Reviewer's report

Title: Natural honey reduces blood alcohol concentration but not affects the level of serum MDA and GSH-Px activity in intoxicated male mice models

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Reviewer: Elzbieta Skrzydlewska

Reviewer's report:

This manuscript deals with a realistic problem, namely alcoholism and natural honey intake. Concerning the effects of alcohol intoxication, the paper is rather repetitive, its originality is that authors try to explain possible mechanism of anti-intoxication effect of natural honey. The goals of the paper are clear, the experimental section is presented thoroughly, however the statistical data analysis could be more convincing if authors give the information what statistical test was used: t-test or another one.

Major Compulsory Revisions

There is in my opinion one major weakness in the paper in the area of the mechanistic interpretation of the data. There are many references to support this view. Assumption that for the observed preventing drunkenness effects is responsible fructose and/or glucose is not based on experimental evidence. If this argument is pursued, it will be necessary to determine the level of fructose and glucose, by described HPLC method, in rat serum from treatment and model group.

The second problem is that it is really strange that the decrease in ethanol level, as a major oxidative stress inducing factor, did not result in decrease of MDA level and increase of GSH-Px activity. I think that the discussion section may consider more thoroughly this problem.

Minor Essential Revisions

There are additional minor problems which will need to be addressed before publication:
- page 7, line 132 and 135, information about the saline volume in the description of T0 and C experimental groups should be given,
- page 12, line 250 the word “recent” regarding the paper form 2008 is not appropriate
- page 22 (table 3) should the significant difference for MDA level in Treatment group vs Negative group be marked as (*)?

Discretionary Revisions

Methods section:
The commercial kits were used for determination of MDA level and GSH-Px activity. The authors should give more details regarding methodology of these measurements.

I will recommend placing the description of HPLC method (page 19, line 393 – figure 2 caption) in the method section as separate paragraph entitled “Carbohydrates level determination”.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.