Author’s response to reviews

Title: The prevalence of malocclusion and the need for orthodontic treatment among adolescents in the northern border region of Saudi Arabia: An epidemiological study

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Author’s response to reviews:

Editor Comments:

Add a page number, there are so many informal terms, revise, check for grammar and style as there are many typos!!

Reply

• Page numbers added
• Informal terms corrected
• Manuscript revised and corrected for grammar and style

Abstract

Background: To assess the prevalence of malocclusion and estimate of orthodontic treatment need among adolescents using the dental health component (DHC) of the index of orthodontic treatment need (IOTN).

Methods: A descriptive cross-sectional study was conducted among 500 (add mean (SD) for age adolescents randomly selected from the northern border region of Saudi Arabia (KSA) The northern border region is sub-divided into three governorates: Ar'ar (add number), Rafha(add number), and Turayf(add number). The data were recorded in questionnaires to assess the prevalence of malocclusion and estimate of DHC of the IOTN index.

Reply
• Mean age added (mean age 16.25±1.09)

• Sample numbers added, Ar'ar (186), Rafha (142) and Turayf (172).

Results: The most common malocclusions in order of prevalence were Angle's Class I (52.8%), Angle's Class II (31.8%), and Angle's Class III (15.4%). The most common facial profile is determined in the sagittal plane were the straight facial profile (49.2%), followed by convex (42.6%) and concave (8.2%).

The prevalence of other occlusal traits were as follows, crowding (how do you define it?) (47.2%), excessive overjet (how do you define it?) (22.2%), reduced overjet (how do you define it?) (11.4%), excessive overbite (how do you define it?) (23.4%), reduced overbite (how do you define it?) (12.2%), anterior crossbite (4.8%), posterior crossbite (9.4%) and open bite (4.6%).

Reply

• All the occlusal traits were defined as mentioned in Table I

The prevalence of the DHC grades of of IOTN index were as follows: 48.73% of males and 50.22% of females showed grades 1 and 2. Grade 3 was observed in 30.32% of males and 28.69% of females. Grades 4 and 5 were recorded in 20.93% of males and 21.07% of females. (you need to first add the prevalence of difference DHC grades then add m/f)

Reply

• The prevalence of difference DHC grades is added first followed by m/f

Conclusions: The findings suggest that prevalence of malocclusion and orthodontic treatment need among the north border region of KSA was comparable with that of other regional studies.

Introduction

This sentence is wrong, nobody altered the IOTN’ Shaw et al [4]. initially formulated the IOTN in the U.K, which was later altered by Richmond [5].’ Revise, revise and remove ref number 5

Reply

• The sentence is revised and corrected

• Reference 5 is revised

The following section belongs to the M and M section, relocate? ‘The DHC records the various occlusal traits of malocclusion and the treatment needs of the subjects are assorted as grade 1 (no
treatment need), grade 2 (mild need), grade 3 (moderate/borderline need), grade 4 (severe need) and grade 5 (extreme need).

Reply

• The above section is relocated in Material and Methods

M and M

Did you do any sample size calculation? Add a section and explain

Reply

• Sample size was calculated based on the prevalence of malocclusion in a pilot study (p=23%). A total sample size of 500 individuals will be sufficient to detect statistically significant difference of 5% with 95% confidence interval and 80% power using chi square test and considering design effect of two. Sample for each region was decided by proportionately, depending on percentage of total population it represents.

Remove table 2 and summarize the table in the M and M text

Reply

• Table 2 is removed and the contents are summarized in Material and Methods

You need to put more info on IOTN components and also how you defined occlusal traits, what was normal range?

Reply

• More info about IOTN contents summarized in Material and Methods

• Occlusal traits were defined with normal range in Table I

Facial profile (how do you define it?),

Reply

• Facial profile is determined in the sagittal plane and may be assessed as straight, concave or convex depending on the spatial relationship or harmony between mandible and maxilla.

You need to mention what variables you recorded first then refer to table 1

Reply

• The variable are now mentioned first and then to Table I
Legend for table 1, change to, variables and detentions used in the study

Reply

• Legend for table 1 is now changed to variables and detentions used in the study

List variables in the M and M section, Facial profile, crowding (how do you define it?) , overjet , overbite, anterior crossbite , posterior crossbite, and open bite .

Reply

• All the above mentioned variables are now listed in the M and M section

Add a section for Statistical analysis

Reply

Statistical analysis

The recorded data were transferred from survey proforma to an SPSS (Version 22, SPSS Inc., Chicago, USA). The chi-square test and Z-proportionality test were applied and the significance level was set at 0.05 (P<0.05).

Results,

Table 3, change the legend to ‘prevalence of different malocclusions and occlusal traits in the studied sample’, what test does the p value refer to (chi-square?) , please add this information to the table

Reply

• Table 3 legend is now changed to ‘prevalence of different malocclusions and occlusal traits in the studied sample’

• The p value refer to chi-square and this information is added to the table

Also combine the sample (n) and percentage and present as n(%) in one column

Reply

• The sample (n) and percentage are combined and presented as n(%) in one column

Start reporting with the Facial profile types then reports the various occlusal traits
Facial profile types are first reported followed by various occlusal traits

Remove ‘A maximum of’ just give the exact figures

‘A maximum of’ is removed and the exact figures is mentioned

Use capital “C’ for class

Capital “C’ is used for class

The association was not found to be statistically significant (chi-square=0.1672, p=0.9201).’ what does this refer to?

It refers to gender difference

Very few articles looked into facial profile, look at the Dental Traumatology 2010; 26: 311–316;, compare your findings with it and report in discussion.

The article suggested above is incorporated in the discussion

Please compare the IOTN finding with landmark papers in neighboring countries (Eur J Paediatr Dent. 2009;10(2):69-74.)

The above mentioned article is incorporated in discussion

Min Gu (Reviewer 1):
1. In abstract and line 16:
'IOTN' should be 'index of orthodontic treatment need' rather than '--- needs.'

Reply
• The word needs is replaced with need

2. In line 23,
Should be 'Ethical approval'.

Reply
• It’s now mentioned as Ethical approval

3. The letter 'p' for P value should be italic font throughout the manuscript.

Reply
• The letter 'p' for P value is changed to italic font throughout the manuscript.

4. For the tables, there should be no vertical lines.

Reply
Vertical lines are removed from the tables

Sanaa Chala, DDS (Reviewer 2):

Materiel and Methods:

When recording the IOTN authors have analysed multiple characteristics a brief explication may be useful to explain how they used the kappa coefficient in

Reply
• Use of kappa coefficient is explained

Results:

Tables should be edited according to standards in medical literature (a suggestion is uploaded)

Reply
• Tables are edited as per the standards

Discussion

Limits should be more discussed. It will be suitable if authors discussed the lack of patients perception regarding the need of orthodontic treatment

Reply

• The above mentioned points are discussed in the discussion section