

experiences may occur in different social contexts. The first weaning food is mostly experienced with the mother and occurs progressively with others and sometimes in a new environment. So, other eaters can serve as models. Eating behaviour is also dependent on meal schedule and other food distribution throughout the day and sometimes during the night. The child may also be confronted with pressuring and coercing actions. When a young overweight or obese child is presented to the paediatric team, these difficulties are frequently described. The parents are anxious and usually waiting for rapid solutions.

Confronted with inaccurate comments expressed by family members, friends, teachers or medical teams, they often feel guilty, considering their educational system as poor and they are frequently hoping that the child is suffering from undiagnosed inherited hormonal disease.

In this context, after medical examination and advice, early dietary intervention by an appropriate approach conducted by a well-trained paediatric dietitian may help to modify food habits and to establish healthful behaviours resulting in efficient obesity prevention in later life.

There are nutritional risks related to dietary restrictions sometimes prescribed with the aim to obtain rapid weight/height normalization. The nutritional needs are proportionally very high, taking into account the rapid growth rate in a very young child. The prescription of a fat-restricted diet with use of skimmed milk, avoiding oil and butter, is frequently associated with an unbalanced diet, with a lack in essential fatty acids, and in vitamins A, D and E. Moreover, this diet is proportionally high in carbohydrates and proteins, which can lead to digestive disturbances due to fermentation or putrefaction in the colon expressed by abdominal pain and diarrhoea. Proposed modifications must take into account recommended allowances adapted for the age, taking into account a normal weight-for-age and -height. Other considerations like certain food habits based on religion or philosophy are to be included in the prescription. Some attitudes are discussed in order to help parents whose child dislikes certain foods and to inform them about the child's capacity when older than 6 weeks, to adapt their energy intake to their physiological needs.

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The role of school and community in obesity control

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Background: The role of the local community and school is emphasized in the *White Paper on a strategy for Europe on Nutrition, Overweight and Obesity related issues* and in the *European Charter for Counteracting Obesity* as well as in *The Challenge of Obesity in the WHO European Region and the Strategies for response*. However, the number of published high-quality papers to build this talk on is very limited. In the last 10 years, the number of obesity-related papers have increased in numbers, but we are still lacking important information. At the same time, several practical tools and programmes have been developed, still lacking proper evaluation but including promising features and innovative approaches.

Method: This talk builds on gathering of relevant policy documents on European level, a Medline search for recently published reviews of research in the area of school and community interventions to prevent overweight and obesity. Furthermore, I have searched for relevant tools and programmes in Europe and elsewhere, through the European Commission group for Community Based Initiatives and WHO Europe website.

Results: The White Paper – for programmes with a focus on urban areas, measures targeting re-generation

of public spaces. In schools, the work should focus on nutrition education and on physical activity and local cooperation between schools, with sports clubs, etc. The European Charter discusses action to be taken at both micro and macro levels and in different settings. The Charter specifically mentions actions relevant to community and school levels such as: ensuring access to and availability of healthier food, including fruit and vegetables, access to affordable recreational/exercise facilities, promotion of cycling and walking by better urban design and transport policies, nutrition and physical education in schools, encouraging children to walk to schools. The WHO European region document 'The challenge of obesity ...' emphasizes the lack of evidence on the effectiveness of community-based interventions but mention some imaginative approaches such as improved provision and safety of walking and bicycling routes and promotions in local supermarkets, cafés and restaurants.

Evidence-based approaches: Combined diet and physical activity school-based interventions may help children become overweight in the long term and physical activity in primary-school girls in the short term (Brown 2009). Primary Health Care: staff needs to be trained and

equipped with practice protocol (Hearn 2008). Lack of evidence and poor design of studies for children aged <5 years (Saunders 2007). Early intervention and parental involvement effective, but too few studies in children aged <5 years (Campbell 2007). Multicomponent interventions may be effective (Bluford 2007). Compulsory physical activity is effective in reducing overweight in children (Connelly 2007). Limited, school-based programmes combining healthy dietary habits and physical activity is shown to be a possibly way forward (Flodmark 2006). The development, design, duration and intensity of interventions to prevent obesity in childhood needs to be appropriate, and report intervention scope and progress accordingly (Summerbell 2005). Non-curricular approaches to increase physical activity in youth is possible during school break periods, through youth organizations,

summer day camps, possibly through active transportation (Jago 2004). Pedometer interventions in youth lead to increased physical activity in the short term – long term not investigated (Lubans 2009).

Practical tools: The CDC CHANGE tool for communities and the School Health Index will be presented. Evaluation seems to lead to changed priorities on school level. Schools for Health in Europe (SHE network) will be presented. Shape Up and EPODE (Ensemble prévenons l'obésité des enfants) experiences as well as school pedometer project examples (Skolsteget) will be briefly discussed.

Conclusions: There is still a lack of high-quality interventions. Some scattered evidence can be presented, but long-term effects are usually not collected. Some innovative approaches can be identified as promising.

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Identification of preschool children at high risk of future overweight

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Introduction: Given that children are becoming overweight at younger ages early intervention is vitally important, but presupposes an efficient identification of high-risk children. The associations between routinely collected risk factors like smoking during pregnancy, high parental BMI, birth weight, short breast-feeding, different measures of infancy/early childhood weight gain, early adiposity rebound (AR) and overweight in adolescence/adulthood are strong. The aim of the present study was to identify risk factors for future overweight that could be feasible for a risk estimation tool to be used among preschool children in general practice.

Method: We aimed to test known risk factors' association with future overweight in The Northern Finland Birth Cohorts of 1966 (*n* 4000) and 1986 (*n* 5500). Participants were followed from birth to the age of 31 and 16 years, respectively, where a clinical examination included BMI and waist circumference measurements. Weight and

height data from the age of 0 to 13 years were collected from routine child health examinations.

Results: The preliminary results show that smoking during pregnancy, high parental BMI, growth patterns in infancy and early childhood (BMI at specific ages, BMI percentile crossing at specific ages, absolute weight gain between specific ages, BMI peak, etc.), lower age at AR and higher BMI level at AR are strongly associated with overweight in adolescence/adulthood.

Perspective: By combining various risk factors using statistical modelling we plan to develop a risk estimation tool to improve our ability to identify preschool children at risk for future overweight. The risk estimation tool will be developed to be used in general practice using routinely collected risk factors.

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