



Basic Education  
Health



**NATIONAL NUTRITION WEEK AND NATIONAL OBESITY WEEK 2018:  
“BREAKFAST – THE BEST WAY TO START YOUR DAY”**



THE HEART  
AND STROKE  
FOUNDATION  
SOUTH AFRICA



South African Military Health Service

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## 1. INTRODUCTION

This document highlights the concept and supporting messages to be used during National Nutrition Week and National Obesity Week, which will take place from 9 to 15 and 15 to 19 October 2018 respectively.

The objective of the document is to outline the key messages to be communicated and statistics to be used to ensure consistency in communication.

This document should be used in conjunction with the *Questions and Answers* document.

## 2. GUIDELINES FOR USE OF THE NATIONAL NUTRITION AND OBESITY WEEK 2018 MESSAGES

The messages must remain consistent as per this document and associated *Questions and Answers* document. They may be adapted to meet the needs of the target audience.

- The overall messages should be used in the format stated, with the same wording to avoid mixed messages and confusion.
- The statistics given should be the statistics used in this document in order to avoid confusion or too many messages.
- Messages may only be used for generic health promotion and may not be used to promote any specific brands.

## 3. RATIONALE FOR THE THEME: “**BREAKFAST – THE BEST WAY TO START YOUR DAY**”

The 2016 South African Demographic and Health Survey (SADHS) found that 68 per cent of women and 31 per cent of men in the country are overweight or obese. About 20 per cent of women and three per cent of men are severely obese. Approximately 13.3 per cent of children younger than five years are overweight or obese<sup>1</sup>. The 2012 South African Health and Nutrition Examination Survey (SANHANES) showed that 14.2 per cent of children aged six to 14 years are overweight or obese<sup>2</sup>.

Four main factors drive overweight and obesity. This includes a lack of knowledge, poor diet, physical inactivity and inappropriate early childhood feeding practices. Unhealthy diets are a risk factor for non-communicable diseases. The risk starts in childhood and builds up throughout life. The concept of optimising nutrition in the first 1 000 days (the period from conception to the first two years of life) is important for the prevention of over- and under-nutrition.

One of the goals of the *Strategy for the Prevention and Control of Obesity in South Africa 2015 – 2020* is communicating with, educating and mobilising communities to empower and encourage behavioural changes in individuals, families and communities, to make positive, life-enhancing decisions on healthy diets and physical activity<sup>3</sup>.

National Nutrition Week and National Obesity Week will over the next three years focus on the importance of eating regular, healthy meals to prevent obesity and consequently non-communicable diseases and to promote health.

The theme for the National Nutrition and National Obesity Week 2018 is: “**Breakfast – the best way to start your day**”

Breakfast is the first meal of the day, it breaks the fast after the long period of sleep and is consumed within two to three hours of waking. It consists of food from at least one food group (excluding a beverage). Breakfast may be consumed at home or any other location, for instance school, work, a restaurant or while travelling. This means that breakfast food does not have to be eaten all at once, but can be spread within the first three hours after waking<sup>4</sup>.

The aim of National Nutrition and National Obesity Week 2018 is to:

- (i) emphasise the health benefits of eating breakfast regularly, especially for children and adolescents
- (ii) encourage consumers to make healthy breakfast choices, given time and budget constraints
- (iii) provide information on how to plan and prepare a healthy breakfast

#### 4. QUICK FACTS

- About 19 per cent of children aged between 10 and 14 years skip breakfast before going to school according to the 2012 SANHANES<sup>2</sup>. Globally, up to 30 per cent of children, adolescents and adults regularly skip breakfast.<sup>7,22,27,30,35,36,38</sup>
- In the 2012 SANHANES, 33.9 per cent of children gave the reason for skipping breakfast as not having enough food in the house. Other reasons were that they were not hungry in the morning (39.2 per cent); they could not get up early enough to have breakfast at home (19.2 per cent), they did not have breakfast because people at home were not having breakfast (33 per cent) or that they could not make their own breakfast (15 per cent)<sup>2</sup>.
- Children from families that eat meals together, show better food choices and better dietary quality and are more likely to consume breakfast<sup>15</sup>. Parents not only influence their children's decision to eat breakfast, but also the food they choose<sup>27</sup>. Parents are responsible for the availability of foods, setting the rules and initiating family meal patterns<sup>19</sup>. It is important to allow children to choose the kind of breakfast they prefer from the ones proposed; this helps to improve their ability to self-regulate food intake and reinforces their consumption habits<sup>27</sup>.
- People who skip breakfast are more likely to consume unhealthy foods and beverages and tend to overeat throughout the day<sup>25</sup>.
- In South Africa, only about 23 per cent of children between six and 23 months meet the minimum standards for an acceptable quality diet, i.e. consumption of at least four or more food groups (one from animal source and at least one fruit or vegetables, in addition to a starchy food such as maize) for the day<sup>1</sup>.
- Breakfast consumption improves an individual's nutritional status<sup>27</sup>. Better quality breakfasts are those that include grains, lower fat milk and fruit<sup>31,37</sup>. A low glycaemic index breakfast (with minimally processed starchy foods) has the greatest influence over energy intake for the rest of the day<sup>27</sup>. Studies show that taking a complete and nutritious breakfast prevents feeling hungry in the morning, which can lead to nibbling snack foods, particularly those high in sugar and fat<sup>15</sup>.
- Skipping breakfast among children and adolescents is associated with a number of health-compromising behaviours such as smoking, alcohol use, disordered eating, unhealthy weight management practices<sup>26,29,32,32</sup> and physical inactivity<sup>28,50</sup>.
- An abundance of studies show an association between skipping breakfast and higher body mass index (BMI)<sup>24,30,35,36,48</sup>. Most studies have shown that children, adolescents and adults who regularly eat breakfast have more favourable weight outcomes (e.g. lower BMI, lower waist circumference, lower risk for obesity), than those who skip breakfast<sup>26,29,37,49,50,51</sup>.
- Epidemiological studies provide strong evidence of a relationship between skipping breakfast and cardiometabolic risk. In addition to overweight and obesity, these include a greater risk for diabetes mellitus, cardiovascular disease and hypertension<sup>35</sup>. Skipping breakfast negatively affects lipid profile and insulin sensitivity<sup>27</sup> and is positively associated with a greater risk of type 2 diabetes mellitus incidence<sup>35,36</sup>.
- Eating breakfast regularly can in the long run have a positive impact on metabolic parameters related to cardiovascular risk<sup>27</sup>.
- Many studies have shown that eating breakfast has an immediate positive effect on cognitive performance, in particular on memory and attention span, especially in the second half of the morning, when there is a decline in these skills<sup>27</sup>.
- Eating breakfast regularly has a positive impact on school performance, specifically on improving academic grades<sup>48,58</sup>. Memory, concentration, grades obtained and attendance differ significantly between breakfast skippers and those who eat breakfast<sup>31</sup>. Regular breakfast eaters have significantly improved grades in mathematics<sup>26,27,60</sup>.
- Children who are food insecure or undernourished have been found to have poorer cognitive functioning when they miss breakfast<sup>59</sup>. Children and adolescents experiencing hunger have lower mathematics scores, poorer grades and are more likely to repeat a grade<sup>26</sup>.

**(See Annexure I for more useful facts)**

## 5. SUPPORTING MESSAGES

The following supportive messages are to be used with the key message: **“Breakfast – the best way to start your day!”**

- **Eating breakfast regularly has many health benefits.**
- **Get into the habit of having breakfast every day.**
- **Prepare and enjoy breakfast together as a family.**
- **Plan ahead to have a healthy breakfast every day:**
  - **include foods from one or more food groups**
  - **stick to meal plans and a food budget**
  - **save money – buy smart**
  - **choose healthier options when buying food**
  - **save time – prepare breakfast the night before**

### 5.1 EATING BREAKFAST REGULARLY HAS MANY HEALTH BENEFITS

Eating a healthy breakfast regularly, on most days of the week:

- forms part of a healthy lifestyle – people who eat breakfast regularly tend to be more active and follow a healthier lifestyle
- can provide important nutrients such as fibre, vitamins and minerals
- contributes to healthy eating throughout the day – people who eat breakfast regularly eat more vegetables, fruit and make healthy food choices the rest of the day, snacking less on unhealthy foods high in fat or sugar
- helps to achieve and maintain a healthy body weight
- helps to prevent type 2 diabetes, heart disease and high blood pressure
- improves learners’ alertness, mood, academic scores and class behaviour

### 5.2 GET INTO THE HABIT OF HAVING BREAKFAST EVERY DAY

If you do not eat breakfast regularly at present, here are some tips to help you do so:

- change gradually. Start having breakfast on two mornings a week and then increase it over time. Your eventual goal is to eat breakfast every day
- wake up earlier. You really only need an additional 15 minutes to sit down at the table for breakfast. Eating a bowl of porridge and milk or a lightly blended smoothie made of fruit and yogurt takes just as much time and costs less to prepare than buying something to eat on your way to work or school
- split it up. If you are not hungry first thing in the morning, grab a piece of fruit as you walk out of the door and take a packed sandwich or healthy smoothie to eat later
- keep nutrient-dense foods, such as trail mix, dried fruit and unsalted nuts in the car, in backpacks, purses or briefcases to eat on the way to school or work

### 5.3 PREPARE AND ENJOY BREAKFAST TOGETHER AS A FAMILY

- Set an example for your children. Children who see adults eat breakfast are more likely to eat breakfast and continue healthy habits.
- Have meals, including breakfast, together as a family. Start gradually with a few meals per week and then increase it.
- Schedule a specific time to have breakfast together.
- Involve children of all ages in planning, shopping and preparing meals.
- Enlist the help of the whole family. Giving jobs to everyone creates a shared experience and can make the workload lighter. Children are more likely to eat the meals they help prepare. In addition to this, preparing meals together is a great way to connect with one another and have fun.

