Breakfast cereals seem to have hit the headlines a lot in the last few years, and the press coverage is not always good. Recent headlines include ‘Named and shamed: The cereals with more sugar than a bowl of ice cream’ (Daily Mail 2009), ‘A third of breakfast cereals too salty or sugary, watchdog says’ (The Daily Telegraph 2009) and ‘Unhealthy cereals – it’s enough to put you off your breakfast’ (The Times 2009). Breakfast cereals were also the subject of a recent Channel 4 Dispatches programme (‘What’s in your breakfast?’) that was aired in October 2009.

Many people think of breakfast cereal as a healthy start to the day, and parents often choose breakfast cereals as they consider them to be a healthy option for their children – so these media reports are likely to be generating a lot of confusion amongst consumers. The media reports have focused primarily on the levels of salt and sugar in some breakfast cereals. Several were stimulated by a recent report by Which? entitled ‘Going against the Grain’ that examined 100 cereals, highlighting the organisation’s verdict on the ‘best and worst’ in terms of salt, sugar, fat and saturates content (Which 2009). The recent Channel 4 Dispatches programme also shone the spotlight on leading brands of breakfast cereals and suggested that manufacturers may be misleading consumers by branding their cereals as ‘healthy’ by using claims such as ‘contains wholegrain’ or ‘fortified with vitamins and iron’ when they contain relatively high levels of salt and/or sugar.

So, should we be eating breakfast cereals at all if we are to believe all the reports in the media? Well perhaps the first question to address is, how important is it to eat breakfast in the first place? Breakfast is important as it provides energy for the day’s activities, as well as making an important contribution to nutrient intake. People who eat breakfast are more likely to have nutritionally balanced diets, and young children in particular may have difficulty obtaining sufficient energy and nutrients throughout the day if they miss out on breakfast. In a study of 467 10-year-old US schoolchildren, those who consumed breakfast were found to have a higher intake of vitamins A and E, B vitamins and iron. Those skipping breakfast (16% of children) were less likely to achieve even two thirds of their recommended daily intake for vitamins and minerals (Nicklas et al. 1993).

Some studies have also shown eating breakfast to be associated with better school performance and attendance among children (e.g. Rampersaud et al. 2005). Eating breakfast can also help with maintenance of a healthy weight, probably by reducing the tendency to snack on foods high in fat and/or sugar throughout the morning. A recent review of observational studies concluded that regular breakfast cereal consumption is associated with lower body mass index (BMI) and a reduced likelihood of being overweight, although this relationship could be affected by confounding lifestyle factors (de la Hunty & Ashwell 2007).

For many people, cereal is an easy, convenient option, but is it always healthy? This is a question of particular concern for parents who understandably want to give their children a healthy start to the day. Moreover, we know that breakfast cereals are a very popular choice at breakfast time – data from the National Diet and Nutrition Survey (NDNS) show that 69% of adults and children consume breakfast cereals (Gregory et al. 2000; Henderson et al. 2002).

Table 1 shows the sugar, fat and salt content of six leading breakfast cereals popular with both adults and children. Of these, Coco Pops have the highest sugars content (34 g per 100 g), with a standard 30 g serving providing just over 10 g of added sugars which is equivalent to two teaspoons. Guideline Daily Amounts (GDAs) provide a benchmark for intake of calories and a number of macronutrients, and a serving of this cereal provides 12% of the GDA for total sugars for children aged 5–10 years. However, as the table illustrates, many other popular breakfast cereals have relatively low sugar contents. For example, Corn Flakes contain only 8 g per 100 g (2.5 g per 30 g serving), while Weetabix contains only 4.4 g of sugars per 100 g (1.7 g per serving).
style muesli contains 23.1 g of total sugars per 100 g, providing just over 10 g per serving. Although some of this sugar is in the form of ‘added sugar’ (i.e. non-milk extrinsic sugar), a significant proportion also comes from the dried fruit (as fructose) and dried milk powder (as lactose). Other cereals that contain dried fruit will naturally have a higher sugar content.

All of the cereals selected are fairly low in fat, the highest being Swiss style muesli, which contains 5 g per 100 g of fat, but most of this is coming from nuts in the cereal (and is therefore predominantly monounsaturated, rather than saturated fat). With regard to the salt content, of the cereals selected, Corn Flakes are highest in salt, providing 1.75 g per 100 g and 0.5 g per standard 30g serving. A portion therefore provides 12.5% of the GDA for children aged 5–10 years and 8% of the adult GDA. The remaining cereals are lower in salt, ranging from 0.38 to 1.65 g per 100 g and 0.5 g per standard 30g serving. A serving therefore provides 4–12.5% of the GDA for 5–10 year olds. So, when the amounts of fat, sugars and salt are scrutinised closely, they are certainly not as bad as the media reports suggest. Furthermore, data from the NDNS of young people (4–18 years) show that breakfast cereals contribute only 6–7% of total sugars intake and 7–9% of total salt intake in children (Gregory et al. 2000).

There were also recent media reports about the salt levels in breakfast cereals following a survey by the Food Standards Agency (FSA), which questioned 2000 people across the UK about their attitudes to salt. The survey, carried out in 2009, found that more than three quarters of people were not aware that bread and breakfast cereals are among the foods that can contribute significantly to the total amount of salt in the diet because they are dietary staples. The survey is part of the FSA’s ongoing work to reduce people’s salt intake. However, the press release that was issued to highlight the report did not suggest that people stop eating bread or breakfast cereals, just that consumers should be more aware of the salt content of foods and choose lower salt options. Rosemary Hignett, Head of Nutrition, is quoted as saying: ‘We’re not suggesting people stop eating these foods. In fact, we encourage people to eat bread and breakfast cereals, as they are an important part of a healthy diet. But we are saying take a look at the labels to find those that are lower in salt. This could be a supermarket own-label product, and maybe one from the “value” range. If so, any cost saving is an added bonus’ (FSA 2009).

