Response to Reviewers

The manuscript 4457 "Subconscious Temporomandibular Dysfunction (STeDy) Therapy: A New Therapeutic Approach for Temporomandibular Disorders" by Florakis et al. submitted to the World Journal of Stomatology, was revised according to Reviewers' suggestions. All revisions were marked in red letters.

The comments of the Reviewers are mentioned below in italics followed by our responses in regular fonts. We would like to thank the Reviewers for their contribution in ameliorating our paper.

Reviewer #00570285

1. *Classification: Grade B (Very good) – Minor language polishing – Conclusion: High priority for publication.*

   We thank the Reviewer for the evaluation.

2. *Further language revision is necessary to improve the quality of manuscript.*

   Language polishing was done by a native English speaker.

Reviewer #00742323

1. *Classification: Grade D (Fair) – A great deal of language polishing – Conclusion: Major Revision.*

   We thank the Reviewer for the evaluation. Language polishing was done by a native English speaker.

2. *Some parts of this manuscript as the abstract, introduction and scope can be easily summarized, and a complete language revision is necessary. The Introduction is lacking in references.*

   Following the Reviewer's suggestion, we summarized parts of the Abstract, Introduction and Scope (shown in red in the revised manuscript, pages 2-5). Language polishing was done by a native English speaker. As suggested by the Reviewer, 15 more references (8-11,17-22,25,26,28-30) were added in the Introduction, pages 4-5.

3. *None ethics approval of this research is mentioned in manuscript.*

We thank the Reviewer for mentioning this point. The approval of the clinical protocol by the Department Ethics Committee was added in the Materials and Methods, 1.Patients, page 6.

4. *The graphics used must also demonstrate the absolute case numbers, or then some tables should be included. Finally, a statistical test must be applied to support the findings of this research.*

   Following the Reviewer's suggestion, Table 1 with absolute case numbers in each stage of therapy was included (page 27). Due to the nature of this initial study and the surprisingly optimal success of the new therapy we did not apply a statistical evaluation test, because we thought that none would be appropriate. If the Reviewer has any suggestions about any such test we would be pleased to perform it.

Reviewer #00742303

1. *Classification: Grade C (Good) – Minor language polishing – Conclusion: Major Revision.*

   We thank the Reviewer for the evaluation. Language polishing was done by a native English speaker.

2. *Methodology of the study is unclear & confusing. If a patient has just one of the following symptoms (Headache, tiredness in the morning, click or pain in the ears) can be included in the study. It means that, if somebody has just tiredness in the morning (Which can be rare (0) or often (1)) can be considered as a suitable candidate for this study regardless of other clinical signs & symptoms. This can lead to significant inaccuracy in the results. Another question is about the role of clinical examination. Were any of the participants excluded from study due to absence of clinical signs after examination?*

   Only individuals with TMD were included in the study. The questionnaire was just used for collection of subjective opinions of patients during the course of the treatment. We should have mentioned clearly in the Materials and Methods that we have followed the RDC/TMD axis I diagnostic criteria in order to assess the patients but we did not, so it seems that the Reviewer rightly thought that the methodology description was unclear. We have corrected that omission in Materials and Methods, 1.Patients, page 6.

3. *What was the importance of the psychological evaluation before commencing the study? Did the Authors exclude any participants due to severe mental issues?*
   The psychological evaluation is important in order to possibly identify psychotic (with bipolar disease, schizophrenia etc.) before commencing therapy because we think that these patients a) will not be cooperative during treatment and (most importantly) b) stress

seems to be the least of their problems. In our cohort we did not see such a case, so we did not have to exclude someone on these grounds.