- Turn off distractions like the TV, computer, tablets and phones during mealtimes. Keep toys and books off the table.
- Feed infants directly. Assist the older infants and young children who are feeding themselves. Feed slowly and patiently and encourage the children to eat without forcing them. Minimise distractions during meals if the child loses interest easily.
- Remember that feeding times are periods of learning and love – talk to children during feeding and make eye contact.

## 5.4 PLAN AHEAD TO HAVE A HEALTHY BREAKFAST EVERY DAY

### 5.4.1 *Include foods from one or more food groups*

- Breakfast does not have to be a big meal. It should consist of food from at least one food group, excluding a beverage (**See the Food Guide and the South African Guidelines for Healthy Eating in Annexure II**). Try to include two or more food groups in your breakfast to keep fuller for longer and to improve variety of nutrients provided by the meal. The **Table 1** provides examples of foods that can be eaten for breakfast, either alone (first column) or in combination with other types of foods.

**Table 1**  
**Examples of additional food(s) that can be eaten with the minimum food**  
**(one or more of the items listed below)**

Examples of minimum food for breakfast	Low-fat milk or unsweetened low-fat yoghurt or maas	Fruit	Boiled egg/ omelette	Fish	Vegetables	Nuts/trail mix	Dry beans/ peas/lentils	Peanut butter	Low fat cottage cheese/ mozzarella	Soft margarine
Maize meal porridge	😊	😊	😊	😊	😊		😊	😊		😊
Oats porridge	😊	😊				😊				
Low-GI muesli	😊	😊				😊				
High-fibre cereal	😊	😊								
Brown bread	😊	😊	😊	😊	😊		😊	😊	😊	😊
Trail mix	😊	😊								
Omelette/scrambled or boiled egg	😊	😊								😊
Smoothie	😊	😊				😊		😊		

- Ideally, starchy foods eaten at breakfast should have a low or moderate glycaemic index. This means a food where the carbohydrates break down slowly during digestion and so glucose is released slowly into the blood stream. Examples include brown/seeded/whole-wheat bread, maize meal porridge (that was cooked the night before) or oats porridge. This can be eaten in combination with one or more of the following foods: fruit, vegetables, low-fat milk/yoghurt/maas, egg, lean meat, legumes, peanut butter or nuts, for example:
  - leftover maize meal porridge, alone or with vegetables or with low-fat milk
  - oats/mabele/maize meal porridge with milk
  - brown bread sandwich with peanut butter/pilchards/baked beans/boiled egg
  - unsweetened, low-fat yoghurt with sliced fruit
- Examples of a grab-and-go or a 'packed' breakfast by using the options given in **Table 1**:
  - a piece of fruit to go and a packed brown bread sandwich with peanut butter
  - nut trail mix on the go with unsweetened low-fat yoghurt
  - lightly blended smoothie made the night before from low-fat milk, unsweetened low-fat yoghurt/maas and fruit or vegetables
  - leftover rice mixed with unsweetened low-fat yoghurt, dried fruit and nuts. Sprinkle with cinnamon
- Examples of fillings for sandwiches:
  - left-over meat and/or vegetables from the night before. For instance, combine left-over chicken with avocado or sweetcorn or with low-fat yogurt and mango chutney or with low-fat mayonnaise, tomato and lettuce
  - tuna with low-fat mayonnaise and sweetcorn, gherkins, spring onion, red onion, or cucumber or with lettuce and tomato or with sweetcorn, bell pepper, tomato and lettuce
  - grated mozzarella or reduced-fat cheese with left-over coleslaw, onion or tomato, or with chutney or tomato and lettuce
  - low-fat cottage cheese with grated carrot, pineapple or apples
  - boiled egg and low-fat mayonnaise with lettuce or a curried egg with carrot and lettuce
  - avocado and banana
  - hummus and grated carrot or with roasted peppers
  - peanut butter on its own or with apple or raisins
- Infants should be given only breastmilk for the first six months of life. Breastmilk contains all the energy, vitamins and other nutrients and water in the correct amounts that the baby needs. Infants should not be given any other food or fluids, not even water, except for medicine prescribed by a doctor or nurse. From the age of six months, complementary foods should be introduced and breastfeeding continued until the child is at least two years old.
- Children under five years require full-cream milk instead of fat-free or low-fat milk.
- The examples given in **Table 1** apply to infants and young children from the age of six months except for nuts/trail mix. Foods that causes choking should be avoided. Ensure that cooked, soft porridge for small children is of a thicker consistency and is enriched with oil, margarine or peanut butter.
- Your child's Road-to-Health Book /The Caregiver Message Book: How to Raise a Healthy and Happy Child, gives some ideas on types of foods, quantities and textures for children from six months to five years, which can be incorporated into breakfast as well.
- Experiment with different food combinations, tastes, textures and methods of encouraging smaller children to eat if they refuse many foods.

#### 5.4.2 *Stick to meal plans and a food budget*

- Create a budget for food. Have an amount in mind and do your best to stick to it. Look at past receipts as a starting point. Compile a menu plan then make a shopping list (See **Annexure III for an Example of a Menu Plan** and **Annexure IV for Example of a Master Shopping List**). Be realistic. If you only have 20 minutes to prepare a meal, do not choose a recipe that is complicated.
- Practice portion control and cook just enough food for everyone (**See Annexure V for a practical Portion Control Guide**).
- Plan to use leftovers for a few breakfasts, lunches or dinners throughout the week to reduce time spent in the kitchen.
- Make a list of what food you already have on hand in your refrigerator, freezer, and pantry.
- Keep a list in the kitchen to write down food items that you need to buy.
- Look for store sales or specials on store pamphlets, coupons or online advertisements.



#### 5.4.3 Save money - buy smart

- Avoid shopping on an empty stomach.
- Buy only what is on the shopping list. Use a calculator to help you stick to the budget.
- If not buying in bulk, use a smaller trolley to control how much food you can actually put in.
- Look at the top and bottom of the shelf for lower cost foods.
- Buy store or “no name” brands.
- Be sure you have enough extra money and storage space to buy in bulk.
- Buy only foods that your family will use up before it gets spoiled.
- Dry products like maize meal, wheat flour, rice, pasta and frozen foods keep well for a longer period and therefore can be bought in bulk.
- Single portion items, for instance single serving cans of fruit or yoghurt is often more expensive than buying a large tub of yoghurt. Decant the yoghurt into reusable containers if you need to travel with it.
- Ready-to-eat cereals cost more than double the price of maize meal, oatmeal and mabele porridge. Save money by making your own muesli (**See Annexure VI for Recipes**).
- Store-bought sandwiches are more expensive than a homemade one. Control what you put in your sandwich and save money by making your own sandwich from items you have at home.
- Alternatives such as beans or eggs are more affordable than meat, chicken and fish.
- For better value, buy vegetables and fruit when they are in season.
- Buy vegetables and fruit in bulk if you know these will be eaten before becoming spoiled. Otherwise, share the cost and divide bulk quantities among family/friends.
- Frozen veggies can work out cheaper than the fresh produce as you can keep it in the freezer, thus minimising waste.
- Ready-to-eat bottled baby foods are costly. Use fresh foods and vegetables that can be mashed to the right consistency for smaller children. Meat and fish dishes can be grinded to the right texture for smaller children.

