Review of: ""Quantum Jump" and Their Effects on the Photo Whitening Technique"

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Potential competing interests: No potential competing interests to declare.

This short article attempts to highlight the non-destructive tooth whitening technique(s) utilizing violet light. Although the authors claim that they used 408 nm violet light in conjunction with a peroxide solution/gel to improve teeth whitening while reducing pain sensitivity, I can neither find any supporting data nor the procedure acquired in this document. Most of the text seems to describe research conducted before.

Here are my comments and suggestions:

1. I would advise expanding this article to include all the methodologies, instrumental details, data, and figures. For example, 1) demonstrate changes in tooth colour, 2) specify the duration of treatment, 3) mention patient-reported outcomes including complications, 4) report any comparative analysis, etc. For instrumentation, please mention the use of any colourimeters or spectrophotometers, light sources, protective eyewear/kit, etc., including the procedure acquired during whitening. These changes will make the article better and more valuable to the scientific community.
2. I would ask the authors to revise the 'Introduction' section to briefly explain 'Quantum Jump', not broadly as currently done.
3. I would also advise checking some sentences carefully; sometimes they do not make sense or feel grammatically awkward.
4. Please avoid using contractions such as that's or let's.
5. Page 2, last line: 'The pigments absorb the blue part of the light and absorb it harshly the violet' - the word 'harshly' does not suit the sentence.
6. Page 3 (Results and discussion, third line): 'Photo whitening occurs essentially through the quantum jumps caused by violet photons, strong enough to modify by fragmentation of the pigmented molecules'- revise this sentence.
7. Page 3 (Results and discussion, 5-6th line): 'The light violet has a short wavelength, very close to ultraviolet, but it is not ultraviolet and is well known for causing nothing damage to DNA or proteins, and so on ahead'. - It would be 'no damage'.
8. Please check the whole text carefully; there are similar mistakes.

Recommendation: **Accept with a major revision**