Reviewer's report

Title: Empirical Comparison of Linear, Logistic, and CART Models for Binary Classification of Dyslipidemia from Anthropometric Measurements

Version: 2 Date: 4 March 2004

Reviewer: Tommy Visscher

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General
Unfortunately, this reviewer has to report that Costanza and Paccaud did not convince me on the relevance of their paper regarding clinical medicine or community medicine.

In my first reviewer’s comments I stated that predicted cholesterol levels do not add to predicting cardiovascular risk from body mass index and waist-hip ratio levels. The authors reply that this is not perfectly clear. However, it is perfectly true.

Next, the authors disagree with this reviewer that it would be more useful to predict exact (on a continuous scale) cholesterol levels, because they were thinking in terms of an application to a population-wide screening program. However, also on a population-scale, it would be interesting to produce more than a percentage of subjects above a certain level, such as a mean value and/or percentiles.

The authors state in their rebuttal that they are thinking in the “dichotomous spirit” of whether or not a physician decides to treat a patient, regardless of the dosis. My argument was that a physician should not decide to treat a patient regardless of the dosis. The context is important here, in which levels of body mass index and waist-hip ratio are available. Based on overweight status and cholesterol levels, several options for prevention or treatment are available. Indeed, if one option for treatment for instance prescription of cholesterol lowering medication would be available, thinking in the “dichotomous spirit” may be more sufficient. The authors fail to address this issue.

As this reviewer found the last sentence of the paper disappointingly weak, the authors rewrote the last paragraph. The last sentence is still disappointing. The very last sentence of the paper reads: “However, because the latter were either not as readily available or as user-friendly as they could be, we excluded them from our study.”

The authors still state that central obesity is measured by waist-hip ratio, after I commented on the issue. This is conceptually wrong. Central obesity is estimated by measuring waist circumference alone. Waist-hip ratio is a measure for fat distribution, not for the amount of fat in the abdomen.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Discretionary Revisions (which the author can choose to ignore)
What next?: Reject because too small an advance to publish in any journal

Level of interest: An article of limited interest

Quality of written English: Not suitable for publication unless extensively edited

Statistical review: Yes

Declaration of competing interests: none