#### 5.4.4 Choose healthier options when buying food

- Buy brown bread or whole-wheat brown bread rather than white bread as brown bread and whole-wheat bread has more fibre than white bread.
- Buy porridges that you can cook, such as maize meal, oats and mabele (sorghum meal), which are healthier options than instant cereals and will keep you fuller for longer.
- Do not buy tinned meat and processed cold meats such as polony, salami and viennas, their high sodium (salt) and fat content makes them unhealthy. They are also expensive.
- Buy fewer prepared/ready-to-eat foods, especially muffins, cereal bars/energy bars. They are often higher in sugar, salt and fat.
- Check the nutritional information table of the label for the fat, sugar and sodium (salt) content of foods. The following cut-offs can be used when looking for healthier alternatives.  
*Per 100g food (not per serving):*
  - Sugar: < 5g<sup>5</sup>
  - Saturated fat: < 1.5g<sup>6</sup>
  - Sodium: < 120mg<sup>6</sup>
  - Fibre: > 3g<sup>6</sup>
- Fresh vegetables and fruit are usually a healthier choice when compared with pre-prepared or processed foods.
- Canned fruit and vegetables have added sugar and salt and are more expensive.
- Skim-milk powder is healthier than coffee creamers, tea whiteners or milk blends.
- Non-breastfed children can use full-cream milk from as early as 12 months. There is no need to buy infant formulas.
- Use low-fat or fat-free cottage cheese instead of full fat cheese. Use less cheese in cooking by using a little mustard or cayenne pepper to add flavour.
- Buy plant oils such as canola or sunflower oil and soft margarine instead of butter.

#### 5.4.5 Save time – prepare breakfast the night before

- Set out dishes, utensils and non-perishable ready-to-serve foods, such as whole-grain bread or ready-to-eat cereals, on the counter the night before.

- Move refrigerated items, such as low-fat milk, yoghurt and fresh fruit to the front of the refrigerator shelf for easy access.
- Wash fresh fruit and cut it for fruit cups.
- Layer fruit, cereal, and low-fat or fat-free yoghurt in a sealable container for a grab-and-go breakfast.
- Prepare hard-boiled eggs the night before so they are ready for a grab-and-go breakfast or to make an egg sandwich with toasted whole-wheat bread.
- Cook extra maize meal porridge for the next day's breakfast when making supper. Maize meal porridge that has been cooked and cooled and then eaten either at room temperature or reheated is healthier than freshly cooked porridge.
- Oats do not need to be cooked on the stove. Save time by cooking them in a microwave or by soaking it overnight (**See Annexure VI for Recipes**).

## **6 NATIONAL NUTRITION WEEK AND NATIONAL OBESITY WEEK PARTNERS**

- National and provincial Departments of Health
- Department of Basic Education
- South African Military Health Service (SAMHS)
- The Association for Dietetics in South Africa (ADSA)
- The Cancer Association of South Africa (CANSA)
- The Nutrition Society of South Africa (NSSA)
- The Heart and Stroke Foundation SA (HSFSA)
- Consumer Education Project (CEP) of Milk South Africa
- Consumer Goods Council of South Africa (CGC-SA)

## **7 WEBSITES:**

- National Nutrition Week: [www.nutritionweek.co.za](http://www.nutritionweek.co.za)
- The national Department of Health: [www.health.gov.za](http://www.health.gov.za)
- The Association for Dietetics in South Africa (ADSA): [www.adsa.org.za](http://www.adsa.org.za)
- The Cancer Association of South Africa (CANSA): [www.cansa.org.za](http://www.cansa.org.za)
- The Nutrition Society of South Africa: [www.nutritionssociety.co.za](http://www.nutritionssociety.co.za)
- The Heart and Stroke Foundation SA: [www.heartfoundation.co.za](http://www.heartfoundation.co.za)
- Consumer Education Project Milk South Africa: [www.rediscoverdairy.co.za](http://www.rediscoverdairy.co.za)

## USEFUL FACTS

### Breakfast consumption internationally and in South Africa

Globally, up to 30 per cent of children, adolescents and adults regularly skip breakfast<sup>7,22,27,30,35,36,38</sup>. There is a clear association between breakfast consumption and age. Younger people are more likely to skip breakfast than middle-aged and older adults<sup>25</sup>, with a higher percentage among adolescents and females<sup>27</sup>.

The 2012 *South African National Health and Nutrition Examination Survey (SANHANES)* findings revealed that only 81 per cent of children aged between 10 and 14 years eat breakfast before school<sup>2</sup>. This data is supported by a few localised studies, i.e. North West (81 per cent)<sup>8</sup>, Western Cape (75 per cent)<sup>9</sup>, and Gauteng, which showed a decrease across age groups (76.4 per cent, 63.8 per cent and 65.3 per cent for the age groups 13, 15 and 17 years respectively)<sup>10</sup>. A comparison between urban (Gauteng) and rural (Mpumalanga) adolescents show that 25 per cent of urban versus 8.87 per cent of rural adolescents consumed breakfast irregularly and that breakfast consumption among females in both groups is lower than in males<sup>11</sup>.

Data on South African adults is limited. A study among health professionals in KwaZulu-Natal showed that 51 per cent skipped breakfast, compared to lunch (20 per cent) and dinner (11 per cent). The frequency of breakfast consumption increases with age<sup>12</sup>.

Urban adolescent females in Gauteng, who could afford it, would buy fat cakes ('vetkoek'), which were sold at most schools before classes commenced. A few participants ate sweets and potato crisps purchased from community vendors, before attending school<sup>13</sup>.

### Reasons for eating breakfast

The majority of children in the 2012 SANHANES believed it was important to eat breakfast because it helped them concentrate better at school (86.1 per cent) and it helped to give them energy for the day (89.3 per cent)<sup>2</sup>. American rural adolescents who ate breakfast more frequently, reported that eating breakfast would have more positive school, social and health outcomes<sup>42</sup>. More than half of rural adolescent females in Mpumalanga believed that breakfast was the most important meal of the day based on what they heard and was taught at school and at local clinics. Although most respondents believe in the benefits of breakfast, they would not eat breakfast at home owing to limited choices or lack of food. Some mentioned the consequences of not eating breakfast as loss of concentration in class or headaches<sup>13</sup>. However, among urban adolescents in Gauteng who said "breakfast is the most important meal of the day" and "breakfast gives you energy", the majority said they did not eat breakfast<sup>14</sup>.

### Reasons for not eating breakfast

Internationally, children with low household income are less likely to eat breakfast than learners with a high household income<sup>7</sup>. The family's low socio-economic status seems to be more related to either skipping breakfast or eating a nutritionally poor quality breakfast<sup>15</sup>. Children in households with low food insecurity were less likely to eat breakfast at home and were more likely to consume food from other locations than food secure peers<sup>38</sup>. Rural adolescents who skip breakfast three or more days per week report more barriers to eating breakfast and are less likely to report the positive benefits consuming breakfast on their academic, social and overall health status compared to students who skip breakfast nil to two times per week<sup>42</sup>. Concerns about body weight, especially adolescent females or that they are not hungry, do not have enough time to eat breakfast, cost, food quality and stigma (school breakfast programmes) were also cited as reasons for skipping breakfast. Rural students also face longer commuting time to school in the morning adding additional time constraints<sup>42</sup>.

In South Africa, 33.9 per cent of children in the 2012 SANHANES gave the reason for skipping breakfast as not having enough food in the house<sup>2</sup>. A study among adolescents in Cape Town found that those from lower socio-economic backgrounds were more likely to skip breakfast<sup>16</sup>. Other reasons given in the 2012 SANHANES were that they are not hungry in the morning (39.2 per cent), they cannot get up early enough to have breakfast at home (19.2 per cent), they did not have breakfast because people at home were not having breakfast (33 per cent) or that they cannot make their own breakfast (15%)<sup>2</sup>.

## Effect of the home environment on breakfast consumption

Children from families that eat meals together, show better food choices and better dietary quality and are more likely to consume breakfast<sup>15</sup>

Rural American adolescents who consume breakfast three days per week, reported eating with their family at least one day per week. The frequency of eating breakfast together with family members was positively associated with adolescent preparation of breakfast meals for their own consumption and for their family. The majority of adolescents agreed that it is often difficult for family members to find a time when they can sit down to breakfast together (67 per cent), they are often too busy to eat with their family members (59 per cent) and they enjoy eating breakfast with their family (67 per cent)<sup>17</sup>

Parents not only influence their children's decision to eat breakfast, but also the food they choose<sup>27</sup>. A Japanese study found that adolescents who ate breakfast with their parents/grandparents tended to eat breakfast regularly<sup>18</sup>.

