EDITORIAL

Obesity in Children— a Chronic Disease?

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Editorial to
accompany the
article "Weight
loss in children
and adolescents—
a systematic
review and
evaluation of
conservative, non-
pharmacological
obesity treatment
programs,"
by Yvonne Mühlig
et al. in this issue
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The term "epidemic" was originally reserved for -infectious diseases, such as Ebola disease or influenza, but is now used to describe non-communicable conditions as well, including obesity. The prevalence of obesity and overweight in children and adolescents has risen rapidly since the 1980s in industrialized countries and in most emerging countries (1). The systematic review of conservative weight-loss methods by Mühlig et al. that appears in the current issue of this journal thus comes at a very opportune time (2).

Extrapolated data from the German KiGGS survey reveal that, in 2008, about 1.7 million children and -adolescents in Germany aged 2 to 17 years were overweight; of this number, about 750 000 were obese (3). Fortunately, data from school entrance examinations currently reveal a stabilization or even a mild decrease in the prevalence of overweight and obesity in most of Germany (4).

Until just a few years ago, obesity was generally thought of as no more than a risk factor for other diseases; there was controversy about whether it should be classified as a disease in itself (5). The past decade has seen a fundamental change, with obesity being recognized as a disease not only nationally in Germany (e.g., by the Federal Social Court and the German Obesity -Society), but on the international level as well (WHO, American Medical Association). In Germany, the legal and socioeconomic implications of calling obesity a disease are still being debated. In particular, where obese and overweight children are concerned, the reimbursement paid by the statutory health insurance carriers for the treatment of obesity, whether in the outpatient setting (ambulatory health care; teaching-hospital outpatient clinics) or in the inpatient setting (rehabilitation), is generally perceived as inadequate.

Major economic consequences of inadequately treated childhood obesity

The reluctance among insurance carriers to reimburse for the treatment of obesity seems all the more paradoxical, now that longitudinal studies have shown that 25% to 50% of obese children go on to become obese adults (6). Not only that, a predisposition toward obesity seems to be acquired early in life—figuratively speaking, in the cradle. The body-mass index (BMI) of a child normally passes through a trough at the age of 5 to 6 years; in a British study conducted on 546 children,

the ones whose BMI passed through a trough before age 5 were much more likely than the rest to be obese at age 15 (18% vs. 9%) (7). The predicted cost of inadequately treated childhood obesity is very high: the direct additional expenditures accruing over the lifetime of an obese child, as compared to a child of normal weight, in the USA have been estimated at 12 000 to 19 000 dollars (8)—although it is also true that the shorter life span of obese persons affects the costs that can be expected to result from obesity.

The efficacy of conservative weight-loss treatments in children

Conservative, behaviorally based weight-loss programs remain the standard treatment of obese children and adolescents in Germany (9) and in other countries (10). In their article, Mühlig et al. answer two central questions regarding the treatment of childhood obesity:

- How effective are conservative weight-loss programs in terms of the amount of weight that can be lost in one year?
- How well do the affected children and adolescents accept this form of treatment?

To obtain reliable answers, the authors evaluated 48 randomized controlled therapeutic trials that were selected according to defined criteria and that involved a total of 5025 patients. The findings disappoint at first glance: in the highest-quality trials, the mean BMI-SDS (BMI standard deviation score) reduction in one year ranged from 0.05 to 0.39 SDS. It follows that these programs cannot normalize the weight of patients who are markedly above the 97th percentile for BMI. Moreover, the dropout rate in many of the included trials was between 10% and 25%. These dropout rates seem low, however, compared to the 30–50% dropout rate generally seen in weight-loss programs for obese adults (reviewed by Wirth et al.) (11). Considering that the German Working Group for Childhood Obesity (*Arbeitsgemeinschaft für Adipositas im Kindesalter*, AGA) considers a BMI-SDS reduction by 0.2 (corresponding to an approximately 5% weight loss) one year after the start of treatment to be a success, it would appear that children actually do generally adhere to the requirements of weight-loss programs, and that such programs are, indeed, effective. The observation that compliance apparently differs between children and adults implies that parents should always play a role in the treatment of their children.

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The evidence from Germany

Interestingly, a closer look at the trials analyzed by Mühlig et al. reveals wide variations in the extent of BMI-SDS reduction, not just between but actually within individual training programs. Further trials are thus needed to identify predictors of therapeutic success. More research is needed in Germany in particular: of all the trials that were analyzed, only a single one was from Germany. The currently available non-pharmacological treatments of childhood obesity are unsatisfactory. Are there any alternatives? Bariatric surgery, which can reduce weight markedly in the short term, is fraught with a high risk of complications and side effects and is therefore considered an option only for extremely obese adolescents who fulfill certain strict criteria. A US-American review concluded that multimodal, behavior-based programs promote weight loss more effectively than either of the two types of medication now available in the USA for this purpose (lipase inhibitors and appetite suppressants), with fewer side effects (10).

The current evidence on the conservative treatment of childhood obesity shows that the existing training programs, which are administered over the short term only, cannot normalize weight in the short time available. Furthermore, the review by Mühlig et al. makes it clear that more research is needed to identify the patients who are likely to benefit most from this type of treatment. To alleviate the worldwide “epidemic” of obesity, sustainable training programs for children and adolescents should be developed and their therapeutic benefit should be evaluated. For many children and adolescents, early intervention is the only way to keep obesity from becoming a chronic disease.

Conflict of interest statement

The authors declare that no conflict of interest exists.

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