

# **Childhood obesity prevention in the context of socio-economic status and migration**

## **AKADEMISK AVHANDLING**

som för avläggande av medicine doktorsexamen vid Sahlgrenska Akademin,  
Göteborgs Universitet,  
kommer att offentligen försvaras på Avdelningen för allmänmedicin,  
Hörsal 2119, Arvid Wallgrens backe (Hus 2, Plan 1), Göteborg  
fredagen den 21 januari 2011, kl. 13.00

av

**Maria Magnusson**

### **Opponent:**

Docent Sven Bremberg

Statens Folkhälsoinstitut och Institutionen för Folkhälsovetenskap, Karolinska Institutet

### **Handledare:**

Professor Lauren Lissner

Institutionen för medicin

Professor Karin Kjellgren

Institutionen för vårdvetenskap och hälsa

Professor Anna Winkvist

Institutionen för medicin

Avhandlingen baseras på följande delarbeten:

- I** Magnusson MB, Kjellgren KI, Hulthén L  
Obesity, dietary pattern and physical activity among children  
in a suburb with a high proportion of immigrants  
Journal of Human Nutrition and Dietetics 2005 (18) 187-194
- II** Magnusson MB, Sjöberg A, Kjellgren KI, Lissner L  
Childhood obesity and prevention in different socio-economic contexts  
Submitted to PLoS ONE, 30 september 2010. Under revision.
- III** Magnusson MB, Hulthén L, Kjellgren KI  
Misunderstandings in multilingual counselling settings  
involving school nurses and obese/overweight pupils  
Communication and Medicine 2009, 6 (2) 153-164
- IV** Magnusson MB, Kjellgren KI, Winkvist A  
Enabling overweight children to improve their food and  
exercise habits – school nurses counselling in multilingual settings  
Submitted to Journal of Advanced Nursing, 13 september 2010

## Abstract

### Childhood obesity prevention in the context of socio-economic status and migration

*Maria Magnusson*, Department of Public Health and Community, Institute of Medicine at Sahlgrenska Academy, University of Gothenburg.

**Background and aim** The childhood obesity epidemic seems to be levelling out but groups with low socio-economic status (SES) remain disadvantaged in this context. Successful community-based prevention should be targeted and adopt a health promotion approach. To reach and maintain a healthy weight, children at risk for overweight and obesity (OW) need skills to understand the meaning of information and messages related to energy balance. The general aim of this thesis is to explore the prerequisites for prevention of childhood obesity, focusing on areas with low SES and many immigrants and refugees. Specific aims are: (i) to explore dietary patterns, physical activity (PA), perceived relationships between lifestyle and health and OW prevalence among children in areas with different SES; (ii) to assess secular trends in these variables among children in a low-SES community and (iii) to investigate school nurses' counselling of OW pupils in multilingual settings.

**Methods** Surveys were conducted in January 2003 and 2008. A school in a residential area with low SES and many refugees was surveyed at both times. A school in an area with high SES was surveyed in 2008 only. All pupils in the fifth and sixth grades ( $n=347$ ) were invited to participate. The surveys consisted of a questionnaire and interview covering habitual dietary pattern, PA and belief in ability to affect health; weight and height were also measured. Comparisons were made between the high- and low- SES school (2008) and, for the school in the area with low SES, between 2008 and 2003.

To investigate current practice in school nurses' supportive work, theme-oriented discourse analysis and qualitative content analysis were undertaken, based on 22 audio recordings from eight school nurses' counselling sessions with 20 OW children. The quantitative distribution of the discourse space was analysed statistically.

**Results** In 2003, 31% of the children were OW. About half of the children thought they could benefit from a healthy lifestyle at this time. Many children reported a high intake of sugar-rich products. In 2008, compared to 2003, significantly more children in the same low-SES school believed that their lifestyle could affect their health. Furthermore, a downward shift in BMI z-score and decreased intake of sugar were only significant for girls and the prevalence of obesity had decreased non-significantly in both genders. In the high-SES school, the corresponding prevalence in 2008 was significantly lower. Numerous lifestyle habits differed between the schools, all in favour of the high-SES school. Qualitative analyses suggested that misunderstandings in school nurses' counselling with OW pupils originated from their belief that they knew what advice the pupils needed, insensitivity to the pupils' concerns and poor linguistic comprehension. Nurses occasionally provided inadequate/inappropriate explanations about food and exercise. Inadequate skills in managing the process of enabling children and their parents were observed. Counselling families with languages and food cultures differing from the traditional Swedish ones met with additional difficulties.

**Conclusions** Differences in obesity prevalence and many lifestyle parameters between children living in areas with varying SES may partly be regarded as a consequence of a society that fails to meet the needs of some of its inhabitants. The studies in this thesis suggest that preventive interventions should be developed and implemented in cooperation with the targeted groups. Measures should be taken to ensure that interpreters are available when needed. To enhance person-centred counselling, school nurses need improved nutritional knowledge and communication skills. To accomplish this, they should be provided with opportunities to cooperate with other professions.

**Keywords:** BMI z-score, childhood obesity, counselling, dietary pattern, health belief, migration, physical activity, school nurses, socio-economic status, prevention

ISBN: 978-91-628-8215-0