4. *I believe that 5-7 mm splint is too thick to be tolerated by many patients. It is difficult for good number of people to get to sleep with such an inconvenient appliance and consequently they stop using it shortly after commencing the treatment. According to the authors, just seven participants quit the treatment due to severe health problem, and not because of the discomfort of the appliance. It is really strange that none of the participants quit the treatment due to uncomfortable treatment.*

   The 5-7mm is the thickness of awareness splint fabricated by the technician and this is decreased down to 0.5-1mm in places by elimination of existing premature contacts at the oral application stage. The vast majority of patients in our study needed a 5mm thick awareness splint. There were only occasional complaints of discomfort by a few patients in the initial months of the therapy and they were dealt with some elimination of premature contacts. The observation that none of the participants quit the therapy due to discomfort of the appliance underlines the fact that it was practically well tolerated.
5. *An awareness splint can bring a unconscious habit such as bruxism to the conscious level (cognitive level) at the most. So if we accept that the most important underlying cause of the bruxism is anxiety, it is obvious that the splint cannot solve the underlying problem and as long as anxiety exists, clinical signs can come back as soon as the patient cease wearing the splint. Having insight to this matter, authors stressed on consultation. The question is how can a dentist with the basic knowledge of psychology can treat a huge psychological issue such as anxiety? These kind of problems need tens of sessions of psychotherapy and if the dentist cannot fix the source of the problem, what's the advantage of "awareness splint" to the normal one?*

   The awareness splint indeed does not solve the underlying anxiety problem but it amplifies its effect, so that the patient begins to consciously recognize it and consequently avoids grinding or clenching his/her teeth. The great advantage of the awareness splint is that it appears to have a permanent effect, while the normal one has only a "placebo-type" effect for a limited time (see reference 23). Our study shows that a dentist with the basic knowledge of psychology can treat TMD-related stress in a permanent manner, not anxiety in general of course.

Reviewer #00563599

1. *Classification: Grade D (Fair) – Minor language polishing – Conclusion: Rejection.*

   This is a report of a study to evaluate a new therapeutic (Subconscious Temporomandibular Dysfunction) approach that may permanently address excessive involuntary muscle activity, which causes temporomandibular disorders. The central idea of this present manuscript is original, considering DTM treatment. But, there are some

problems with the study that prevent its recommendation for publication and these are listed below.

We thank the Reviewer for the evaluation and for recognizing that the central idea of the study is original. Language polishing was done by a native English speaker.

2. *Methodology: How was defined the sample size?*

   Since this is a study regarding an original therapeutic approach the size of the cohort of patients was determined randomly by the availability of volunteers. The number of patients had to be big enough in order to draw some conclusions and modest enough so that the study could be concluded in a reasonable time (it took about five years from the original idea to the submission of the manuscript).

3. *Methodology main problem: the study doesn't have a control group: traditional DTM treatment. Very long description of STeDy treatment.*

   Our study did not have a control group because a) there is not a unique traditional splint treatment for all TMD cases to compare to the new therapy, and b) TMD patients are distinctive and not comparable (for example, different stomatognathic muscles are affected in each patient). That is why we did not consider it necessary and why other Reviewers did not mention it either. The Reviewer is right that the description of the STeDy therapy is long but this is the first time that it is presented, therefore some detailed description seems to be necessary.

4. *Figures: figure 1 is not necessary. Figure 2 could be grouped in stacked columns.*

   Following the Reviewer's suggestions, we omitted previous Figure 1 and changed previous Figure 2 (now Figure 1) so that it displays data in stacked columns.

5. *Results: It is not clear if it is series case report or original research manuscript.*

   This study is both an original clinical research of a new therapeutic approach in a cohort of TMD patients, and a report of some representative cases. The latter was deemed necessary since this is the first paper on STeDy therapy and we thought that the psychosocial history of TMD patients (qualitative data) is highly relevant.

6. *Conclusion in Discussion: Not presented in the manuscript. Abstract Conclusion: "The STeDy therapy successfully faced TMD problems of all patients that completed the year-long treatment in a permanent manner." In my opinion it is no support because in this manuscript we don't have a control group.*

   Following the Reviewer's suggestion, a Conclusion paragraph was added at the end of Discussion, page 18. The issue of the control group was addressed above, in comment 3.