

## Maintain a Healthy, and Balanced Diet

Recommendations	Grades of Recommendations <sup>^</sup>
<p><b>1. Educate all on the importance of a healthy balanced diet that primarily relies on a variety of food including whole grains, fruits and vegetables, low-fat or non-fat dairy products, legumes, fish, eggs and lean meat; adequate amount of fluid intake; and limit intake of saturated fat, trans-fat, salt and sugar</b></p> <p><b>2. Advise women on:</b></p> <ul style="list-style-type: none"> <li><b>(i) Nutrients which they may be at risk of deficiency (such as iron, iodine, folate and vitamin D)</b></li> <li><b>(ii) Diet and food choices to meet their need at different life stages:</b> <ul style="list-style-type: none"> <li>♦ <b>Reproductive age:</b> <ul style="list-style-type: none"> <li>■ <b>Maintain adequate iron intake: consume iron rich foods, fruits and vegetables; and reduce coffee and tea during meals</b></li> </ul> </li> <li>♦ <b>Planning for Pregnancy:</b> <ul style="list-style-type: none"> <li>■ <b>Folic acid supplement: 400 mcg daily</b></li> </ul> </li> <li>♦ <b>Pregnancy:</b> <ul style="list-style-type: none"> <li>■ <b>Advice to take a prenatal multiple micronutrient supplement daily:</b> <ul style="list-style-type: none"> <li>- <b>Folic acid: 400 mcg but not exceed 1000 mcg</b></li> <li>- <b>Vitamin D: 400 – 600 IU (10 – 15 mcg)</b></li> <li>- <b>Iodine: at least 150 mcg</b></li> </ul> </li> </ul> </li> <li>♦ <b>Breastfeeding:</b> <ul style="list-style-type: none"> <li>■ <b>Advice to take a micronutrient supplement daily. The supplement should contain:</b> <ul style="list-style-type: none"> <li>- <b>Iodine: at least 150 mcg</b></li> </ul> </li> </ul> </li> <li>♦ <b>Post-menopause:</b> <ul style="list-style-type: none"> <li>■ <b>Calcium : 800 – 1300 mg/day for bone health</b></li> </ul> </li> </ul> </li> </ul>	<p><b>C</b></p> <p><b>C</b></p>

<sup>^</sup> Scottish Intercollegiate Guidelines Network (SIGN) classification

## Recommended Care Components

For Who?	Recommended Care Components <sup>a</sup>	By Whom? <sup>b</sup>	How Often?
<b>Empowerment</b>			
All women	Educate on: <ul style="list-style-type: none"> <li>♦ <b>Composition of a healthy, balanced diet (Table 1.):</b> <ul style="list-style-type: none"> <li>- Vegetables and fruits (at least 2 servings of fruit and 3 servings of vegetables per day)</li> <li>- Meat, fish, eggs, dry beans and dairy products</li> <li>- Grain (cereal) foods, mostly wholegrain and/or varieties high in cereal fibre</li> <li>- Choosing a variety of foods and foods rich in nutrients, including calcium, iron, zinc, iodine, and vitamins</li> <li>- Provide adequate energy</li> <li>- Limit intake of saturated fat, trans fat added salt, added sugars and alcohol</li> </ul> </li> <li>♦ Practical tips for food <b>choices</b> (Table 2.)</li> <li>♦ <b>Beneficial effects</b> of consuming a variety of food groups, and adverse effects of unhealthy diet</li> </ul>	Primary Healthcare Providers	Opportunistically
Women who are <b>planning a pregnancy</b>	Advise adequate intake of Folic acid*: 400 mcg daily	Primary Healthcare Providers	Opportunistically
<b>Pregnant and lactating women</b>	Provide advices on supplements to meeting the extra nutrients needs, in particularly iodine, folate supplement during 1 <sup>st</sup> trimester and increasing demand after the 1 <sup>st</sup> trimester ( <b>Table 3.</b> )  + Advise on food safety	Trained Healthcare Professionals	Opportunistically
	Advise not to take supplements containing large quantities of vitamin A		
Menopause women	Advise adequate intake of Calcium for bone health	Primary Healthcare Providers	Opportunistically

