Reviewer’s report

Title: Non-significant association between -330 T/G polymorphism in interleukin-2 gene and chronic periodontitis: findings from a meta-analysis

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Reviewer: Petra Borilova Linhartova

Reviewer's report:

Relationship between -330 T/G polymorphism in interleukin-2 gene and chronic periodontitis: findings from a meta-analysis

The submitted manuscript presents the results of meta-analysis study of -330 T/G polymorphism in IL-2 gene with predisposition towards chronic periodontitis. The authors choose IL-2 due to its possibility to suppress immune response and the correlation with -330 T/G polymorphism in IL-2 and periodontitis was not entirely determined jet. The authors summarized the results four studies in diverse ethnical groups totaling 1068 participial. This meta-analysis showed a non-significant association between -330 T/G polymorphism in IL-2 and chronic periodontitis.

Major comment

* I'm afraid that a meta-analysis carried out only from four studies including a total of 348 patients with chronic periodontitis and 720 control is insufficient for the publication in the journal BMC Oral Health.

* Why authors stated that 5 studies were included in the meta-analysis? I think that study by Scarel-Caminaga et al., 2002 should not be considered as 2 works.

* I suggest a change of the title, because there was no relationship between studied polymorphism and chronic periodontitis found.

* Results and Tables should be presented more clearly.

Minor comments

* Gene should be written in italic.

* Numbering of tables in the text is confusing.

* I recommend English proofreading of the manuscript by the native speaker. In the text there are several grammatically incorrect sentences or strange formulations, e.g.:
Abstract - "… immune response molecules participants of periodontitis …", "A retrieve in the literature …", "… groups totaling 1,068 participants …"

Background - p. 4 lines 6-9 sentence "Moreover, in Norway a total of 49.5% …", p. 4 lines 10-14 sentence "The disease receives several …", p. 4 line 23 "… to be an effective approach to autoimmune and inflammatory diseases …"

Methods - Data collection process - p. 5 line 23 "… form that composed the table of…"

Methods - p. 6 line 2 Incorrect form: diabetics disease

Methods - Sensitive analysis and publication data - p. 6 line 41 "There was not publication bias was this meta-analysis which …"

Discussion - p. 7 line 1 "The meta-analysis is a statistical tool in genetic studies …"

Discussion - p. 7 line 23 Similar information: In addition, we consider that racial differences and ethnicity may influence the role of genetic variations in cytokines genes [41]. Therefore, this current meta-analysis attempted to considerate the influence of ethnicity in the results.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

**Quality of written English**
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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