pain

Overcoming common eating problems

The table below lists the common eating problems of elderly women along with the proper dietary modifications.

Table 13: Common eating problems faced by elderly women

Eating Problem	Do's
Chewing and swallowing difficulty	<ul style="list-style-type: none"> • Cut food into smaller pieces by chopping or mincing; mash or puree if necessary. • Cook food thoroughly until tender. • Choose watery foods such as porridge, soupy foods and foods with gravy. • Avoid foods that are coarse, hard or sticky. • Accompany dry foods with soup, milk or other beverages.
Reduced sense of taste	<ul style="list-style-type: none"> • Season food with herbs and spices, ginger, spring onion, garlic, lemon, lime and tamarind (asam). • Avoid excessive amounts of salt or sauces.
Dry mouth as a result of reduced saliva production	<ul style="list-style-type: none"> • Drink soup or water to moisten the mouth before eating. • Take some pickles, acar, jeruk or kerabu as an appetiser to stimulate saliva production. • Do not attempt to stimulate saliva production with salted foods such as salted fish, salted eggs and salted vegetables (<i>kiam-chai</i>).
Poor digestion	<ul style="list-style-type: none"> • Have small, frequent meals throughout the day. • Chew slowly. • Cut down caffeine or alcohol right after mealtimes. • Perform light physical activities to aid digestion. • Do not eat hot and spicy foods. • Avoid fried or high fat foods.
Reduced appetite	<ul style="list-style-type: none"> • Encourage foods that they enjoy. • Whenever possible, have meals in the company of friends and family. • Have small, frequent meals at fixed times throughout the day. Set reminders to eat. • Choose nutrient dense snacks such as tau foo fah, wholemeal biscuits or egg/sardine sandwiches. • Make each meal as nutritious as possible (eg. by adding minced meat, fish, beancurd, egg, potato or dried beans to porridge, noodles or soup). • Serve food in a manner that is attractive and appetising.

Feeding assistance

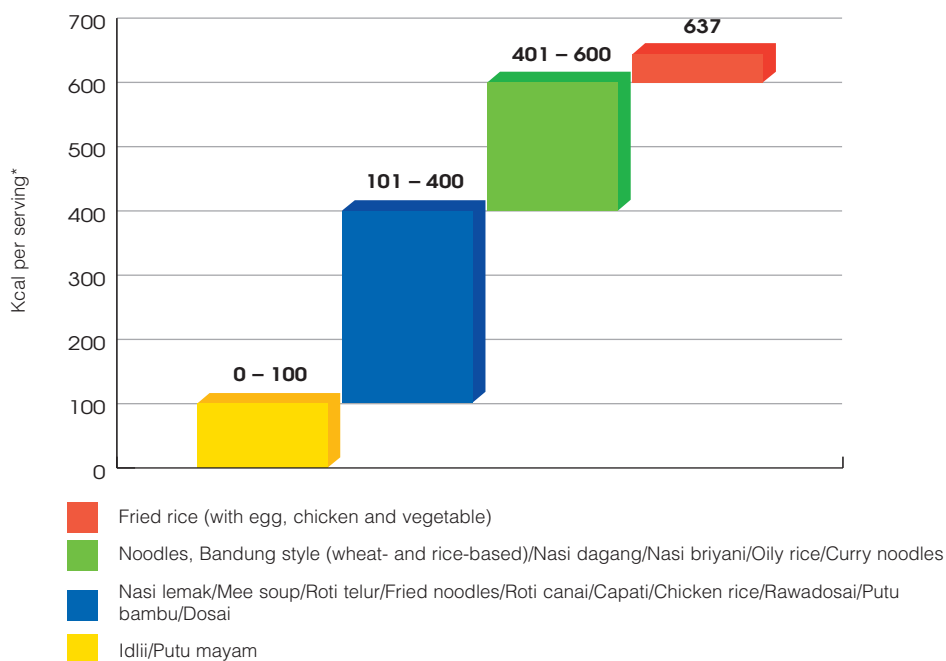
Elderly women who are unable to feed themselves require feeding assistance in order to ensure adequate food intake and prevent nutrient deficiency.

- Educate the spouse, children, maid or other caregiver on the elderly woman's nutritional needs and how to feed her every day, including aspects such as:
 - Appropriate food choices and preparation methods
 - Appropriate feeding utensils
 - Correct feeding methods
 - Appropriate feeding times
- Advise caregivers to always be patient, understanding and encouraging.

