Reviewer’s report

Title: Frequency of C/T-13910 single nucleotide polymorphism associated with adult-type hypolactasia/normolactasia among Brazilians of different ethnic groups

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Reviewer: Dóra Nagy

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The study by Mattar et al. describes the prevalence of adult-type hypolactasia in the Brazilian population using the C/T-13910 polymorphism, which is associated with lactase persistence/non-persistence, a trait, most common among Caucasian populations.

The study compares the distribution of hypolactasia and normolactasia in different ethnic groups, such as White, Black, Brown and Japanese-Brazilians, testing 515 individuals.

Major Compulsory Revisions

1. The study is valuable because data about the Brazilian population in this field are scarce. Although the total number of 515 individuals is impressive, the total number of Black (17) and Japanese-Brazilian group (34) is not very representative and sufficient.

2. The Brazilian population is very diverse and the present inhabitants have many different ancestors (Amerindian, African, Portuguese, Italian, German, Spanish, Polish, etc.). It would be interesting to investigate the ancestry of the studied individuals with regard to the possible differences in the prevalence of hypolactasia in these groups. The prevalence of hypolactasia in groups with different ancestors could be compared with previous results in the literature. For example: the prevalence of C/T-13910 variants among Italian descendants compared to the study results of Italian research groups.

3. In Methods, authors mention that symptomatic and asymptomatic individuals were included in the study. It would be important to give more specific information about the two groups (number of each group, age, sex distribution, symptoms, other diseases) and compare their results separately, as well.

4. Were clinical investigations (such as lactose hydrogen breath test, or measuring dissacharidase activity of intestinal samples or any other tests) carried out beside the DNA test? Did these individuals complete questionnaires on their milk drinking habits? The comparison of the results of the DNA tests and clinical, nutritional data would give us more precise information about the real prevalence of adult-type hypolactasia.
5. As the authors mention, the C/T-13910 polymorphism is associated with hypolactasia in European but not in most of the African populations, where three other SNPs are identified to be associated with lactase persistence. That’s why the prevalence of C/T-13910 variants in Black and maybe Brown populations is not informative about the prevalence of hypolactasia/normolactasia. It is advisable to test the other SNPs in Black and Brown groups and compare the results with those of clinical investigation and data from literature.

6. Table 1 and 2 show no different data, but their two different presentations. These data should be presented in one table.

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

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

**Declaration of competing interests:**

I declare that I have no competing interests.