A child's cognition towards breakfast consumption is partly shaped by the home environment. Parents are responsible for the availability of foods, setting the rules, and initiating family meal patterns<sup>19</sup>. Parents are important role models regarding eating habits. A positive parental attitude represents a valid tool to instil healthy eating habits<sup>15</sup> compared to either controlling or imposing dietary restrictions<sup>20</sup>. Therefore, interventions to increase child and adolescent breakfast consumption should address parental breakfast consumption, as well as the underlying mechanisms that lead to family meal patterns, rules and modeling - such as parenting styles and practices<sup>19</sup>. It is important to allow children to choose the kind of breakfast they prefer from the ones proposed; this helps to improve their ability to self-regulate food intake and reinforces their consumption habits<sup>27</sup>.

Friends too can play an influential role on the quality of food intake among adolescents. A study found that significant positive associations were found for breakfast eating between adolescents and their friend groups/best friends regarding whole grain, dairy and vegetable intake<sup>21</sup>.

## Association of breakfast with other lifestyle factors

Children and adolescents skipping breakfast is associated with a number of health-compromising behaviours such as smoking, alcohol use, disordered eating, unhealthy weight management practices<sup>26,29,32</sup> and physical inactivity<sup>28,50</sup>. University students with good physical fitness were found more likely to eat breakfast compared with students with poor physical fitness<sup>22</sup>.

Globally, predictors of skipping breakfast in adults include younger age, current tobacco use, late dinner, higher alcohol consumption<sup>23,35</sup> and infrequent exercise<sup>24,28,35</sup>.

## Effect of breakfast on dietary quality

### *Effect of skipping breakfast*

People who skip breakfast are more likely to consume unhealthy foods and beverages and tend to overeat throughout the day<sup>25</sup>. There is an association between skipping breakfast and low nutrient adequacy of adult diets<sup>35</sup>.

Children who skip breakfast have poorer nutrient intakes than those who eat breakfast<sup>26</sup>. They less frequently fulfil the recommended daily intake of certain types of food such as vegetables and fruit<sup>27</sup> and tend to snack more<sup>32</sup> and choose high-fat snacks<sup>28,29</sup>. Intake of cereals, milk, vegetables and fruit have been found to be significantly less in those skipping breakfast<sup>30</sup>. A study conducted among children between two and 12 years of age found that people skipping breakfast consumed nearly 40 per cent of the day's intake from snacks, including snacks with added sugar<sup>31</sup>.

Adolescents who skip breakfast tend to omit other meals<sup>32</sup> and tend to eat more snacks, have lower micronutrient intake and consume more alcohol and sugar compared to those who eat breakfast regularly<sup>33</sup>.

Due to a heightened feeling of hunger, children and adolescents who regularly skip breakfast tend to eat more food at the next meal, especially high-density, high-fat food. They tend to consume higher quantities of added sugar<sup>27</sup>. In a study on university students where breakfast was found to be the most skipped meal, the

students had a higher intake of fast foods, snacks, sweets, carbonated beverages and low intake of nuts, vegetables, fish, whole grains and legumes<sup>34</sup>.

Adults who skip breakfast have higher energy intake<sup>35</sup>, less intake of vegetables and fruit and consumption of more sugar-sweetened beverages<sup>36</sup>. A study in KwaZulu-Natal where 51 per cent of health professionals skipped breakfast, found that 50 per cent frequently ate unhealthy snacks, 36 per cent ate salty foods, 49 per cent fried foods and 47 per cent ate food with lots of sugar. Most participants rarely ate fruits (77 per cent, vegetables (73 per cent) and drank water (68 per cent)<sup>12</sup>.

### *Effect of eating breakfast*

Data on the types of foods consumed by South Africans at breakfast is limited. A study conducted among adolescents in the North West found that the most frequently consumed foods were porridge only with a drink (81 per cent) followed by bread, toast or a roll with a drink (77 per cent). About 55 per cent of the adolescents consumed added sugar in an average amount of 19 g (four teaspoons) and 17 per cent consumed margarine in an average amount of 14 g (three teaspoons)<sup>8</sup>.

Breakfast consumption improves an individual's nutritional status. Several studies found a relationship between regular breakfast consumption and increased fibre and intake of several micronutrients<sup>27</sup>.

Children consuming breakfast patterns with significantly higher overall quality were found to be those patterns that include grains, lower fat milk and fruit<sup>31,37</sup>. Among primary school learners who drank or ate on the morning of data collection, the most commonly consumed foods and beverages were milk (47 per cent), cereal (37.2 per cent) and fruit juice (31.7 per cent)<sup>38</sup>. The overall nutritional profile of British primary and secondary school-aged learners in terms of fibre and micronutrient intake was superior in regular breakfast consumers, supporting the promotion of breakfast as an important element of a healthy eating pattern in children<sup>39</sup>.

The intake of fish, vegetables and fruit in the daily diet was significantly higher among Japanese adolescents who ate breakfast everyday than in those who did not<sup>18</sup>. Adolescents consuming "good quality breakfasts" have higher intakes of bread, fruit, vegetables, milk and fruit juice and lower intakes of soft drinks than those consuming "low quality breakfast"<sup>40</sup>. Another study defined "high quality breakfasts" as those including whole grain, fruit and low-fat milk products or other sources of calcium<sup>41</sup>.

A low glycaemic index breakfast with minimally processed starchy foods has the greatest influence over energy intake for the rest of the day<sup>27</sup>. Studies show that taking a complete and nutritious breakfast prevents feeling hungry in the morning, which can lead to nibbling snack foods, particularly those high in sugar and fat<sup>15</sup>. In obese adults who skip breakfast, simply adding breakfast to their daily routine resulted in lowered dietary fat intake and reduced impulse eating<sup>42</sup>.

Adding protein to a meal can help to control appetite and to enhance satiety<sup>27,43,44</sup>. Consuming more than seven grams of protein as part of a breakfast containing carbohydrates and 18g as part of lunch, is sufficient to support a positive protein balance for the next nine hours<sup>45</sup>. A high-protein breakfast lowers blood glucose after a meal and does not magnify the glucose effect after a second meal<sup>46</sup>. No difference was found in the post-prandial response or in the 24-hour food intake after consumption of breakfasts higher in protein with different types of protein, i.e. animal protein versus plant protein in either normal weight or overweight women<sup>47</sup>. The approximate protein content of some foods are: One egg: 6g; one slice of bread: 2.5g; one cup of maize meal/mabela/oats porridge: 3g; one cup of milk: 8g; ½ cup of low-fat, unsweetened yoghurt: 5g.

### **Effect of breakfast on overweight and obesity**

Data supports an association between skipping breakfast and obesity, which has led to the recommendation to consume breakfast as a possible strategy to achieve a healthy body weight and successful weight management<sup>35</sup>. This association between skipping breakfast and a higher body mass index (BMI) has been reported globally in studies in children, adolescents and adults<sup>24,30,35,48</sup>. In an urban and rural study among South African adolescents, it was found that females made significantly more tuck shop purchases than males and that the frequency of purchases was more regular among younger females who tended to gain weight. Females who skipped breakfast might consume more food at other times such as from tuck shop purchases and thereby gain more weight<sup>11</sup>.

Most studies have shown that children, adolescents and adults who regularly eat breakfast have more favourable weight outcomes (e.g. lower BMI, lower waist circumference, lower risk for obesity), than those who skip breakfast<sup>26,29,37,49,50,51</sup>

### **Effect of breakfast on reducing the risk for non-communicable diseases (NCDs)**

Epidemiological studies provide strong evidence of a relation between skipping breakfast and cardiometabolic risk. In addition to overweight and obesity, these include a greater risk for diabetes mellitus, cardiovascular disease and hypertension<sup>35</sup>. Skipping breakfast negatively effects lipid profile and insulin sensitivity<sup>27</sup>.

Skipping breakfast is positively associated with a greater risk of type 2 diabetes mellitus incidence<sup>35,36</sup>. Children who do not eat breakfast daily were found to have poorer blood glucose control, more insulin resistance and a higher risk for type 2 diabetes<sup>52</sup>.

Results from clinical trials show that a breakfast with a low glycaemic index suppresses appetite and glucose intolerance during the whole day<sup>53</sup>. The positive association between breakfast quality in body fat measures and metabolic syndrome could possibly be explained through mechanisms involving appetite control and satiety. In addition, fibre-rich foods, through slow absorption and digestion from starch from carbohydrates blunt postprandial glycaemic response, improve insulin sensitivity response to the next meal and prevent hypoglycaemia between meals<sup>53</sup>.

An increased risk of heart disease has been found among middle-aged men who skip breakfast<sup>23</sup>. Regular breakfast consumption can in the long run have positive effects on metabolic parameters related to cardiovascular risk<sup>27</sup>. In cross-sectional studies, daily breakfast eaters were less likely to have cardiovascular risk factors, including increased serum LDL, low serum HDL cholesterol and increased blood pressure<sup>27,35</sup>. An overall breakfast quality, high in cereals, fruit and vegetables and low in red and processed meat may be helpful to maintain a healthy cardiometabolic profile, especially in middle-age men<sup>53</sup>.

