Author’s response to reviews

Title: THE PAIN COLOUR OF CHILDREN WITH TOOTHACHE IN TURKISH POPULATION

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Author’s response to reviews:
Junaid Ahmed (Reviewer 1): A very novel article for assessing pain in Children but a few sentences require major grammatical corrections and Punctuations and a few sentences were not written coherently and were not making sense. For eg:

1. 'Children younger than 3 years are unable to quantify pain presently available self-report measures'. (In Background section)
   Background section, line 45-47, page 2
   Before revision
   Children's capability of using self-reporting pain tools changes in time [11]. Children younger than 3 years are unable to quantify pain presently available self-report measures. Children over the age of 3 can rate their pain on appropriate scales [4,12].
   After revision
   Children's capability of using self-reporting pain tools changes over time [11]. Children under three years of age are unable to quantify pain using the currently available self-report measures. Children over the age of three can rate their pain on appropriate scales [4,12].

2. 'Children in Turkey are in the highest caries risk factor group compared to some Europe countries hence toothache experience begins in very young age'(In Background section)
   Background section, line 61-63, page 2
   Before revision
   Children in Turkey are in the highest caries risk factor group compared to some Europe countries hence toothache experience begins in very young age [18].
   After revision
   Children in Turkey have the highest caries risk among children in European countries, and hence,
pain (toothache) experience begins at younger ages [18].

3. 'Children admitted to the outpatient unit of Department of Pediatric Dentistry, Gaziosmanpasa University those had acute toothache' (In Methodology)
Methods (Sample) section, line 68-69 , page 2
Before revision
The children admitted to the outpatient unit of Department of Pediatric Dentistry, Gaziosmanpasa University those had acute toothache.
After revision
Children admitted to the outpatient unit of the Department of Pediatric Dentistry, Gaziosmanpasa University, who had acute toothache, were invited to participate in the study.

4. 'Motor abnormalities that precluded scoring of the scales; anyone could not understand the explanations and commands given in Turkish, patients answered the questions ' (In Methodology)
Methods (Sample) section, line 73-76 , page 2-3
Before revision
Children were excluded if they had altered mental status or any degree of cognitive impairment, non-cooperative and had any colourblind, motor abnormalities that precluded scoring of the scales; anyone could not understand the explanations and commands given in Turkish, patients answered the questions or choose the colours later than 10 minutes.
After revision
Children were excluded if they had altered mental status or any degree of cognitive impairment, were non-cooperative, had color-blindness or motor abnormalities leading to score of the scales, could not understand explanations and commands in Turkish, or response time or colour selection lasting more than ten minutes.

5. 'The aim of this study was to determine the colour of pain presence and absence and was the relationship between pain presence and pain intensity with colours in children experiencing dental pain' (In Discussion)
Discussion section, end of the first paragraph, page 4
This sentence was removed from the text
The aim of this study was to determine the colour of pain presence and absence and was the relationship between pain presence and pain intensity with colours in children experiencing dental pain.

6. 'However, in the literature, but little is known about how children with toothache how use of colours to assess pain' (In Discussion)
Discussion section, line 143 , page 4
Before revision
However, in the literature, but little is known about how children with toothache how use of colours to assess pain [22].
After revision
However, little is known about using colours to assess pain in children with toothache [22].

Kamran Ali (Reviewer 2): Thank you for submitting this manuscript to BMC Oral Health.
Several issues need to be addressed prior to considering this manuscript for publication.
Throughout the manuscript the authors have stated "The main source of expressing pain for children is the parents or caregivers". This is not appropriate and should be replaced with "Most children expressed their pain through their parents or carers". This change would need to be made throughout the manuscript.
Abstract (Background) section, line 5, page 1
Background section, line 35-36, page 1
After revision
Most children expressed their pain through their parents or carers.

Abstract (Methods): Page 2 "Patients aged between 4 and 14 and referred to dentist" should be referred to a dentist
Abstract (Methods) section, line 7-8, page 1
After revision
Patients aged between 4 and 14 and referred to a dentist for the first time due to toothache had a short-term pain of 1 month caused by deep cavities.