For Who?	Recommended Care Components <sup>a</sup>	By Whom? <sup>b</sup>	How Often?
<b>Management</b>			
Women whose <b>Body Mass Index (BMI)</b> is <18.5 kg/m <sup>2</sup> or ≥ 23 kg/m <sup>2</sup> and have co-morbidities	Refer to individual dietetics intervention <sup>1</sup>	Trained Healthcare Professionals	Opportunistically

\* in form of supplement

BMI = Body Mass Index

<sup>a</sup> **Grade of recommendation according to colour code:**

Recommended (Strong)	Conditionally recommended	Practice points	Generally not recommended	Not recommended (Strong)
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<sup>b</sup> **Primary Healthcare Providers** – All providers of health services in primary healthcare settings  
**Primary Healthcare Professionals** – Includes doctors, dentists, chinese medicine practitioners, nurses, pharmacists, physiotherapist, occupational therapist, dietitians  
**“Trained” Healthcare Professionals** – Additional post-qualification training required to deliver the respective care component(s)

**Table 1. Functions and Daily Requirement of Essential Nutrients for Healthy Adult Women<sup>2-4</sup>**

Nutrient	Functions	Daily Requirement
<b>Energy (Calorie)*</b>	<ul style="list-style-type: none"> <li>Provides the body with fuel for various functions such as metabolism, physical activity, and organ function</li> </ul>	<ul style="list-style-type: none"> <li><b>2100 kcal/day</b> for healthy women aged 18-49</li> </ul>
<b>Protein</b>	<ul style="list-style-type: none"> <li>Essential for building and repairing tissues, supporting immune function, and serving as enzymes and hormones</li> </ul>	<ul style="list-style-type: none"> <li>Contributes 10%-15% of daily energy intake</li> </ul>
<b>Carbohydrate</b>	<ul style="list-style-type: none"> <li>Main source of energy for the body, particularly important for brain function and physical activity</li> </ul>	<ul style="list-style-type: none"> <li>Contributes 55%-75% of daily energy intake</li> </ul>
<b>Dietary fibre</b>	<ul style="list-style-type: none"> <li>Aids in digestion, helps maintain bowel health, and may reduce the risk of chronic diseases like heart disease</li> </ul>	<ul style="list-style-type: none"> <li>Not less than 25g per day</li> </ul>
<b>Total fat</b>	<ul style="list-style-type: none"> <li>Provides energy, supports cell growth, helps with vitamin absorption, and serves as a protective layer for organs</li> </ul>	<ul style="list-style-type: none"> <li>Contributes 15%-30% of daily energy intake for adults</li> </ul>
<b>Saturated fat</b>	<ul style="list-style-type: none"> <li>Consuming too much can raise cholesterol levels and increase the risk of heart disease</li> </ul>	<ul style="list-style-type: none"> <li>Contributes not more than 10% of daily energy intake</li> </ul>
<b>Trans fat</b>	<ul style="list-style-type: none"> <li>Raises bad cholesterol levels (LDL) and lowers good cholesterol levels (HDL), increasing the risk of heart disease</li> </ul>	<ul style="list-style-type: none"> <li>Contributes not more than 1% of daily energy intake</li> </ul>
<b>Sodium</b>	<ul style="list-style-type: none"> <li>Excessive sodium (salt) intake will increase the risk of developing hypertension, stroke and coronary heart disease</li> </ul>	<ul style="list-style-type: none"> <li>No more than 5 g of salt (slightly less than 1 tea spoon) a day.</li> </ul>
<b>Sugar</b>	<ul style="list-style-type: none"> <li>Excess intake of sugars can lead to weight gain and other health issues including tooth decay</li> </ul>	<ul style="list-style-type: none"> <li>No more than 50 g (about 10 teaspoons) of free sugars a day for a diet of 2000 kcal per day</li> </ul>
<b>Folic acid (folate)</b>	<ul style="list-style-type: none"> <li>Adequate intake prevents the foetus from being affected by neural tube defect (malformations of the brain and spinal cord), as well as prevents women from developing anaemia</li> </ul>	<ul style="list-style-type: none"> <li>400 mcg a day for women aged 18-64</li> </ul>
<b>Vitamin D</b>	<ul style="list-style-type: none"> <li>Helps calcium absorption, essential for bone health and development</li> </ul>	<ul style="list-style-type: none"> <li>10 mcg (400 IU) for women aged 18-64</li> </ul>
<b>Calcium</b>	<ul style="list-style-type: none"> <li>Building block for bones and teeth</li> </ul>	<ul style="list-style-type: none"> <li>1000 mg for women aged 18-64</li> </ul>
<b>Iron</b>	<ul style="list-style-type: none"> <li>Adequate intake ensures normal foetal growth and brain development, and prevents women from anaemia during pregnancy and after delivery</li> </ul>	<ul style="list-style-type: none"> <li>18 mg for women aged 18-49</li> <li>10 mg for women after menopause</li> </ul>
<b>Iodine</b>	<ul style="list-style-type: none"> <li>Necessary for the normal functions of the thyroid gland</li> <li>Essential for foetal growth and brain development. Iodine deficiency may cause serious health consequences for the baby</li> </ul>	<ul style="list-style-type: none"> <li>150 mcg for women aged 18-64</li> </ul>

