Letter to the Editor: Multipronged Assessment Approach of Risk Factors for Non-alcoholic Fatty Liver Disease

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Dear Editor,

We read with great interest the article by Mohamed et al, which was recently published.[1] We believe that the article has greatly highlighted the prevalence and risk factors of non-alcoholic fatty liver disease (NAFLD) among patients with type 2 diabetes mellitus in Bahrain. We agree that the authors included an impressive number of covariates in determining the risk factors of NAFLD. However, we notice that in the case of metabolic syndrome, the reference used was ATP III instead of the harmonized criteria which are ethnic-specific in waist circumference measures with a lower cut-off for fasting blood glucose[2]. In future studies, we suggest that the authors can consider using these criteria to ensure all possible causes of metabolic syndrome are detected. In addition, the demographic data in Table 1 included cardiovascular risks as one of the variables, however, we could not elicit it in the univariate analysis.[1] We were wondering whether it is associated with physical activity or other variables.

The authors also considered obesity as measured through body mass index (BMI) as the risk factor for NAFLD. This was confirmed by the findings of the study as an independent risk factor for NAFLD. Although BMI is robust and simple to use as an indicator of obesity, individuals with similar BMI do not equate to similar body fat in the body. As there is a saying "thin on the outside, fat on the inside", with this the measurement of body fat percentage through bioimpedance analysis (BIA) may be a better indicator of obesity[3]. Future studies could consider various body composition measures to accurately define obesity.

For the statistical analysis, researchers did a good job by performing all the univariate analyses and then selected the statistically significant variables to be included in binomial logistic regression. However, there is another way to analyze the data by performing full multiple logistic regression[4]. In multiple logistic regression, univariate analysis called simple logistic regression is required to select the possible variables that could be included in the preliminary model[4]. Performing multiple logistic regression (multivariate analysis) can increase the power of statistical analysis[5]. We noticed that there is some missing data for most of the measure variables. Missing data could lead to potential bias and compromise the inferences from the research if not handled and treated appropriately. We would like to know how the researchers handled or treated all the missing data.

References

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