

Comments on “Rural Residency has a Protective Effect and Marriage is a Risk Factor for NAFLD”

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Received 2016 June 21; Accepted 2016 July 16.

Keywords: Non-alcoholic Fatty Liver Disease, Marriage, Residence, Characteristics

Dear Editor,

I was interested in the study entitled “Rural Residency has a Protective Effect and Marriage is a Risk Factor for NAFLD” (1). I believe the current paper provides an important contribution to the literature, especially with regard to the association between urban living and NAFLD. However, I wanted to put pen to paper to draw your readers' attention to a possible misinterpretation of the association between marriage and NAFLD. While the authors have tried to adjust for the effects of well-recognized risk factors for NAFLD in multivariate logistic regression, it has not been properly performed. To the best of our knowledge, being over 40 years of age is a significant risk factor for NAFLD, which is not confounded by other predictors (2). However, age is entered as a continuous variable in their logistic regression models (i.e., the adjustment of risk estimation is performed along with each year increase in age), which leads to the dilution of its effect in the final adjusted model and the consequent overestimation of marriage as an independent predictor. For better adjustment of the age effect, a categorical variable ($\leq 40, > 40$) is much more appropriate. It is clear that married individuals in the population are considerably older than unmarried individuals (table 2 of their paper). Due to this strong association between age and marriage, I suggest checking the assumption of multicollinearity of the regression model by tolerance and VIF statistics, the eigenvalues of the scaled, etc.

Despite their excellent discussion, more rigorous statistical analyses are necessary for concluding whether marriage is a net predictor for NAFLD. I think combining a true finding (i.e., the association of urban living and NAFLD) with a questionable finding (i.e., the association of marriage and NAFLD) may reduce the scientific value of this interesting study.

Finally, I would like to express my appreciation for the methodological quality of the study design and suggest the authors improve the statistical analysis of their regression models.

References

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