LDL = Low-density Lipoprotein; HDL = High-density Lipoprotein

\*Assuming 55kg for women with a moderate activity level

**Table 2. Practical Tips in Choosing Foods in the Food Groups<sup>5</sup>**

<b>Food Group</b>	<b>DOs</b>	<b>DON'Ts</b>
Eat the most  <b>Grains</b>	<ul style="list-style-type: none"> <li>✓ Select more foods made from grains like bread, cereal, rice, and pasta</li> <li>✓ Choose whole grain foods like whole wheat bread and oatmeal</li> <li>✓ Prefer whole grains over refined grain foods</li> </ul>	<ul style="list-style-type: none"> <li>✗ Avoid high-fat foods like fried rice, fried noodles, or instant noodles</li> </ul>
Eat more  <b>Fruit and vegetables</b>	<ul style="list-style-type: none"> <li>✓ Include plenty of fruits and vegetables in your diet for fibre, antioxidants, vitamins, and minerals</li> <li>✓ Choose colourful options</li> <li>✓ Opt for whole fruits over fruit juices</li> </ul>	<ul style="list-style-type: none"> <li>✗ Avoid overcooking vegetables</li> </ul>
Eat moderately  <b>Meat, fish, eggs, dry beans ,dairy products and alternatives</b>	<ul style="list-style-type: none"> <li>✓ Select low-fat meat, such as lean cut pork, loin, poultry without skin, fish, etc.</li> <li>✓ Include protein-rich foods like dry beans and tofu</li> <li>✓ Low-fat milk and skimmed milk are lower in saturated fat</li> </ul>	<ul style="list-style-type: none"> <li>✗ Limit intake of deep-fried tofu, and tofu sticks</li> <li>✗ Limit intake in processed meat, e.g. sausages, ham</li> </ul>
Eat the least  <b>Fat, oil, sugar and salt</b>	<ul style="list-style-type: none"> <li>✓ Use fresh foods over canned or preserved options. Minimize added sugar and salt</li> <li>✓ Utilize natural seasonings for flavouring and use less oil in cooking methods</li> </ul>	<ul style="list-style-type: none"> <li>✗ Avoid foods high in fat and sodium</li> <li>✗ Reduce sugar intake</li> </ul>

**Table 3. Key Differences in Energy and Nutrient Requirements across Life Stages**  
**Key Points about Changes in Nutritional Needs during Pregnancy**

