

Nutrition, Children and the School Environment

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INTRODUCTION

Today's children are in remarkably poor shape. Overweight and obesity is now the fifth leading global mortality risk (WHO, 2013 Obesity and overweight: Factsheet 311) <http://www.who.int/mediacentre/>) and there has been a marked increase over the period in childhood obesity worldwide. The UK Government document 'Healthy Lives, Healthy People: a call to action on obesity in England' Department of Health (2011) expresses an aim to achieve a sustained downward excess weight gain in children by 2020. The jury is still out on the likelihood of this worthy ambition being realised.

Obese children are likely to become obese adults with attendant chronic illnesses such as diabetes and heart disease presenting at earlier ages. An eight year study of over half a million children in the UK reported a marked use in insulin amongst the 12-18 age sector suggesting a rise in the prevalence and incidence of diabetes. (Hsia Y et al 2009: An increase in the prevalence of type 1 and 2 diabetes in children and adolescence: results from prescription data from a UK general practice database. *Br J Clin Pharmacol* 67(2):242-9).

The rise in chronic disease brings in its wake, increased financial pressure upon health services. A UK National Diet and Nutrition Survey further reveals that children are being badly served by their diets (Bates B et al 2014 National Diet and Nutrition Survey Results from Years 1, 2 3 and 4 (combined) of the Rolling Programme 2008/09 – 2011/012. public Health England).

- Children aged 4 - 10 and 11-18 had non-milk extrinsic sugar (NMES) intakes substantially higher than guidelines. Intakes were 14.7% and 15.6% of food energy respectively, compared with guidelines recommending no more than 11%
- Children as above also had saturated fats intakes higher than guidelines. Average intakes were 13.35 and 12.5% of

food energy respectively compared with guidelines that these should not exceed 11%

- Fibre (non-starch polysaccharide; NSP) intakes were considerably lower than guidelines. Average intakes were 11.1 – 11.8 grams per day for 4-18 years of age children. The 2014 Scientific Advisory Committee of Nutrition (SACN) report, Draft Carbohydrates and Health https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/333971/draft_SACN_Carbohydrates_and-Health_report_consultation.pdf) on carbohydrates proposes that guidelines of 15g per day for children aged 2-5, 20g per day for 5-11 year olds and 25g per day for 11-16 year olds should be set. Intakes are significantly lower than these
- Intakes of oily fish were beneath the recommendation of at least one portion (140 grams) per week.

These outcomes are largely preventable and schools have a key role to play in the nutrient content of children's daily diet. The food that children consume there from day one can influence their mental and physical health for the better both now and later in the life span and play a significant part in reducing the onset of future chronic disease and reducing the obesity burden. Studies are emerging to support these arguments, whether supplied by Public Health England (The link between pupil health and wellbeing and attainment. A briefing for head teachers, governors and staff in education settings. [https://www.gov.uk/government/publications/the-link-between-pupil-health-and-wellbeing-and-attainment-\(2014\)](https://www.gov.uk/government/publications/the-link-between-pupil-health-and-wellbeing-and-attainment-(2014))) or academic sources such as a 2012 study (Eating Breakfast enhances the efficiency of neural networks engaged during mental arithmetic in school-aged children. *Physiol behave* 016(4):548-55 Pivik RT et al) demonstrating that breakfast consumption boosted the efficiency of school children's brain nerve networks when they were engaged with mental arithmetic, as compared with children who had not eaten breakfast.

Girls now have earlier puberties and this has been associated with eating undue amounts of processed high-fat foods. The onset of puberty also triggers growth spurts and the body's increased requirement for additional calories, proteins, calcium, iron and folates. Pubertal development can be impaired by rising obesity rates, combined with malnutrition (Soliman A et al, 2014 Nutritional and pubertal development Indian J Endocrinol Metab. 2014 Nov; 18(Supp I (1):s39-47).

Paediatric Endocrinologist, Robert Lustig has said that consuming just one sugary drink per day increases the risk of type two diabetes by 29% and further observes that fructose is the primary cause of chronic metabolic disease. In *The Best Drink for Children – and How to Avoid Dental Decay*, Babycup.co.uk 2015 advises of dental health dangers of regular juice consumption by children.

Many schools lack access to the best advice about what children really need and teachers themselves lack adequate nutritional training. A 2013 Ofsted guidance paper was amended to state that school inspectors were now required to 'consider the food on offer at the school and the atmosphere of the school canteen.' However, during the Consultation for the new Inspection Framework for Schools (2014) this requirement was dropped. Recently, food has been delivered to secondary school pupils via Design and Technology and there is scope for the PSHE syllabus to devise strong content about good nutrition in pregnancy and for PE teachers to deliver nutrition-related messages (GOVUK, 2014, Schools, colleges and children's services – curriculum and qualifications. <https://www.gov.uk/schools-colleges-childrens-services/curriculum-qualifications>).

Overall, some of the most persistent factors that pose as barriers to healthy eating in school include:

- Lack of knowledge about how food affects health
- Denial that food marketing influences food choices
- Trend-following
- Limited exposure to healthy eating at school/home
- Limited exposure to different food choices
- Living for and in the moment
- Mimicking friends
- Not understanding how to use/apply healthy eating advice.

Initiatives at school must, above all, link with practice in the home and centre upon the 'whole child' because each child belongs to a family and children's eating habits, as with their other behaviours, are shaped by patterning and observation, the majority of which will take place at home. Parents following a healthy lifestyle themselves will be more likely to pass this over to their offspring. Working with the child must also necessitate working with the child's parents and carers.

RECOMMENDATIONS

- National audit of Universal Infant School Meal scheme and Government re-commitment to it, following doubts cast by the recent General Election. Consequent measures taken to ensure parity of funding within schools, equipment for food preparation and nutritional equity of food served
- A single competence framework to set standards, quality assure learning and assess nutrition competency for professionals and non-professionals within the health, education, fitness and catering workforces
- Inclusion of analysis of a school's food culture in Ofsted Inspection Framework, together with appropriate training of inspectors in this field
- Extension of primary curriculum to include statutory provision of health and wellbeing modules
- Mandatory, nationally recognised Healthy School Programme
- Updating of the Eat Well Plate guidance incorporating teaching and serving food
- National scheme to encourage role models to promote healthy eating and nutritional advice
- A recruitment drive spearheaded nationally to engage more school nurses; with nutrition a key aspect of their training
- Health and Education agencies to coordinate a sustainable health programme in UK schools
- Exploration of 'Water only' school programmes
- Nationally accredited training model for teachers and Heads around the food in school agenda and its impact upon health and assessment
- Revision of the national curriculum throughout the school age range to include growing food so that pupils establish that food comes from inclusive practical activity.

The obesity crisis is a prime example of what lies in store for the Exchequer if action is not taken as recommended above and if current trends continue, treatment of the population for obesity-related disease will total £50 billion by 2050. Schools have the potential to provide children and their families with new food experiences; the knowledge to develop, sustain and cascade healthy eating patterns and the ability to collaborate with family, voluntary and business concerns in the interests of community health and wellbeing. Any financial outlay should be regarded as an investment rather than a resource drain, finally costing 'a whole lost less than dealing with the costs associated with healthcare for a generation of obese, type two diabetes sufferers with heart disease: Jenny Tschiesche *The Lunchbox Doctor* 2015 www.lunchboxdoctor.com.