### **Effect of breakfast on cognitive functioning, academic and class performance**

Many studies have shown that breakfast consumption has an immediate positive effect on cognitive performance, in particular on memory and attention span, especially in the second half of the morning, when there is a decline in these skills<sup>27</sup>. Several authors emphasise how a low glycaemic index breakfast positively influences these functions<sup>27,54,55</sup>

A healthy breakfast is associated with an increased ability to solve mathematical problems and better comprehension while reading and listening. The activity in regions of the brain involved with mental arithmetic is functionally greater in children who had breakfast compared to those whose last meal had been dinner the night before<sup>27</sup>.

Regular breakfast consumption have a positive impact on school performance, specifically improved academic grades<sup>48,58</sup>. Parameters such as memory, concentration, grades obtained and attendance were found to differ significantly between those skipping breakfast and those who do not<sup>30</sup>. Significantly improved grades in mathematics have been found in regular breakfast eaters<sup>26,27,60</sup>.

Adolescents who regularly eat breakfast that provide more than 25 per cent of their total estimated energy needs and included four or more food groups from cereals, fruit, dairy and fat were more likely to achieve higher grades than consuming no breakfast or breakfast lacking the specified food groups<sup>56</sup>. In another study, higher than average grades were obtained in adolescents who habitually consumed a breakfast containing three food groups from cereals, fruit and dairy compared with those consuming no breakfast or breakfast providing one of the specified food groups<sup>57</sup>.

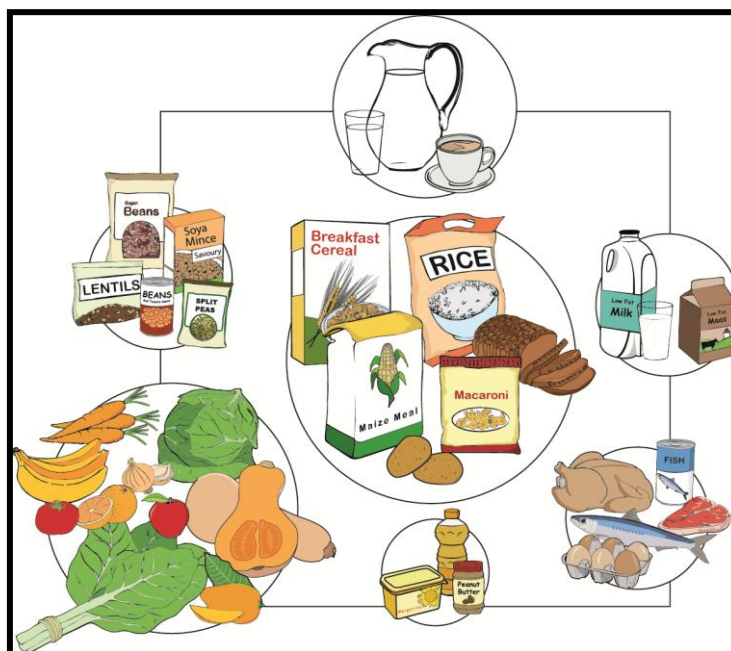
Regular breakfast eaters show improved school attendance, less tardiness<sup>60</sup>, less disruptive behaviour in class<sup>26</sup> and less hyperactivity (as rated by their teachers), whilst they were engaged in class learning activities<sup>58,60</sup>.

Children who are food insecure or undernourished have been found to have poorer cognitive functioning when they miss breakfast<sup>59</sup>. Children and adolescents experiencing hunger have lower mathematics scores, poorer grades and are more likely to repeat a grade<sup>26</sup>.

Studies have highlighted how the positive effect of breakfast on cognitive functioning is greater in children whose nutritional status is compromised<sup>27</sup>. The positive effect of breakfast on children's behaviour and cognitive performance, particularly with regard to memory and attention, is most demonstrable in children with below normal height or weight for their age<sup>28,60</sup>. Regular breakfast consumption has an immediate positive effect on cognitive performance<sup>60</sup>, with regard to alertness, attention, memory, problem-solving and arithmetic grades<sup>61</sup>, particularly among undernourished children<sup>60</sup>.

## SOUTH AFRICAN GUIDELINES FOR HEALTHY EATING (FBDGs) FOR ADULTS AND CHILDREN FIVE YEARS AND OLDER AND THE FOOD GUIDE

- Enjoy a variety of foods.
- Be active.
- Make starchy foods part of most meals.
- Eat plenty of vegetables and fruit every day.
- Eat dry beans, split peas, lentils and soya regularly.
- Have milk, maas or yoghurt every day.
- Fish, chicken, lean meat or eggs can be eaten daily.
- Drink lots of clean, safe water.
- Use fats sparingly. Choose vegetable oils rather than hard fats.
- Use sugar and foods and drinks high in sugar sparingly.
- Use salt and food high in salt sparingly.



This picture depicts the Food Guide. The size of the circles reflects the proportional volume that those foods should contribute to the total daily intake.



**EXAMPLE OF A MENU PLAN**

This eight-day menu is an example of good mixed meals that could be eaten by the whole family. The Department of Basic Education provides learners in mainly quintile 1, 2 and 3 schools with one meal per day that should provide a third of their daily nutrient needs, through the National School Nutrition Programme (NSNP). The menu items in Annexure III can be replaced by food items from the same food groups depending, on what is available and according to the budget.

MEAL	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7	DAY 8
Breakfast	Maize meal porridge	High-fibre cereal	Muesli	Oats	Mabele/sorghum porridge	Maize meal porridge	Toast, margarine thinly spread	Mabele/sorghum porridge
	Eggs	Milk	Yoghurt	Milk	Milk	Milk/Maas	Scrambled eggs	Milk
							Tomato slices	
	Fresh fruit	Fresh fruit	Fresh fruit	Fresh fruit	Fresh fruit	Fresh fruit	Fresh fruit	Fresh fruit
<b>School meal provided by NSNP</b>	<i>Lentil curry Rice Boiled butternut</i>	<i>Soya mince relish Samp Spinach</i>	<i>Sugar bean stew Maize meal porridge Carrots</i>	<i>Pilchard stew Brown bread Cabbage salad</i>	<i>Sugar bean curry Rice Beetroot</i>	<i>Maas Maize meal porridge Fruit</i>	<i>Soya mince stew Maize meal porridge Pumpkin</i>	<i>Sugar bean stew Rice Cabbage</i>
Morning snack	Ditloo/peanuts	Fresh fruit	Fresh fruit	Fresh fruit	Fresh fruit	Peanuts and raisins	Yoghurt	Fresh fruit
Lunch	Brown bread	Brown bread	Brown bread	Brown bread	Brown rolls	Mashed potato	Samp	Brown bread
	Mayonnaise thinly spread	Peanut butter	Margarine thinly spread	Margarine thinly spread				
	Left-over chicken		Boiled egg	Maas/yoghurt	Soya mince meat balls	Pilchard fish, stewed	Grilled chicken/ chicken stew	Left-over lentil and vegetable curry
						Beetroot salad	Mixed vegetables	
Supper	Tasty mince (with mixed vegetable)	Pilchard kedgeree	Grilled beef /lamb /pork chops	Beans, onion, tomato, carrots stew	Chicken liver stew	Maas /Mopani worms	Lentil and vegetable curry	Cottage pie with potato/ sweet potato mash topping
	Rice	Mashed potato	Maize meal porridge	Samp	Maize meal porridge	Maize meal porridge	Rice	
	Butternut	Green beans	Mixed vegetables	Cabbage	Spinach	Tomato slices/ relish		Carrots
Daily	Water	Water	Water	Water	Water	Water	Water	Water



## EXAMPLE OF A MASTER SHOPPING LIST

This is a master shopping list that can be used while purchasing groceries. The list includes food items from the different food groups to ensure preparation of meals that provides the different nutrients. Always buy vegetables and fruit that are locally available and in season. Some of the items such as mopani worms and amadumbe are area specific and are included on the shopping list to indicate that they form part of a healthy plan.

