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The health benefits of whole grains and fibre: A review of published evidence (2007–2012)

C. H. S. Ruxton¹ and E. J. Derbyshire²

¹Freelance Dietitian, Nutrition Communications, 26 East Road, Cupar, KY15 4HQ and ²Senior Lecturer in Nutritional Physiology, Manchester Metropolitan University, Manchester, M1 5GD

There has been an accumulation of studies in the last few years investigating the potential benefits of whole grains and fibre on chronic disease risk in different populations. Both components appear to be associated with reductions in chronic disease risk, possibly due to the presence of certain vitamins, minerals and bioactive compounds, including inulin, beta-glucan, resistant starch, carotenoids, phenolics, tocotrienols and polyphenols⁽¹⁾ and phytochemicals⁽²⁾. The purpose of the present review was to critically evaluate recent evidence reporting associations between whole grains, fibre and health.

A Medline search was conducted to identify observational and controlled trials in humans published from 2007 to 2012, with a total of forty-nine studies being found. A general internet search was undertaken to locate international dietary guidelines for whole grains and fibre. Data on fibre intakes, and their common food sources, were also extracted from the National Diet and Nutrition Survey⁽³⁾.

Observational studies reported that higher whole grains and fibre intakes were associated with a significantly lower risk of cardiovascular disease, diabetes, abdominal adiposity and certain cancers. This was further supported by human controlled trials, which reported benefits for appetite control, blood lipid levels, glycaemic control, digestive health and secondary cancer prevention. Plausible mechanisms include the micronutrient and phytonutrients present in high fibre foods, although targeted intervention trials are needed to confirm this.

In terms of dietary guidelines, there is disparity between fibre, and wholegrain, recommendations across developed nations. Given the potential benefits, a whole grains recommendation should be considered for the UK, perhaps based on the US guideline of three daily servings. UK fibre recommendations, defined as non-starch polysaccharide (NSP) and set at 18 g per day⁽⁴⁾, are now out of line with the European Reference Intake (RI) of 25 g per day based on the Association of Official Analytical Chemists method. This creates the potential for confusion amongst consumers. Of concern is that average daily NSP intakes in the UK are only 14.8 g and 12.8 g per day in adult men and women respectively. Breakfast cereals and cereal products are the largest contributor to daily NSP intakes at 38 per cent⁽³⁾.

In summary, these findings suggest health benefits associated with consumption of whole grains and fibre, but intakes remain lower than guidelines, indicating a need for clear, practical advice which identifies rich sources of fibre and whole grains. UK fibre recommendations are currently under review by the Scientific Advisory Committee on Nutrition, and it is hoped that these will be aligned with the European RI, or that a whole grains recommendation may be considered.

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