Letter to Editor

Metabolic Syndrome in the Rural Population of Wardha, Central India: Confounding of Factor Analysis as Result of High Correlated Variables

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Sir,

In recent paper published in January-March 2013 issue of Indian J Community Med that Deshmukh and colleagues had done, was about factor analysis of metabolic syndrome (MetS) on rural population of Wardha, central India.[1] The authors aimed to factor analysis MetS components to represent interrelationships among sets of variables.

In factor analysis MetS papers, correlation coefficients and significance level were usually reported because earlier stage from factor analysis is data screening or item analysis. If any correlation coefficients greater than 0.9 are found, then we should be aware that a problem could arise because of singularity in data, as far as it suggested that we need to exclude one of the two variables in analysis.[2] It seems that there is multicollinearity among variables in this study. In their results, systolic blood pressure and diastolic blood pressure in both sexes, total cholesterol and low-density lipoprotein in women have been loaded together on one factor without sharing with other variables because of their high collinearity. One could think that hypertension may not be linked to the MetS to the same extent as other components. Some investigator had used the mean arterial pressure[3] and systolic blood pressure.[4] If we put low density lipoprotein-cholesterol (LDL-C) and total cholesterol (TC) together into model of factor analysis; was seen that Kaiser-Meyer-Olkin value reduced steeply.[3] In addition, investigators usually did factor analysis of MetS without LDL-C and TC in their studies.[5,6]

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