

COMPARATIVE EVALUATION OF OBESITY MEASURES: RELATIONSHIP WITH BLOOD PRESSURES AND HYPERTENSION

Dear Sir,

I have read with interest the recently-published article by Drs Ghosh and Bandyopadhyay in your prestigious journal.⁽¹⁾ I beg to differ with the authors in their statistical methodology and conclusion. Firstly, the rigour of the statistical models in any study determines the reliability of the conclusions drawn. The authors compared “the relationship of all obesity measures with blood pressures [to] find out the best obesity measure, associated with greater risk of hypertension”. I think that the authors should first examine the probable high degree of co-linearity between the obesity measures before putting them all together in a single multivariate model. This is a well-known statistical fact for those working in multivariate analysis. In a recently-published article, Al-Mossa et al mentioned that “due to the high degree of co-linearity between the three measures of obesity (viz., BMI, WHR, WC), only waist circumference was chosen for the regression models, as recommended by WHO”.⁽²⁾ Moreover, the linear distribution of the variables in the multiple linear regression should also be examined for every variable introduced in the model. If linearity is not met, the authors can use any of the transformation methods, or resort to use only multiple logistic regression, as the latter does not necessitate the linearity assumption.

Secondly, the authors erred by mentioning that “comparing values for a 0.1 increase in WSR was 1.22”. Table III shows that the OR of WSR is 1.12 and not 1.22.

Thirdly, the authors mentioned in the Methods that “those who were under medication were excluded from the present study”. Unfortunately, the authors did not make it clear for the reader which medication they meant and how did they deal with hypertensive patients on antihypertensive medication and with normotensive readings, if any.

Finally, the authors did not explain why BMI or WSR had the greater risk of developing hypertension and not WC, which was proven recently to be a stronger predictor of developing cardiovascular risk factors.⁽³⁾

Yours sincerely,

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