Life Stages	Energy# (kcal/d)	Folic acid (mcg)# <sup>4, 6</sup> (supplement form)	Vitamin D <sup>&amp;</sup> (IU)	Calcium (mg)# <sup>7</sup>	Iron (mg)# <sup>8</sup>	Iodine (mcg)# <sup>9-11</sup>	Remarks
Pregnancy: 1 <sup>st</sup> trimester (the first 13 weeks)	2100 [+0] <sup>12</sup>	At least 400 <sup>4, 6</sup>	400-600 <sup>13</sup>	800-1000	18	250*	Demand for folate, vitamin A and iodine increases
Pregnancy: 2 <sup>nd</sup> trimester (14 <sup>th</sup> to 27 <sup>th</sup> weeks)	2400 [+300] <sup>12</sup>	At least 400 <sup>4, 6</sup>	400-600 <sup>13</sup>	800-1000	25	250*	Apart from folate, vitamin A and iodine, there is a higher demand for
Pregnancy: 3 <sup>rd</sup> trimester (28 <sup>th</sup> to 40 <sup>th</sup> weeks)	2550 [+450] <sup>12</sup>	At least 400 <sup>4, 6</sup>	400-600 <sup>13</sup>	800-1000	29	250*	iron, zinc and omega-3 fatty acids, and a mild increase in calcium requirement
Lactating mothers	2600 [+500] <sup>12</sup>	At least 400 <sup>4, 6</sup>	400-600 <sup>13</sup>	800-1000	24	250*	Sufficient intake of protein, folate, iodine, zinc, vitamin A and DHA are required to ensure an adequate level of nutrients in the breastmilk
Menopause	(1950) <sup>14</sup>	(400) <sup>14</sup>	400-600 <sup>13</sup> (400) <sup>14</sup>	800-1300	10	150	

# Recommendations follow the Department of Health

<sup>^</sup> Recommendations follow the WHO: Vitamin and mineral requirements in human nutrition, 2nd edition 2004

<sup>&</sup> Recommendations follow the U.S. Department of Health and Human Services: Dietary Reference Intakes for Calcium and Vitamin D 2011

( ) Recommendations follow the Chinese Nutrition Society: Dietary Reference Intakes for China 2023, women aged 50 to 64

\* in form of iodine-containing supplements at least 150 mcg iodine per day

## Further Readings

- ♦ Dietary intake is essential for life and an important behavioural risk factor that can significantly impact health. Optimal nutrition is vital for the normal growth and both physical and cognitive development of infants and children. Nutrition plays an important role in maintaining healthy weight, enhancing quality of life and wellbeing, strengthening resistance to infections, and safeguarding against chronic diseases and premature death. Improving nutrition has the potential to improve individual and public health while reducing healthcare costs.<sup>15</sup>
- ♦ The relationships between dietary patterns and health outcomes have been widely examined. It is well supported that people consuming diets that are low in fat, saturated fat, trans-fatty acids and cholesterol and high in fruits, vegetables and whole grain products containing fibre have lower rates of morbidity and mortality from coronary heart disease.<sup>16</sup>

## ***Interventions to Promote Healthy, Balanced Diet***

- ♦ The Food Pyramid can serve as a valuable guide for planning a balanced and nutritious diet, with the exception of diets for infants. It is essential to ensure that all major food groups are adequately represented in one's daily dietary intake, which play crucial roles in supporting overall health and wellbeing.<sup>17</sup>
- ♦ Dietetic consultations follow a structured nutrition care process of nutrition assessment, nutrition diagnosis, nutrition intervention, and nutrition monitoring and evaluation, which aims at supporting individual clients to modify their dietary behaviours to improve health outcomes. Systematic review of RCTs demonstrated that dietetic consultations were effective for improving diet quality, diabetes outcomes (including blood glucose and HbA1c) and weight control (e.g. changes in weight and waist circumference).<sup>1</sup>