Letter to the editors

Dear reader,
It is coming, the so-called obesity epidemic. SPM 48(3) has provided new empirical evidence and significantly added to the more detailed description of this coming public health problem. But what about the explanatory strength of such research findings? Are we looking in the right direction in our search for the causes of obesity? And even if we do, are we perhaps too short-sighted in our analyses and explanations?
The following Letter to the editors, raises points of critic, that, as we at SPM think, deserve serious consideration. We invite you to add to this public discussion by sending us your thoughts relating to this criticism.

Thomas Abel and Alfredo Morabia
Editors-in-Chief

Obesity: what are the real causes of the epidemic?

Dear editors,
The special issue of "Sozial- und Präventivmedizin" on obesity was made for an ambivalent reading (SPM 2003; 48(3)). It documents – once again – the well-known facts that the prevalence of obesity in children and adults is increasing all over the world (with the exception of starving populations), and that obesity implies a high risk for cardiovascular disease, type II diabetes, and cancer. All five editorialists stress the urgent need for action in the field of public health. But what sort of action? None of the authors has a better idea than urging people to eat less and to move more. More resources are claimed for mass campaigns, though it can be anticipated with 99% probability that they will be ineffective. Ineffective campaigns are unethical not only because of a waste of resources but because they will add to the burden of those already obese who cannot lose weight in spite of many brave attempts and whose sense of discrimination will increase further. Once again the school is called upon to solve a problem created by undesirable developments in society. However, a critical appraisal of experiences with health education in schools leads to the conclusion that the great expectations in the merits of this avenue have not been fulfilled. The Hutchinson Smoking Prevention Project is probably the best-designed controlled study in this field (Peterson et al. 2000) and at the same time the most drastic example of the failures of health education in schools. The content of the intervention was based on the best available evidence and on guidelines endorsed by such important bodies as the National Cancer Institute and the Centres for Disease Control and Prevention. It extended over a period of 12 years (every pupil from grade 3 through 10 receiving a total of 2805 minutes of instruction). At the end of grade 12 and two years later no difference could be found in the rate of daily smoking between 20 intervention and 20 control schools. Admittedly, more positive experiences have also been reported (Botvin et al. 1995), but their transfer to ordinary curricula in ordinary schools has been difficult. At least in Switzerland, teachers are increasingly reluctant to engage in tasks exceeding what they conceive as their basic commission ("Kerngeschäft").
What should we do then? Just wait and see? The first thing to do would be to launch a serious discussion – and research – on the real causes of the obesity epidemic. In medical epidemiology it has been good practice to think in causal chains, distinguishing proximal from distal and intermediate factors. With respect to obesity, this model seems more appropriate than the model borrowed from infectious disease epidemiology such as suggested by Galuska. The proximal cause is obviously an energy imbalance during the phase of accumulation of fat (but not during periods of

Soz.- Präventivmed. 48 (2003) i – ii
0303-8408/03/05000i – 02
DOI 10.1007/s00038-003-3111-6

constant overweight, an issue not considered by any of the authors in SPM 48(3)). According to all these authors, energy imbalance is caused by overeating and/or insufficient exercise. The important metabolic and hormonal changes in obese subjects and the intricate relationships between genetic and environmental factors, between the central nervous system (including psychological processes) and the fat tissue are ignored. Overeating in relation to physical exercise does not inevitably result in obesity, and on the other hand, obesity can develop in people with average activity and a reasonable diet. As to the distal factors, these are illustrated impressively by Mokdad when he compares his childhood in Lebanon with modern life in the USA (and all other developed countries for that matter). In view of the rapid process of globalization, it appears virtually impossible to change these factors through any conceivable public health action. It may be that the rapidity of the ongoing degradation of the Earth's resources will bring about rather drastic changes earlier than we expect and hope, but it is certainly not a good idea to wait for such a "natural solution".

What to do then? I am not in a position to provide any authoritative answer. The only thing I would like to do is to draw readers' attention to possible intermediate factors between the conditions of modern life and the energy imbalance in an increasing number of people. That there is not a one to one relationship between these distal and proximal factors is made obvious by the fact that the majority of people exposed to the distal obesity-promoting factors never become overweight. It would probably be more profitable for researchers to study the salutogenic factors in these people instead of concentrating on those "lazy and greedy fat individuals". How important is their genetic endowment? Could it be that the lean individuals had the chance to be born into an environment which provides them with a meaning of life consisting of challenges outside their own person, with rewarding and demanding relationships, with possibilities to engage in a contribution for a better world, with a sense of being needed? All that in contrast to the prevailing ideology of personal well-being as the prime goal of life? If such protective factors could be identified: what could be done to make them available for an increasing number of human beings? I am confident that if more and more brains would direct their attention to possibilities of enhancing protective factors instead of only combating pathogenic behaviours, a lot of productive ideas would emanate. Just one suggestion: There are good reasons to believe that actions should not be oriented towards individuals or single families, nor towards an anonymous mass of the total population, but towards living communities. A good example of a very successful community intervention has been provided by K. Berg-Kelly (Berg-Kelly et al. 1997) who compared the health habits and risk behaviors among youth in three Swedish communities. In contrast to communities B and C, an enthusiastic youth council including all top managers for public agencies and some executive politicians had been active in community A for 17 years before the study, with a commission to promote the health of youth in a comprehensive way. The cross-sectional study in 1991/1993 revealed the adolescents in A to be more physically active, to use safety belts more often, to smoke less, to drink less alcohol, to start later with adult sexual activities, to be depressed and having suicidal thoughts less often, to report less violent acts, to know more supporting adults, and to be more satisfied with school. All these differences to communities B and C were statistically significant. The model should be applicable to most rural communities, but the transfer to urban conditions appears admittedly rather difficult. The idea of this letter was not to suggest ready-to-use solutions but to divert the attention of researchers from the purely pathogenic to the more promising salutogenic approach.

Jean-Claude Vuille

References

Berg-Kelly K, Alvén B, Erdes L, Erneholm T, Johannisson I, Mattsson-Elofson E (1997). Health habits and risk behavior among youth in three communities with different public health approach. Scan J Soc Med *25*: 149–55.

Botvin G, Baker E, Dusenbury L, Botvin E, Diaz T (1995). Long-term follow-up results of a randomized drug abuse prevention trial in a white middle-class population. JAMA *273*: 1106–12.

Galuska DA (2003). Controlling an epidemic: the problem of overweight in children and adolescents. Soz Praventiv Med *48*: 145–6.

Mokdad A (2003). My personal perspective on the obesity epidemic. Soz Praventiv Med *48*: 143–4.

Peterson AJ, Kealey K, Mann S, Marek P, Sarason I (2000). Hutchinson smoking prevention project: long-term randomized trial in school-based tobacco use prevention – results on smoking. J National Cancer Institute *92*: 1979–91.

Address for correspondence

Prof. em. Dr. med. J.-C. Vuille
Lentulusstr. 43
CH-3007 Bern
Tel.: +41 31 372 52 36
Fax: +41 31 372 52 36
e-mail: jcvuille@hin.ch

Soz.- Präventivmed. 48 (2003) i – ii