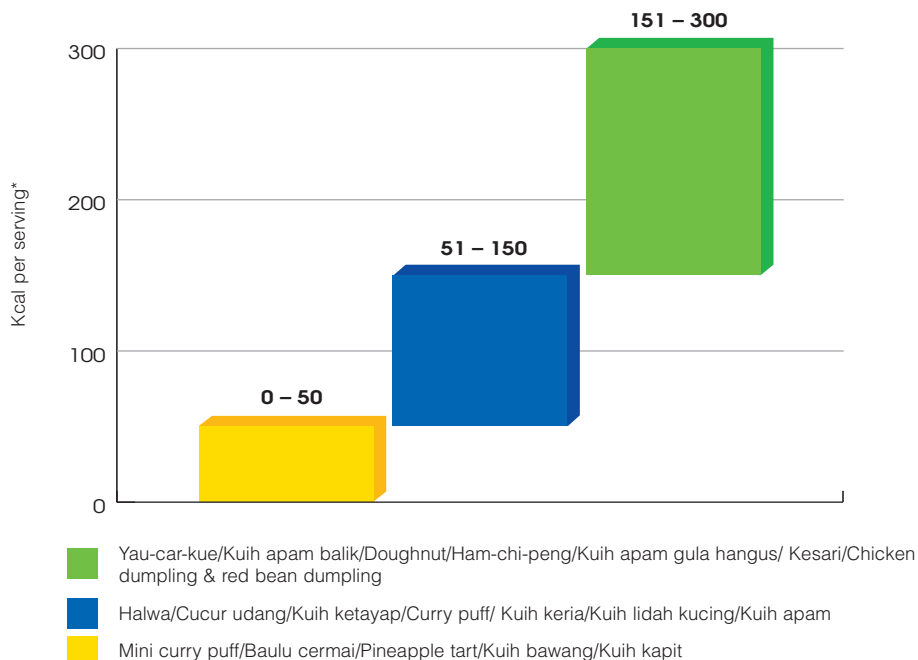
Appendix 1 Calorie Content Charts of Foods

Source: *Resipi Sihat, Pilihan Bijak, Volume 1, Nutrition Society of Malaysia with the collaboration of Ministry of Health Malaysia. 2002.*

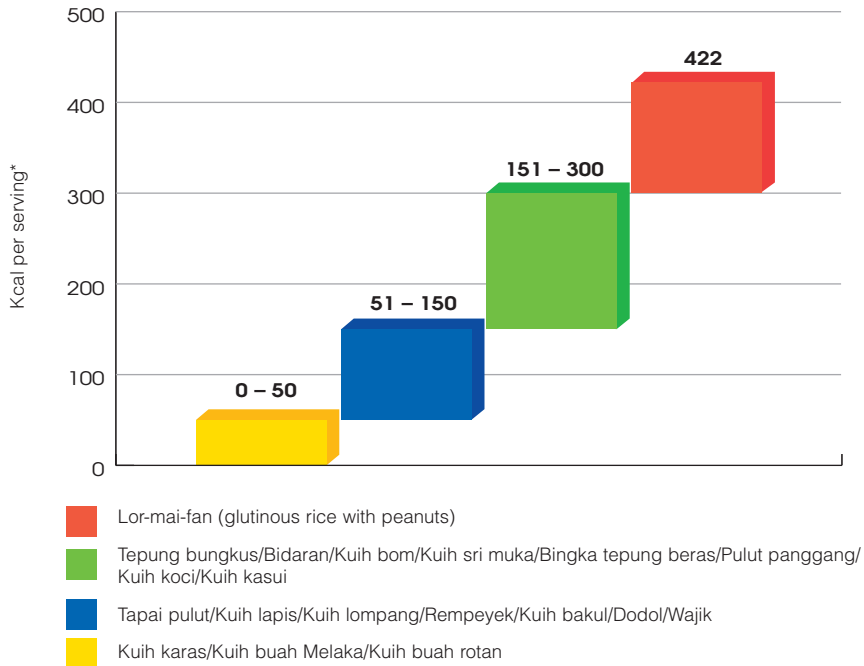
Calorie content of selected dishes and meals



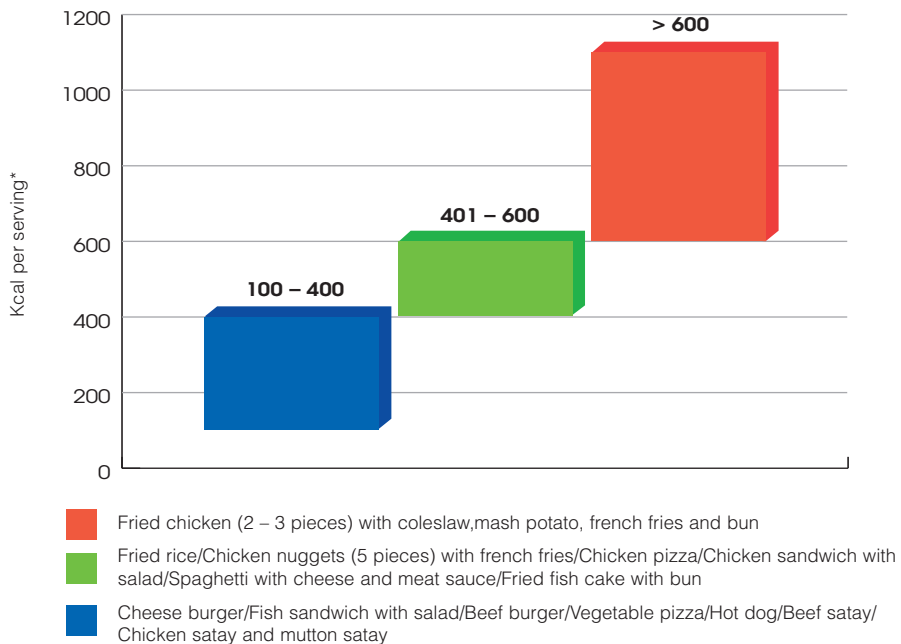
Calorie content of traditional kuih: wheat flour-based



