Reviewer's report

Title: Thyroid function derangement and childhood obesity: an Italian experience

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Reviewer: Mark DeBoer

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Drs. Grandone et al. present a study of 1010 children and adolescents that were enrolled in a weight reduction program and had testing of thyroid function and multiple other parameters before and after the study. They report an increase in TSH and T3 levels among children with a BMI >95th percentile. Among children who had a decrease in BMI z-score of at least 0.5, there was a decrease in TSH and T3 during treatment. As the authors acknowledge, these findings have been reported previously by Reinehr et al. This article offers strengths of a larger population studied. The study also investigates a different ethnic cohort (Italian children vs. German children in the Reinehr article). Overall, I would say that this is a worthy article.

The article does need extensive editing by an English speaker.

Minor:

1. Page 3, paragraph 2, line 1: “Several studies” is mentioned, but only one study is referenced. The authors should provide further examples.

2. Page 4, paragraph 1, line 3: Criteria are listed for exclusion of subjects. The authors should state the number of subjects that were excluded—either here or in the results section.

3. Page 6, paragraph 1, line 3: Weight reduction was considered at least a 0.5 decrease in BMI z-score. Do the authors have a reference to cite that lists this as a definition of weight loss?

4. Page 6, 5th line from the bottom: Linear regression model was performed… were levels of leptin also examined in the regression model for the sub-group of patients in which this was tested?

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

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.