Reviewer's report

Title: Effects of a Novel Magnetic Orthopedic Appliance (MOA-III) on Dentofacial Complex in Mild Skeletal Class III Children

Version: 5 Date: 16 June 2015

Reviewer: Mohammad Y Hajeer

Reviewer's report:

Major Compulsory Revisions

(1) In the 'Introduction' section, a small paragraph should be added at the end of this section and before the last paragraph. The required paragraph should prepare the reader about the new appliance that was developed at your University. Then it comes to the reader that we need to see its effects on a sample of Class III patients.

(2) In the 'Materials and Methods' section, no need for the hand-and-wrist radiograph assessment (i.e. no need for the skeletal age assessment). We have mentioned before that the use of these images are not required to commence the study. Treatment of Class III patients is not related to any skeletal age estimation. It is well known that we need to treat Class III patients as soon as they are presented in the clinic.

(3) In the 'Materials and Methods' section, the results of Dahlberg's assessment of the error of the method are not given. They should have been given in a separate table or a summary of the results should have been given in the body of the text.

(4) In the 'Materials and Methods' section, the authors mentioned 'inter-observer' and 'intra-observer' concepts. We have only requested intra-observer reliability. Systematic error was mentioned here. They need to say there were no systematic errors between the two repeated measurements (at the two assessment times) i.e. no significant differences applying paired t tests.

(5) In the 'Materials and Methods' section, at the end of this section, the authors mention that they applied t test. They should have used the following sentence: 'Two-sample t tests were applied to detect significant differences between the two groups by comparing treatment-induced changes versus growth-only-induced changes.'

(6) In the 'Materials and Methods' section, sample size calculation of the main study has not been calculated. The authors are advised to explain how they calculated sample size. Why did they choose 20 subjects? What are the assumptions beyond their calculation.

(7) In the Results section, the 'morphological changes' should be replaced by
'occlusal changes'. All the subheading of 'Maxillomandibular relationships, etc..' should be deleted as has been suggested in my first review of this paper. All the important findings should be given in complete paragraphs of balanced sizes. You need to 'merge' all of your paragraphs together in one or two somewhat long paragraphs.

In the Discussion section, you need to compare your results with other appliances in the literature. I suggest comparing your results with those of the RMR (Removable Mandibular Retractor; Here is the reference: 'Short-term soft- and hard-tissue changes following Class III treatment using a removable mandibular retractor: a randomized controlled trial'. Orthod Craniofac Res. 2013 May;16(2):75-86. doi: 10.1111/ocr.12007 By Saleh et al. Since the age range in this study is close to your study. Also, you may compare your results with the chincap therapy. You have already mentioned this by going back to citations 32-34. But please take into account the recently published paper by Saleh et al 2013 about Class III treatment in order to allow the reader to compare treatment efficiency.

Minor Essential Revisions

In the Abstract
(1) 'discrepancies' should be 'discrepancy'
(2) Another 20 untreated patients, should be 'Another group of 20 untreated patients,...'
(3) 'according to upper criteria' should be 'with the same level of deformity'
(4) ' a t test was used' should be 'a two-sample t test was used'
(5) 'retroclination were noted' should be 'retroclination were noticed'
(6) 'and the lower lip retruded backward' should be 'and the lower lip moved backward'
(7) 'by MOA-III by comparing to untreated group..' should be 'by the MOA-III appliance compared to the untreated group'

In the Materials and Methods section:
(8) All the referral to figures should be given like this: Figure 1, Figure 2. (i.e. respecting that the first letter should always be capital).

In the Discussion section:
(9) the last sentence should take into account that the MOA-III was effective in the treatment of mild to 'moderate' Class III malocclusion in children.

In the Conclusions:
(10) we need to see only three conclusions without any repetition of the sentences. One conclusion is an overall conclusion. Second one about hard tissue changes. Third one about soft-tissue changes and overall appearance.

Tables should be shortened. Tables 2,3 and 4 should be shortened. Variables
that are not important could be removed.
Figures are OK
Figures legends are OK.

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

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

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

No competing interests