

**REPORT SHOWS EATING BREAKFAST HELPS CHILDREN'S  
ACADEMIC PERFORMANCE**

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Eating breakfast improves children's performance at school, a ground-breaking report has found.

Released at the Agencies for Nutrition Action conference being held this week in Rotorua, the report found there was considerable evidence that regular breakfast consumption improved academic performance.

Report co-author Robert Scragg said thirteen of fifteen studies showed regular breakfast consumption was associated with improved academic performance. No studies showed regular breakfast consumption was associated with impaired academic performance.

"The benefit appears to be greater for mathematics than for other subjects such as reading or spelling.

"Teachers have been saying for years that students who come to school without breakfast perform less well. This study backs that up."

The report, which was developed after an extensive literature search, also found many New Zealand children were not eating breakfast. "Overall, 23 percent of Maori, 41 percent of Pacific and 8 percent of New Zealand European and other nationalities did not eat breakfast. This equates to approximately 83,000 children each day," said report co-author Rob Quigley.

He said breakfast cereals directly marketed to children represented poor nutrition choices and were more like candy than cereal because of their high sugar, fat and salt content.

"Even when you add trim milk, these candy-cereals are not recommended. However, despite this marketing offensive, many parents and children are regularly making good breakfast choices such as weetbix-type cereals and toast."

Report co-author Rachael Taylor said children who regularly ate breakfast had better nutrient intakes than non-breakfast eaters, such as energy, fibre, calcium and iron. Regarding the effect of breakfast on children's weight, she said the evidence was mixed, with higher quality studies not supporting the idea that skipping breakfast promotes weight gain.

The study's authors are calling for information about the importance of eating breakfast to be disseminated widely to parents and schools.

"It is really important that parents provide healthy food for their children's breakfast and encourage them to eat breakfast. Taking time to prepare breakfast together and sit down as a family to eat can help with this," Rob Quigley said.

"The Ministries of Education and Health, SPARC and other related government agencies should support schools' efforts to develop resources aimed at improving breakfast intake in school children, as this supports parents with their good efforts.

"Leftovers from the night before, wholegrain breakfast cereals low in sugar with trim milk, wholemeal toast and/or porridge, fruit, and trim milk drinks are all good options for breakfast."

### **For further information**

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## **BACKGROUND**

### **Methodology**

The report was compiled from information gathered by searching databases of scientific publications and relevant websites covering January 1998 to September 2006. Considerable attention was paid to study design, with intervention studies and longitudinal studies with appropriate sample sizes and adjustment for confounders considered 'stronger' evidence than smaller studies or cross-sectional studies.

### **Summary and Conclusions**

- Overall, 22.9% of Māori, 40.8% of Pacific and 7.7% of New Zealand European and Other children skip breakfast (do not eat or drink at home or on the way to school), which equates nationally to approximately 83,000 children each day.

- Consistent with international literature, inequalities in skipping breakfast are related to deprivation (most deprived more likely than least deprived), urban versus rural residence (urban more likely than rural) and age (older more likely than younger).
- The most commonly eaten foods by New Zealand children at breakfast are breakfast cereals (57% of children), followed by bread and toast (35%) and then beverages such as Milo (14%) and fruit juices (11%).
- Two-thirds of 172 cereals marketed to the general populace and all of the 26 cereals marketed directly to children were not considered to be good nutritious choices for children by *Consumer* magazine.
- Breakfast patterns may differ according to ethnicity and place of residence: rural Maori and Pacific children with stronger links to the Islands are more likely not to eat breakfast or to eat leftovers from the night before, whereas urban Maori and Pacific children born in New Zealand either don't eat breakfast or consume breakfast cereals (all types) as the most common foods.
- Lack of time and not being hungry are currently the major barriers to children consuming breakfast, but no work appears to have analysed socio-economic gradients in the data or adequately considered poverty as an issue.

*Conclusion: Many New Zealand children are not eating breakfast, and those breakfast cereals that are currently marketed to children represent relatively poor nutritious choices.*

- Five of five observational, four of four cohort and one of three short-term trials, along with three of three long-term interventions (two of which were randomised), show that consuming breakfast is associated with improvements in academic performance. The two short-term trials that did not show a significant effect in the total group did show benefits in subgroups.

*Conclusion: There is considerable evidence that regular breakfast consumption improves academic performance.*

- Twelve of fourteen (86%) cross-sectional studies support the view that breakfast skipping is adversely related to weight status in children.
- In contrast, only one of five cohort studies reported that breakfast skipping adversely affects weight, three reported no relationship once adjusted for confounders, and the remaining study showed that skipping breakfast is associated with *smaller* gains in BMI in overweight but not normal weight children.
- Three of four studies examining whether cereal consumption is related to body weight in children support the view that higher cereal intake is associated with more favourable body weights.
- Few studies have been undertaken in young children (up to 10 years of age) investigating the role that breakfast may play in weight management.