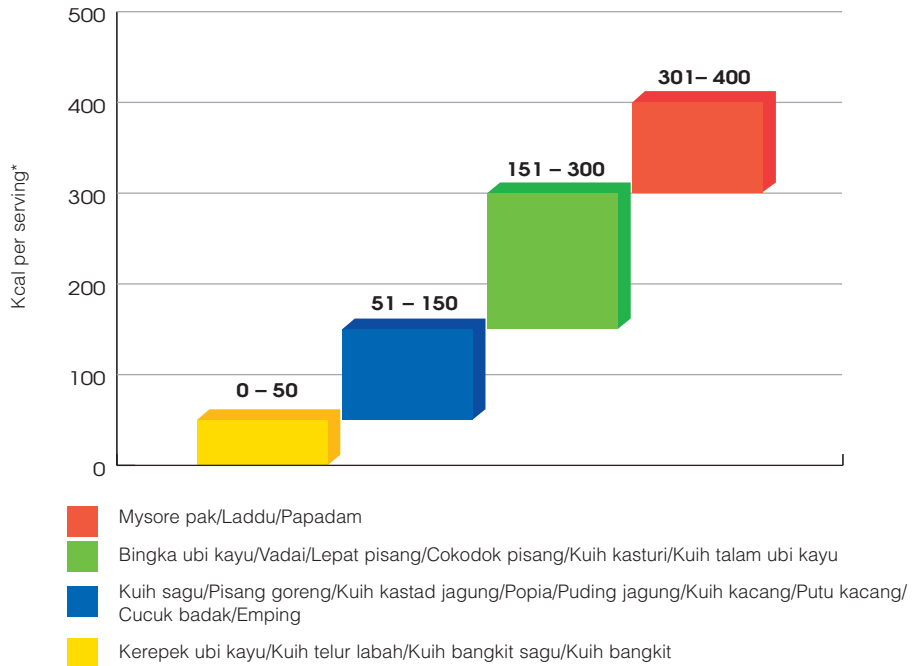
Calorie content of traditional kuih: rice and rice flour-based



Calorie content of franchised 'fast foods'



Calorie content of other traditional kuih



For a copy of Resipi Sihat, Pilihan Bijak Volume 1 dan Volume 2,
please visit <http://www.nutriweb.org.my>

Appendix 2 SCOFF Eating Disorders Test

Please make copies for clinic use

Name: _____

Date: _____

1. Do you make yourself sick because you feel uncomfortably full?
☐ Yes ☐ No
2. Do you worry that you have lost control over how much you eat?
☐ Yes ☐ No
3. Have you recently lost more than 6 kilogrammes in a three-month period?
☐ Yes ☐ No
4. Do you believe yourself to be fat when others say you are too thin?
☐ Yes ☐ No
5. Would you say that food dominates your life?
☐ Yes ☐ No

Two or more positive answers indicate a possible case of anorexia nervosa or bulimia nervosa.



IMPROVING LIVES *through* **NUTRITION**

As a professional organisation, we are guided by a simple belief – the more people understand food and nutrition, the better they can care for their health and well-being.

This is the reason why we support the advancement of research, sharing practical insights and important discoveries for the benefit of all.

Working with Government and Industry, we help shape the laws, policies and practices that protect the public's right to safe and nutritious food products.

In caring for the community, we strive to make health eating a way of life to safeguard the young and old against the risk of diet-related diseases.

We are committed to improving lives through nutrition. It's our way of serving Malaysia.

Our Activities

- Annual scientific conferences
- Scientific update sessions
- Malaysian Journal of Nutrition
- Berita NSM
- Consultation with health, regulatory & scientific bodies
- Roadshows & exhibitions with nutrition screening & dietary advice for the public
- Public talks & workshops
- <http://www.nutriweb.org.my>, a comprehensive and authoritative website on nutrition for Malaysians
- BRIGHT START Nutrition, a major education programme on child nutrition
- Nutrition promotion programmes in collaboration with the private sector

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Ministry of Women, Family and
Community Development

*Kementerian Pembangunan Wanita,
Keluarga dan Masyarakat*