Starchy foods	Vegetables and fruit	Dry beans, peas, lentils, soya	Chicken, fish, meat, eggs	Milk	Oil	Other
Fortified maize meal/mabele (sorghum)	Onions	Beans	Chicken, fresh	Low-fat milk	Sunflower/canola/olive oil	Vinegar
Breakfast cereals (high fibre)/oats	Carrots	Lentils	Chicken feet/gizzards/hearts	Maas	Peanut butter	Salt
Brown/whole wheat/rye bread	Butternut	Savoury soya mince	Ox/lamb/chicken livers	Buttermilk	Soft margarine	Mixed herbs
Rice/potato/sweet potatoes/amadumbe	Pumpkin	Split peas	Eggs	Unsweetened yoghurt	Peanuts/other nuts (unsalted)	Curry
Samp/corn/mealie	Tomatoes		Pilchard/salmon/tuna		Pumpkin/sunflower seeds	Low-fat mayonnaise/salad dressing
Macaroni/spaghetti	Spinach/Imifino/morogo/pumpkin leaves		Mopani worms		Avocado	Sugar
	Beetroot		Lean pork/beef/lamb chops (remove all visible fat before cooking)			Tea
	Cabbage					
	Frozen vegetables					
	Fresh fruit, e.g. orange, apple, banana, pineapple, pawpaw		Lean mince (Remove all visible fat before cooking)			
	Any other vegetable and fruit that is locally available					


PORTION CONTROL GUIDE

## PORTION CONTROL GUIDE


**Size of palm:**

Meat  
Fish  
Chicken  
Dry beans,  
split-peas  
lentils



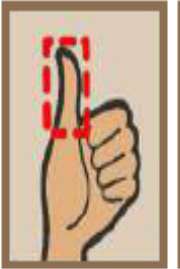
**Handful:**

Nuts  
Raisins




**Clenched fist = 1 cup:** Cooked pap, rice, samp, pasta, potato, fruit

**2 Handfuls:**  
Vegetables



**Thumb:**


Peanut butter  
Hard cheese



**Choose your portion with caution!!**

**Tip of thumb = 1 teaspoon:**

All oils,  
mayonnaise,  
margarine



**Use your hand to estimate portion size**

## RECIPES

**Creamy oats with cinnamon and banana****Serves 4**

- 1 cup (250 ml) uncooked oats
- 1½ cups (375 ml) water
- 1½ cups (375 ml) low-fat milk
- ¼ tsp (1.2 ml) salt
- 1 – 2 bananas, sliced
- 1 tsp (5ml) ground cinnamon



1. Place oats, water, milk and salt in a saucepan and bring to the boil over medium heat. Once it starts to simmer stir constantly to prevent lumps. Simmer for 5 – 10 minutes or until cooked.
2. Serve oats with banana and cinnamon

**(Source and image:** *Cooking from the Heart 2 - a collaboration between the Heart and Stroke Foundation SA and Pharma Dynamics*)<sup>62</sup>

**Microwave oats porridge****Serves 1**

- 1/4 cup (60 ml) uncooked oats
- ¾ cup (180 ml) water (or half water and half low-fat milk)
- pinch of salt

Place in a big enough glass bowl or microwave container and microwave for 3 – 5 minutes, depending on your microwave. Stir often and make sure it does not boil over.

**Tips:**

1. Pumpkin or sunflower seeds are delicious with oats and fruit. Try chopped, raw, unsalted almonds – use 2 tablespoons (30 ml) per portion of oats.
2. If you are used to sugar – try this version – the fruit add a natural sweetness and you will not miss the sugar. If you struggle at first, gradually reduce the sugar until you do not need it anymore.

**(Source:** *The University of Nebraska – Lincoln Extension*)<sup>63</sup>

## **Basic overnight oats recipe**

### **Serves 1**

1/3 cup (80 ml) oats  
1/2 cup (250 ml) low-fat milk  
1/3 cup (80 ml) unsweetened, low-fat yogurt  
1/2 tablespoon chia seeds (optional)  
Approximately 1/2 teaspoon (2.5 ml) honey or maple syrup

1. Put all of the ingredients in a mason jar (or container of your choice.)
2. Put the lid on and shake it up until all ingredients are combined.
3. Store in fridge overnight (or up to 3 days) and enjoy.
4. Top with any toppings you like (fruit, peanut butter, granola, cereal, etc.)

***Tailor to your own taste preference by adding some of the following ingredients to your basic overnight oats recipe:***

### **Chocolate peanut butter banana**

1 tablespoon (15 ml) cocoa  
1/3 of a banana, sliced  
1 tablespoon (15 ml) peanut butter

### **Strawberries and cream**

3-4 strawberries, chopped  
1 teaspoon (5 ml) vanilla extract

### **Peaches and cream**

1/2 of a peach, chopped  
1 teaspoon (5 ml) vanilla extract

### **Apple cinnamon**

1/2 (2.5 ml) teaspoon cinnamon  
1/3 of an apple, chopped

***(Source: Student Health and Wellbeing, UC San Diego)<sup>64</sup>***

## Homemade muesli

### Makes 1.2 kg

1 kg (1 box) uncooked oats  
½ cup (125 ml) raw almonds, chopped (optional)  
½ cup (125 ml) sunflower seeds (optional)  
5 tablespoons (75 ml) sunflower oil  
2 tablespoons (30 ml) honey or sugar  
2 teaspoons (10 ml) vanilla essence



1. Preheat oven to 180°C and line a baking tray with baking paper.
2. Place oats, nuts and seeds in a large mixing bowl. Place oil and honey or sugar in a separate bowl and melt in the microwave or a small saucepan over low heat for a few minutes. Stir in the vanilla.
3. Mix oil mixture well into oats mixture.
4. Spread oats in a single layer on the baking paper. Roast for 10 minutes. Stir through and roast for another 8 – 10 minutes or until golden brown and crispy.
5. Remove from the oven and allow to cool completely. Store in an airtight container for up to 4 weeks.
6. Serve ½ cup (125 ml) of muesli with ¼ cup (60 ml) of unsweetened low fat yogurt and ½ cup (125 ml) of any fresh fruit (use seasonal fruit like peaches, mangoes grapes or berries in summer and pawpaw, banana, grapefruit, kiwi or naartjies in winter).
7. Add a pinch of cinnamon for more flavour.

*(Source and image: Cooking from the Heart 2 - a collaboration between the Heart and Stroke Foundation SA and Pharma Dynamics)*

## Mix and match trail mix

### Serving size: ¼ cup (60 ml)

2 cups raw walnut halves/pieces or slivered almonds (or other nuts)  
2 cups raw pumpkin seeds (or other seeds of choice)  
1 cup dried cranberries or dried cherries (or other dried fruit of choice)  
¼ cup dark choc chips (> 80% cocoa) or cocoa nibs

Mix all ingredients together and store in airtight container.

(Source: Angela Stanford)<sup>65</sup>

## Fresh fruit salad

### Winter fruit salad

#### Serves 5

- 1 medium apple or pear
- 1 medium banana
- ½ medium pineapple
- 1 small grapefruit, orange or large naartjie
- ½ medium papaya

### Summer fruit salad

- 1 medium apple
- 1 medium banana
- ½ medium pineapple
- 1 medium peach or large apricot or plum
- 200 g berries, strawberries or grapes
- 1 small mango



#### To serve:

- 300 ml plain low-fat, unsweetened yoghurt
- 150 ml sunflower seeds or chopped almonds

1. Prepare fruit by peeling, coring, slicing and chopping according to your choice of fruit. Mix together gently.
2. Serve 1 cup (250 ml) of fruit salad per person and add ¼ cup (60 ml) plain low-fat yoghurt and 2 tablespoons (30 ml) sunflower seeds or almonds for a filling breakfast.

#### Tips:

1. Sprinkle with cinnamon or mint for a different flavour. Try to avoid adding honey as the fruit is naturally sweet. Any nuts or seeds of your choice are delicious with this breakfast.
2. If preferred, serve fruit salad with ¼ cup (60 ml) homemade oats for a more filling breakfast.
3. Enjoy ½ cup (125 ml) fruit salad as a snack portion between meals.
4. One portion of whole fruit, the size of your fist = 1 portion of fruit; 1 cup (250 ml) of peeled and cut fruit for breakfast = 2 portions of fruit for the day.
5. Lemon juice is a great seasoning when serving fruit. Add a few drops to 1 cup (250 ml) sliced fruit for extra flavour. This can prevent the fruit from browning too quickly.

(Source and image: Cooking from the Heart 2 – a collaboration between the Heart and Stroke Foundation SA and Pharma Dynamics)

## Yoghurt parfait

- 1 cup (250 ml) unsweetened, low-fat yoghurt
- ½ cup sliced fresh fruit, e.g. banana, papaya
- ¼ cup (60 ml) toppings of choice, e.g. raw chopped almonds/peanuts or granola/muesli or sunflower seeds

Put the yoghurt in a glass and top with sliced fruit and then add topping of your choice.

(Source: Environmental working group)<sup>66</sup>



## Super smoothie

### Serves 4 - 5

A smoothie can be an interesting way to incorporate a variety of fruit into your breakfast. It is also quick and easy to enjoy – even on your way to work or school. By adding nuts or uncooked oats, you make the smoothie a bit more filling, which will keep you fuller for longer. Remember that a smoothie has to be nutritious otherwise it digests too fast – leaving you hungry sooner. A smoothie can be part of a breakfast with a small portion of eggs or muesli and yoghurt.

