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Whole grains: the multifaceted nutrition powerhouse

If you were to stop somebody on the street and ask them why whole grains are good for you, chances are that they wouldn't be able to tell you. It's difficult to gather an accurate picture of whole grains consumption as it's not reported on in the UK National Diet and Nutrition Survey (NDNS). Older data estimated that up to one-third of the UK population have never consumed whole grains¹ and the rest are not eating nearly enough.² Whole grains contribute to overall fibre intake, however, UK consumers are confused and uncertain of the health benefits of fibre, what foods to select and how much to consume (see Table 1).³ All this uncertainty is a barrier to whole grains consumption and dilutes public health messages. So, our mission as healthcare professionals is to stay on top of the latest research, because if one food group is going to save the day, it may very well be whole grains!

What exactly are whole grains? Whole grains are the seeds of cereal plants like wheat, oat, corn, rice, wild rice, barley, rye, millet, and teff, and, include the entire grain – the bran, endosperm, and germ.⁴ The truth is that we're still discovering all the ways that whole grains contribute to our health. Aside from fibre, other potential mechanisms relate to bioactive compounds found largely in the bran and germ, including B-vitamins (thiamin, niacin, riboflavin, pantothenic acid, vitamin B6 and folate) and minerals (magnesium, phosphorous, manganese, zinc, selenium, copper and iron).⁵ So, while the mitochondria may be the 'powerhouse' of the cell, whole grains are fast being recognised as a powerhouse of nutrients that may help fight chronic disease.

Beyond micronutrients, some whole grains such as oats and barley contain beta-glucans, a type of soluble fibre. These beta-glucans have been found to reduce risk factors for heart disease.^{6,7}

Having high cholesterol is a risk factor for developing coronary heart disease and beta-glucans from oats and barley have been shown to lower cholesterol levels.^{6,7} Additionally, the Scientific Advisory Committee on Nutrition (SACN) in the UK concluded that higher whole grains consumption is associated with a lower incidence of cardiovascular disease, stroke and hypertension.⁸

Type 2 diabetes is characterised by having high levels of glucose in the blood caused by a lack of the hormone insulin.⁹ In fact,

currently, 13.6 million people in the UK are at an increased risk of developing type 2 diabetes.¹⁰ Luckily, consumption of beta-glucans from oats and barley, as part of a meal, contributes to a reduction in post-prandial glycaemic response.¹¹ Furthermore, SACN found an association where the incidence of type 2 diabetes was reduced with higher consumption of whole grains.⁸

Population group	Fibre (g/day)
2-4 year olds	15 g/day
5-10 year olds	20 g/day
11-14 year olds	25 g/day
15+ year olds	30 g/day

Table 1 UK dietary recommendations for fibre¹⁴

Another whole grain that deserves attention is corn. Corn is one of the world's most popular grains¹², and rightfully so, since it comes in so many different shapes, flavours and colours: white, yellow, sweet, red, blue, purple, black, and the list goes on! Besides carbohydrates and fibre, corn also provides a variety of vitamins (A, B, E and K), minerals (magnesium, potassium and phosphorus) and phytochemicals.¹³ In addition, corn has one of the highest total antioxidant activities, and having a regular intake of whole grain corn has been associated with a reduced risk of developing chronic diseases particularly, cardiovascular disease, type 2 diabetes and obesity.¹³

In conclusion, whole grains are nutrient-dense foods that deserve a whole lot more airtime than what they've been given. As healthcare professionals, it is our responsibility to disseminate the latest research, address misconceptions and emphasise their role in helping to prevent the development of chronic diseases.



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