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Origins and early development of the case-control study: Part 1 – Early evolution

Katherine M. Flegal comments on our publications in this issue of SPM addressing the effects of obesity on health in Switzerland (Neilson & Schneider 2005) and the economic burden of obesity and its comorbidities in Switzerland (Schmid et al. 2005). Dr. Flegal (2005) raises concerns of using a simple attributable fraction formula to calculate the proportion of health conditions (comorbidities) and of costs that are attributable to obesity in both papers. This formula is appropriate for calculating attributable fractions using unadjusted relative risk, but the situation calls for relative risk adjustment according to various confounding factors.

There is no doubt that using an inappropriate formula without properly adjusted relative risk is not "state of the art" as we understand it. How then, being fully aware of these shortcomings, can we still proceed in compiling the estimates on the cost of obesity and its comorbidities in Switzerland?

The answer is simple and straight forward: We had no other choice for the simple reason that the information that would have been required to perform the statistical approaches to adjust attributable fraction estimates to appropriate confounding factors is not available in Switzerland and will, most likely, never be available. Therefore, this will continue to be the "usual problem" in estimating such information.

Regarding the costs of the various diseases identified as comorbidities of obesity we did face a similar situation, leaving us no other option than to resort to available information from other countries which are somewhat comparable with respect to costs. Whenever possible we opted for using cost data from Germany knowing from a previous study that health care costs in the neighbouring countries of Austria, Germany and Switzerland are fairly comparable (Schmid et al. 2004). In addition, to remain on the (relative) safe side, i.e. to avoid an overestimation of the effects of obesity, we opted for the lowest values we identified in the relevant literature while selecting the relative risk ratios for obesity-related comorbidities. Thus, our decision to proceed with our evaluation based on the fact that we had either to accept these shortcomings or to abandon our plan to come up with an estimate of the economic impact of obesity and its comorbidities on the Swiss health care system. After lengthy internal discussion we decided in favour of the first option since the scope of the obesity problem emerging in Switzerland at present did justify some scientific compromise, at least in our eyes. Such compromise, although certainly not acceptable to the purists amongst our scientific colleagues, is sometimes required for reasons beyond science, for example to create political awareness at a time when clear need has been identified on an urgent basis as is the case for obesity in Switzerland. If we do not want to face a similar development in Switzerland as can be observed at present in the US (Hedley et al. 2004), the time to act has come. Activities aimed at effective prevention measures have to be implemented urgently, if we shall have a chance at turning around the increasing prevalence of overweight and obesity we are facing since the last two decades. The fact that the Swiss parliament has accepted a considerable budget increase for 2005 to support preventive measures against HIV, tobacco and alcohol abuse, and new (!) obesity offers some hope.

Last but not least, politicians, business as well as the public in general rely on estimates by scientist trained in epidemiology and health care policy regarding future developments of diseases and their impact upon society and health care budgets. Although, we make mistakes now and then, due to imperfect knowledge, faulty calculations or unforeseen factors in the coming situation, we are, for the most part, substantially correct in our forecast. What is most frustrating, however, is the lack of appropriate action from politicians, commerce and the public at large despite the scary predictions based on accurate data as is the case with respect to the development of obesity (Hedley et al. 2004) and its comorbidities in the US. It appears that success or the lack of it is not entirely dependent on the accuracy of relevant estimates and precise forecast than on other factors such as the general acceptance of the need to change a truly bleak situation.

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References

Flegal KM (2005). Estimating the impact of obesity. Soz Praventiv Med *50*: 73–4.

Hedley AA, Ogden CL, Johnson CL, Carroll MD, Curtin LR, Flegal KM (2004). Prevalence of overweight and obesity among US children, adolescents, and adults, 1999–2002. JAMA *291*: 2847–50.

Neilson A, Schneider H (2005). Obesity and its comorbidities: present and future importance on health status in Switzerland. Soz Praventiv Med *50*: 78–86.

Schmid A, Pugin J, Chevrolet J-C, et al. (2004). Burden of illness imposed by severe sepsis in Switzerland. Swiss Med Wkly 134: 97–102.

Schmid A, Schneider H, Golay A, Keller U (2005). *Economic burden of obesity and its comorbidities* in Switzerland. Soz Praventiv Med *50*: 87–94.

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