½ medium papaya or 1 large mango, peeled and cubed  
1 small banana, sliced  
2 pears, plums, peaches or nectarines, cubed with the skin on  
½ small pineapple, peeled and cubed  
¼ cup (60 ml) uncooked oats or ground almonds (optional)  
Ice cubes to serve

1. Place fruit in a blender or food processor and blend until smooth. Add oats or almonds, if preferred and blend for a few more minutes.
2. Place ice in tall glasses and pour smoothie into each glass. Thin down with a little water, yoghurt, rooibos tea or low-fat milk if too thick for your preference.

### Tips:

1. When in season strawberries, grapes, mango and berries are delicious. Apples also work well.
2. A small glass of smoothie can be enjoyed as a snack.
3. Add mint and a small piece of ginger to the fruit before blending for extra flavour.
4. Overripe fruit can be peeled, cut and frozen in freezer bags. Add this fruit to smoothies before blending for an ice cold treat.

*(Source and image: Cooking from the Heart 2 - a collaboration between the Heart and Stroke Foundation SA and Pharma Dynamics)*

## Microwave scrambled eggs

### Serves 1

1 egg  
1 tablespoon low-fat milk or water

1. Spray glass bowl or other microwave-safe dish with non-stick spray.
2. Add milk or water and egg, blending lightly with a fork.
3. Cover with plastic wrap and cook on HIGH for 30 to 45 seconds for 1 egg.
4. Remove from microwave and stir.
5. Cover and let stand 2 to 3 minutes.
6. Season to taste

Variations • Add onions, peppers, or other vegetables before microwaving to add colour and flavour to the eggs. • Sprinkle with cheese or top with salsa after taking the eggs out of the microwave.

*(Source: University of Nebraska-Lincoln Extension)<sup>67</sup>*

## **Eggy toast**

### **Serves 4**

Eggy toast is an easy way to get kids to enjoy eggs if they do not like scrambled or fried eggs. Different toppings can be added for an interesting weekend breakfast or brunch idea.

4 eggs  
½ cup (60 ml) water  
¼ teaspoon (1.2 ml) salt  
Black pepper to taste  
1 tablespoon (15 ml) sunflower or canola oil for frying  
4 slices brown or whole-wheat bread

### **To serve**

2 pears, bananas, or other fresh fruit, sliced  
1 teaspoon (5 ml) honey per person  
Ground cinnamon

**or**

1 tomato, sliced  
½ cup (125 ml) grated cheddar or mozzarella cheese  
1 tablespoon (15 ml) chopped fresh herbs of your choice

1. Whisk eggs with water and season with salt and black pepper. Place in a shallow bowl.
2. Heat half of the oil over a medium heat in a frying pan.
3. Dip a slice of bread in the egg mixture and turn over with two forks to cover the bread completely with the egg mixture.
4. Fry 1 – 2 slices of bread on both sides until golden brown and repeat with the remaining bread and eggs. If the pan is big enough, all the slices can be fried together. If the pan is too small, do not dip the bread in the egg mixture too long in advance as it could become too soggy to handle and fry.
5. Remove bread from pan and keep warm while frying the rest.
6. Serve with slices of fruit, drizzle with honey and sprinkle with cinnamon. Or serve with tomato and cheese and sprinkle with herbs.

**(Source: *Cooking from the Heart 2* - a collaboration between the Heart and Stroke Foundation SA and Pharma Dynamics)**

## Egg-in-a-cup

### Serves 6

This is a quick, yet interesting way to serve eggs for breakfast or brunch. You can prepare the veggie filling or use left-over veggies. This recipe uses no salt, as the feta adds enough of a salty flavour.

3 teaspoons (10 ml) sunflower or olive oil  
1 onion, chopped  
2 baby marrows, thinly sliced  
3 spinach leaves, shredded or sliced  
1 tablespoon (15 ml) dried oregano or 2 tablespoons (30 ml) chopped fresh oregano  
1 slice feta, crumbled  
Lemon juice and black pepper to taste  
eggs

1. Heat oil over a medium heat in a small frying pan and fry onion and baby marrows until just soft.
2. Stir in spinach and herbs and fry until spinach has just wilted. Remove from the heat, stir in half of the feta and season to taste with lemon juice and pepper.
3. Divide mixture between 6 lightly greased, ovenproof cups or ramekins (ceramic bowls). Choose cups or bowls that will fit into a saucepan or frying pan, so that it can be covered with a lid.
4. Bring 2-3 cm of water in the saucepan to a gentle simmer over medium heat.
5. Crack an egg into each cup, over veggies and sprinkle with remaining feta.
6. Carefully place cups in water in the saucepan or frying pan and fill with more boiling water if necessary, so that the cups stand halfway in water.
7. Cover with the lid and reduce the heat. Simmer gently for 8 – 10 minutes or until the egg yolks are cooked to your preference.
8. Serve with black pepper and salad ingredients or a slice of whole-wheat toast per person. A small portion of fruit can also be served instead of the salad ingredients.

### Tips:

Any left-over veggies, meat or chicken can be spooned into the bottom of the cups or bowls. Use about 80 – 100 ml filling per cup

Substitute the baby marrow for small broccoli florets or use 125 g mushrooms sliced.

Left-over or tinned fish will also be delicious. Try tuna with the baby marrows or just spoon pilchards in tomato sauce into the bottom of the cups. Prepare a light meal by using slightly bigger bowls and adding two eggs per container.

*(Source and image: Cooking from the Heart 2 - a collaboration between the Heart and Stroke Foundation SA and Pharma Dynamics)*

## Versatile scrambled eggs

### Serves 4-6

8 eggs  
½ cup (125 ml) water  
½ teaspoon (2.5 ml) salt  
Black pepper to taste  
2 teaspoons (10 ml) sunflower or olive oil  
3 tablespoons (45 ml) fresh herbs of your choice, like  
oregano, parsley, dill or thyme

### Add any 1 of the following

½ cup (125 ml) grated cheddar or mozzarella cheese  
1 slice feta crumbles  
1 x 170 g tuna in water, drained  
½ cup (125 ml) frozen peas or whole kernel corn, rinsed and patted dry  
125 g mushrooms, sliced and pan-fried in a very small amount of oil



1. Beat eggs with water, salt and pepper in a bowl.
2. Heat oil in a frying pan over medium heat and add the egg mixture.
3. Allow egg to start setting before stirring too much. Then gently stir egg with an egg lifter, to ensure that all the raw egg is cooked. Do not over-mix the eggs and do not make the pan too hot, otherwise the eggs can separate quite easily. Reduce heat if necessary.
4. If you want to add another ingredient from the list above, add this after stirring the eggs for the first time.
5. Gently stir scrambled eggs until just cooked and serve immediately. Sprinkle with herbs and black pepper and serve with a slice of wholewheat or brown toast per person and tomato slice, if preferred.

### Tip:

For a delicious, yet easy seasoning, stir the chopped herbs into the egg mixture, before adding.

*(Source: Cooking from the Heart 2 - a collaboration between the Heart and Stroke Foundation SA and Pharma Dynamics)*

## Baked beans on toast

### Serves 4

Baked beans and bread both contain salt already so there is no need to add more to this dish. The lemon juice, black pepper, herbs and chutney adds a delicious flavour to this quick breakfast.

1 x 410 g tin baked beans in tomato sauce  
2 x teaspoons (10ml) dried mixed herbs  
2 tablespoons (30 ml) chutney  
Lemon juice and black pepper to taste  
1 slice whole-wheat or brown bread, toasted  
1 avocado, cubed (when in season)  
fresh oregano leaves (optional)

1. Place beans, dried herbs and chutney in a saucepan. Bring to the boil over a medium heat. Reduce the heat and simmer until warmed through.
2. Season with lemon juice and hot pepper. Serve hot on toast with avocado and oregano.

### Tips:

1. To add more flavour, season with paprika, any fresh herbs or even 2 teaspoons (10 ml) pesto. Fresh basil or thyme is delicious with beans. Stir in ½ teaspoon (2.5 ml) curry powder and 2 teaspoons (10 ml) chopped coriander for a spicier version.
2. For an even more filling breakfast, fry an egg in a little oil and serve on the beans or enjoy with a boiled egg. If preferred, serve beans only with the avocado.
3. Rye bread is delicious with baked beans.
4. This is ideal as a light lunch or supper as well.
5. Try to choose a good quality chutney that is lower in added salt and sugar. Check your food label.