*Conclusion: Much of the cross-sectional evidence supports the observation that breakfast or breakfast cereal consumption is related to weight status in children. However, such study designs are prone to bias. Larger, well-conducted cohort studies in general do not support the view that skipping breakfast promotes weight gain, and no interventions have been undertaken to determine whether increasing breakfast consumption favourably affects body weight during growth.*

- Although the majority of evidence relating breakfast consumption and nutrient intake is from cross-sectional studies, findings very consistently show that children consuming breakfast have a more favourable nutrient profile than children avoiding breakfast or consuming it less regularly.
- Likewise, cereal consumption is favourably associated with nutrient intake.
- Studies investigating the effect of cereal intake on nutritional status have demonstrated that consumption is positively associated with the biochemical status of many nutrients except for iron; results consistently show no benefit of higher intakes on improving iron status.
- New Zealand data show that children who skip breakfast are less likely to eat fruit and vegetables, less likely to eat lunch and more likely to eat chocolate/sweets, pies and soft drinks. They are also more likely to buy food at the dairy or from the school canteen and less likely to bring food to school from home.
- Few studies have adjusted micronutrient intake for energy intake to ascertain whether improved nutrient intakes of children consuming breakfast are due simply to higher energy intakes or because the diets are more nutrient-dense.

*Conclusion: There is some evidence to show that eating breakfast, or consuming it more regularly, is related to better overall nutrient profiles in children and adolescents. Although cross-sectional studies are not generally viewed as providing strong evidence, it may be an appropriate design in this instance for assessing whether current consumption of breakfast is beneficial for overall nutrient intake. However, more definitive evidence would be provided by intervention studies demonstrating that increasing breakfast consumption favourably impacts on nutrient status in children.*

- Nine of ten reports (seven cross-sectional, one case control, two cohort) reported significant positive associations between the frequency of breakfast consumption and physical activity, and one reported no association.
- Seven of seven studies (all cross-sectional) reported an inverse association between frequency of having breakfast and risk of smoking.
- Three of three studies (two cross-sectional, one cohort) reported inverse associations between frequency of having breakfast and mental health status, with students with poorer mental health, such as depression, having breakfast less frequently than other students.
- Three of three studies (all cross-sectional) reported that regular breakfast was associated with healthier food patterns (less dieting and lower alcohol consumption).

*Conclusion: there is reasonable evidence that the overall pattern is for regular breakfast consumption to be associated with optimal lifestyle behaviours and mental health. However, these associations do not prove cause and effect, and it is possible that some other unmeasured variable is influencing choices affecting both breakfast frequency and other lifestyle patterns.*

## **Recommendations**

- Knowledge that eating breakfast is important for achieving educational outcomes should be widely disseminated to parents and schools.
- The Ministries of Education and Health, SPARC and other related government agencies should support schools' efforts to develop resources aimed at improving breakfast intake in schoolchildren.
- Parents should provide nutritionally appropriate foods and encourage children to consume a nutritionally adequate breakfast each day. For those children who will not eat breakfast, suitable foods should be provided for consumption at a later time.
- Schools should promote the benefits of breakfast consumption to children, incorporating the topic into lessons in several curriculum areas. If schools provide breakfast to (some) children, they should ensure healthy options are available.
- Government agencies should adequately promote the benefits and advantages of consuming a nutritious breakfast for children and adolescents.
- Government regulation of breakfast cereal marketing and labelling is required.
- More research is required to fully understand the barriers to consuming breakfast, particularly in certain age (teenagers), ethnic (may be traditional in some families not to eat breakfast) and socio-economic groups (available income).
- The majority of studies in this review were cross-sectional, and intervention studies are required to determine the true effect of consuming breakfast (when none was consumed before) or increasing the regularity of breakfast consumption in relation to weight status, nutrient status and lifestyle factors.
- Interventions targeting increased breakfast consumption should place Maori and Pacific and more socio-economically disadvantaged children first, because that is where the need is greatest.

## **Strategies to improve breakfast consumption**

- Parents should role-model eating breakfast, and siblings should consume breakfast together and role-model for each other.
- Children should be involved in the preparation of breakfast (either the night before or in the morning).

- Leftovers from the night before, wholegrain breakfast cereals low in sugar with trim milk, wholemeal toast and/or porridge, fruit, and trim milk drinks are all good options for breakfast.
- Sugary drinks such as fruit drinks should be limited. If chosen at all, water down sugary drinks such as fruit juice and fruit drinks, and use trim milk in sugary drinks such as Milo.
- Do not add sweeteners such as sugar, syrups or honey to cereals that already have high levels of sugar.
- Encourage the consumption of fruit and milk and milk products, foods that are widely consumed by New Zealand children.
- Parents need to be aware of what foods are available for purchase at the school and discuss with their children what they are buying with pocket money or money provided to buy food.
- If a child will not eat breakfast, a suitable packed breakfast could be provided (leftovers if feasible, fruit, yoghurt, sandwiches).

The full report can be downloaded from [www.ana.org.nz](http://www.ana.org.nz)