Methods:

a. It is not clear how the sample size was calculated for this study? Did the authors carry out a power analysis prior to commencing the study to assess the sample size for identification of significant differences? If not, this needs to be mentioned a limitation of the study

Methods (Statistical Analysis) section, Statistical Analysis, line 94-96, page 3
This sentence was added to the text
We evaluated simple correlation (r = 0.3) between VAS and presence of pain using a two-sided test with an alpha of 0.05 and a power of 80%; the required sample size was approximately 113 (n=113).

b. Under the sample (first paragraph) the authors state "referred to dentist for the first time due to toothache with a short-term pain of 1 month caused by deep cavities in teeth were included in the study".

Referred to dentist should be referred to a dentist
1 month should be replaced by up to 1 month
Methods (Sample) section, line 70-72, page 2
After revision
Patients with no systemic diseases, aged between 4 and 14, referred to a dentist for the first time due to toothache with a short-term pain of up to 1 month caused by deep cavities in teeth were included in the study.

Discussion:

a. The discussion has a fair amount of repetition of the results which needs to be avoided. Instead focus on interpreting the results in the light of the existing literature on the subject

Methods (Statistical Analysis) section, Statistical Analysis, line 94-96, page 3
This sentence was added to the text
We evaluated simple correlation (r = 0.3) between VAS and presence of pain using a two-sided
test with an alpha of 0.05 and a power of 80%; the required sample size was approximately 113 (n=113).

b. The discussion may be improved by providing a more convincing argument to use colour in children primarily as a means of communicating pain to the dentist. Discussion section, line 187-192 , page 6
This sentence was added to the text
Colourful presentations with different ranges and motivating them to correlate for describing their pain may be a useful tool to improve dentist–children communication in an appropriate clinical setting by eliciting descriptions of the pain experience. Presenting pain feelings may not be common for all children, as a finding of present study, but for some children engagement with colour may provide a comfortable way to express their pain. Color-based communication in dentistry may help us learn more about the pain in children.

c. The authors may also need to emphasise that although colour can serve as an adjunct in the assessment of pain in children, it does not substitute objective diagnosis for treatment planning which should be based on a meticulous clinical examination and investigations including appropriate radiographs. Discussion section, line 195-197 , page 6
This sentence was added to the text
Colours can be used as a means of reflecting children perception of pain to treating dentist, however, clinical examination and appropriate radiographic methods should be primarily applied to make an objective diagnosis.

d. How do the authors justify the use of colour in the absence of any correlation with the visual analogue scale? Does it only serve to show the presence or absence of pain?
Since our study was first of its kind study, a numerical scale was used to determine the correlation between pain intensity and colours. Since our study was a leading study, a the numerical scale was used for comparison. The literature on pain color in dentistry is was quite limited; therefore, we aimed to provide more concrete make the results using more concrete with the scales. We also carried out another study in which we only evaluated only the relationship between colors and the presence and absence of pain and colors in 1420 children((Altan H et al. The Pain Colour of Children with Dental Pain in Turkish Population. Turkish Pediatric Dentistry Association 24th Scientific Congress, 19-22 September 2017, Antalya Turkey). We had obtained similar results similar to with the results of this study; and dark colors (red, black, and dark green) were marked in the presence of pain, while light colors (yellow and, light bluewhite) were marked in the absence of pain. We believe that different colorus and their shades can be used to obtain provide preliminary information about the presence and absence of pain in children.

Figures
Figure 2: The words seem to have been picked up as a typographic error by the Word programme and underlined in red; this needs to be corrected
Figure 2 was corrected

Manjula Attygalla (Reviewer 3): there are grammatical and spelling error in the manuscript which need revision before publishing. The concept of the paper is good. it would be better if
there were more younger children in the study sample as it is more significant for the younger children.  
Grammatical revision was done.