*(Source and image: Cooking from the Heart 2 - a collaboration between the Heart and Stroke Foundation SA and Pharma Dynamics)*



## Omelette with broccoli and cheese

### Serves 4

2 tablespoons (30 ml) sunflower or canola oil  
1 onion, sliced  
100 g broccoli, cut in florets  
1 tablespoon (15 ml) dried mixed herbs  
Lemon juice and black pepper to taste  
6 eggs, beaten  
½ teaspoon salt  
½ cup (80 ml) grated cheddar or mozzarella cheese



1. Heat half the oil in a frying pan over a medium heat and fry onion until soft.
2. Add broccoli and herbs and fry for a few more minutes until broccoli is just cooked but still crunchy.
3. Season broccoli with a few drops of lemon juice and pepper.
4. Beat eggs and salt together. Add remaining oil to the veggies in the pan and stir through.
5. Pour eggs evenly over veggies, but do not stir. Reduce heat slightly.
6. Allow egg to set and lift cooked egg around the edges with an egg lifter, to allow raw egg to run underneath. Continue with the process until most of the egg has set, but do not stir the eggs. Sprinkle with cheese and allow to melt slightly.
7. Cover with a lid for a few minutes or until the egg is just set on top.
8. Serve with salad, slices of tomato or a slice of whole-wheat toast. A dollop of chutney or sweet chilli sauce will also be delicious.

### Tips:

Any veggies of your choice can be used for this omelette. If the veggies have lots of liquid, like mushrooms or tomatoes first sauté them for a few minutes, like the broccoli in step 2, otherwise it could draw water once the egg is added.

*(Source and image: Cooking from the Heart 2 - a collaboration between the Heart and Stroke Foundation SA and Pharma Dynamics)*

## Weekend oven-roasted veggies

Serves 4

This is a delicious, warm vegetarian breakfast and the veggies are very versatile. See the tips below:

- 2 tablespoons (30 ml) canola or olive oil
- 2 tablespoons (30 ml) red wine or balsamic vinegar
- 1 tablespoon (15 ml) dried mixed herbs
- ½ teaspoon (2,5 ml) salt
- Lemon juice and black pepper to taste
- 2 onions cut in thin wedges
- 3 baby marrows, cut in thick slices
- 3 large tomatoes, cut in wedges
- 1 green or red pepper, cut in slices
- 3 large spinach leaves, shredded
- 4 – 8 eggs
- 4 slices whole-wheat bread, toasted
- Large handful of fresh basil or parsley leaves (optional)
- 1 avocado, sliced (when in season)



1. Preheat oven to 200°C. Mix vinegar and dried herbs in a large bowl. Season with half the salt, lemon juice and pepper.
2. Add all the veggies, except the spinach and mix well to coat with the oil. Place in a single layer in a large baking tray.
3. Roast for 20 minutes or until the veggies are golden brown and cooked. Stir in spinach and roast for another 5 minutes to heat through.
4. Meanwhile, heat a very thin layer of oil in a frying pan. Fry eggs over a medium heat until cooked to your preference. Season with the remaining ¼ teaspoon (1.2 ml) salt
5. Serve spoonfuls of veggies on toast. Place an egg (or 2 for a more filling breakfast or brunch) on top and season with pepper. Garnish with herbs and serve immediately with slices of avocado.

### Tips:

1. Serve these veggies as a side dish with meat, fish or sausage or stir in a tin of chickpeas for a vegetarian meal. Left-overs are perfect for a lunch box.
2. If you enjoy an egg with a runny yolk, the yolk will be extra 'sauce' on the veggies.
3. Make a double batch of the veggies and use some for supper, tossed into pasta.
4. If you do not want to serve the veggies with eggs, heat a tin of pilchards in tomato sauce and serve on the veggies.

*(Source and image: Cooking from the Heart 2 - a collaboration between the Heart and Stroke Foundation SA and Pharma Dynamics)*

### Spicy pan breakfast

**Serves 6**

5 teaspoons (25 ml) sunflower or canola oil  
2 onions, halved and thinly sliced  
1 clove of garlic, crushed  
1 tablespoons (15 ml) finely grated fresh ginger  
1 carrot, grated  
1 baby marrow, grated  
1 teaspoon (5 ml) cumin  
1 teaspoon (5 ml) ground coriander  
1 teaspoon (5 ml) paprika **or**  
a pinch of cayenne pepper  
1 chilli, seeded and chopped (optional)  
1 x 410 g tin chopped tomatoes  
½ teaspoon (2.5 ml) salt  
Lemon juice and black pepper to taste  
6 eggs  
3 tablespoons (45 ml) chopped fresh coriander or parsley



1. Heat half of the oil over a medium heat in a large frying pan. Fry onions, garlic and ginger until soft. Add carrot and baby marrow and fry for a few minutes.
2. Stir in the spices and chilli and fry until aromatic. Add tomatoes, reduce heat and simmer for 5 minutes. Season with salt, lemon juice and peppers.
3. Make 6 openings in the sauce and divide the rest of the oil between these openings.
4. Crack an egg into each opening and simmer with a lid for 4-5 minutes or until the yolks are cooked to your preference.
5. Sprinkle with fresh herbs and serve on toast or with slices of avocado.

#### Tips:

1. Other veggies like brinjals, baby marrows or mushrooms can be fried with the onions.
2. Add a tin of beans to the sauce before adding the eggs, to make this an even more filling breakfast or light meal.

*(Source and image: Cooking from the Heart 2 - a collaboration between the Heart and Stroke Foundation SA and Pharma Dynamics)*

### Carrot muffin

**Makes 30 muffins (80 g each – 1 muffin per serve)**

3 cups (750 ml) whole wheat flour  
2 teaspoons (5 ml) baking soda  
2 teaspoons (10 ml) baking powder  
½ teaspoon (2.5 ml) cinnamon, ground  
¼ cup (62.5 ml) sugar  
½ cup (125 ml) vegetable oil  
1 cup (250 ml) yogurt, unsweetened yogurt  
4 eggs, beaten  
2 teaspoon (10 ml) vanilla  
3 cups (750 ml) carrots, shredded

1. Preheat oven to 180°C.
2. In a large bowl, mix together flour, baking soda, baking powder, cinnamon, and sugar.
3. In another bowl, combine oil, yogurt, eggs, and vanilla.
4. Add wet ingredients to dry ingredients. Stir until just combined. Fold in carrots.
5. Divide batter between greased/lined muffin tins.
6. Bake for 15 - 20 minutes until golden.

*(Source: Ottawa Public Health)<sup>68</sup>.*



### **Bran muffins**

**Makes 24 muffins (75 g each – 1 muffin per serve)**

2½ cups (625 ml) whole-wheat flour  
¼ cup (62.5 ml) sugar  
2 tablespoons (30 ml) baking powder  
4 cups (1 litre) high bran flour  
2 eggs, beaten  
3 cups (750 ml) milk  
½ cup (125 ml) vegetable oil  
2 teaspoon (10 ml) vanilla  
Optional: fruit (fresh, frozen or dried)

1. Preheat oven to 200°C.
2. In medium bowl, mix together the dry ingredients.
3. In separate bowl, combine high bran flour and milk. Let stand about 2 minutes or until bran softens. Add egg and oil. Beat well.
4. Add wet ingredients to dry ingredients. Stir until just combined. Fold in optional ingredients if desired.
5. Divide batter between greased/lined muffin tins.
6. Bake for approximately 20 minutes until golden.

(Source: Ottawa Public Health)<sup>69</sup>

### **Cheese and vegetable muffins**

**Serves 12 (1 muffin per serve)**

2 cups (500 ml) self-raising flour  
1 teaspoon (5 ml) paprika  
1 cup grated cheddar cheese (preferably reduced fat)  
½ cup (125 ml) grated pumpkin\*  
½ cup (125 ml) grated zucchini\*  
2 eggs, lightly beaten  
2 tablespoons (30 ml) margarine, melted  
1 cup (250 ml) low-fat milk  
2 teaspoons (5ml) sesame seeds (optional)

\*Substitute the pumpkin and/or zucchini for other grated/finely diced vegetables, e.g. carrots, bell's peppers, spring onion or mushroom or use equal amount of frozen diced mixed vegetables if preferred.

1. Preheat oven to 200°C.
2. Spray cooking spray on a 12 cup muffin pan.
3. Combine dry ingredients in a large bowl. Add cheese and grated vegetables.
4. In a separate bowl combine eggs, melted margarine and milk. Add to dry ingredients. Stir until just combined.
5. Spoon mixture into muffin tray, sprinkle with sesame seeds and bake for 25 minutes or until cooked.

(Source: Unknown)<sup>70</sup>

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<sup>70</sup> Source: unknown (G:\Enterprises\CommunityWellbeing\Health\OPAL\HE and PA resources\Kids in the kitchen cooking\Recipes\Cheese and vegetable muffins.docx)