Aside from the fat, salt and sugar content, breakfast cereals also provide essential micronutrients, such as B vitamins and iron, particularly if they are fortified. Not all breakfast cereals are fortified – muesli, porridge and oat-based cereals tend not to be fortified. Table 2 shows the B vitamin, iron and fibre content of a number of popular breakfast cereals. All of these cereals are fortified with the exception of Swiss style muesli. Note that not all micronutrients are included in the table and some cereals may be fortified with other vitamins and minerals, such as calcium and vitamin D.

Data from the NDNS illustrate that fortified breakfast cereals make a significant contribution to micronutrient intakes, particularly in children, providing an important source of B vitamins (including folic acid) and iron. Analysis of data from the NDNS of young people (4–18 years) found that children with higher intakes of breakfast cereals (30–40 g per day) have 20%–60% higher intakes of iron, B vitamins and vitamin D compared with low breakfast cereal consumers. High breakfast cereal consumers were also shown to have better folate, riboflavin and vitamin B12 status (Gibson 2003).

The NDNS also shows that average intakes of a number of micronutrients are inadequate in school-aged children. For example, in children aged 11–14 years, a substantial proportion (particularly girls) have low

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**Table 1** Sugars, salt and fat content of six popular breakfast cereals (per 100 g and per serving)

<table>
<thead>
<tr>
<th>Serving size (g)</th>
<th>Sugars (g)</th>
<th>Fat (g)</th>
<th>Salt (g)</th>
<th>Sugars (g)</th>
<th>Fat (g)</th>
<th>Salt (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn Flakes</td>
<td>30</td>
<td>8</td>
<td>0.9</td>
<td>1.75</td>
<td>2.5</td>
<td>0.3</td>
</tr>
<tr>
<td>Rice Krispies</td>
<td>30</td>
<td>10</td>
<td>1</td>
<td>1.65</td>
<td>3</td>
<td>0.3</td>
</tr>
<tr>
<td>Coco Pops</td>
<td>30</td>
<td>34</td>
<td>3</td>
<td>1.15</td>
<td>10.2</td>
<td>0.9</td>
</tr>
<tr>
<td>Shreddies</td>
<td>45</td>
<td>15.5</td>
<td>1.9</td>
<td>0.8</td>
<td>7</td>
<td>0.8</td>
</tr>
<tr>
<td>Weetabix</td>
<td>37.5</td>
<td>4.4</td>
<td>2</td>
<td>0.65</td>
<td>1.7</td>
<td>0.8</td>
</tr>
<tr>
<td>Swiss style muesli</td>
<td>45</td>
<td>23.1</td>
<td>5</td>
<td>0.38</td>
<td>10.4</td>
<td>2.3</td>
</tr>
</tbody>
</table>

Source: manufacturers’ labels. (Kellogg’s, Nestlé, Weetabix).
intakes of a number of vitamins and minerals, including vitamin A, riboflavin, iron, calcium and zinc. Of particular concern is that 45% of 11–14-year-old girls have iron intakes below the Lower Reference Nutrient Intake (LRNI) (Gregory et al. 2000). Intakes below the LRNI are likely to be inadequate in most cases as it is a level judged to be adequate for just 2.5% of the population to which it relates.

Breakfast cereals are nutrient dense and can make an important contribution to micronutrient intake. As well as providing B vitamins and iron, some are also fortified with calcium and vitamin D. Furthermore, breakfast cereals are usually consumed with milk, providing an important source of protein, vitamin A (whole milk), riboflavin, vitamin B12, calcium and zinc, as well as smaller amounts of a variety of other essential nutrients. Breakfast cereals may therefore be of particular benefit to certain groups, such as girls and women of childbearing age who have low iron intakes or older adults, many of whom have poor micronutrient status.

In addition, many breakfast cereals are a good source of fibre, particularly those that contain wholegrains, oats, nuts or dried fruit. Table 2 also shows the fibre content of a number of breakfast cereals. A standard serving of Swiss style muesli, for example, provides 3.2 g of fibre, which is almost 18% of the adult GDA. Average intakes of fibre in both children and adults are below recommendations, and breakfast cereals can therefore make an important contribution to fibre intakes. Many breakfast cereals provide additional benefits in relation to other ingredients such as oats or their wholegrain content. For example, wholegrain foods contribute a range of beneficial nutrients that have been linked to reduced disease risk, particularly relating to cardiovascular disease (Seal et al. 2006).

In conclusion, with many people skipping breakfast altogether, perhaps the most important message is to eat breakfast in the first place, and breakfast cereals can provide a healthy and convenient option at breakfast time for both adults and children. There are a wide range of cereal options to choose from, many are low in fat, salt and sugar, and they make an important contribution to fibre and micronutrient intakes, particularly in children. While some cereals have a higher sugar content than others, there are a wide range of different types to choose from. Consumers should be advised to look for cereals that contain wholegrain or added fruit, and to check the nutritional information on the labels for the sugar and salt content. Many of the media reports around breakfast cereals are inaccurate and misleading, only leading to confusion among consumers. Breakfast cereals can provide a healthy start to the day for adults and children alike.

Conflict of interest

The author has no conflict of interest to disclose.

References


