

Poster Communication 7

## Diode laser as a promising non-invasive technique in Oral Medicine treatments: quality of life in focus

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### Abstract

**Background:** Oral lesions can be treated using minimally invasive techniques that optimise tissue repair and reduce post-operative morbidity [1–3]. **Objective:** The objective was to evaluate the efficacy and visible clinical changes of the diode laser as a non-invasive therapeutic method, as an alternative to conventional therapies, in the management of various oral pathologies. **Methods:** Authorisation to conduct the study was obtained from the Ethics Committee of Fernando Pessoa University. Clinical follow-up was carried out on a sample of 31 participants of different age groups, in accordance with the ethical principles of the Declaration of Helsinki. Participants were selected regardless of gender and age, based on predefined inclusion and exclusion criteria. Firstly, patients received detailed information about the study, and their medical history was recorded. In addition, the OHIP-14 questionnaire was administered to assess the impact of oral health on quality of life, with photographs taken before and after laser treatment. In the second phase, 8 days later, the patients were re-evaluated, with a new photographic record of the treated area, as well as the administration of the OHIP-14 questionnaire and the distribution of a questionnaire to collect subjective data, such as pain, comfort during treatment, and adverse effects. **Results:** The results showed that laser application had a positive impact on oral health-related quality of life, reflected by a reduction in the OHIP-14 score, which fell from 2.29 in the first phase to 0.12 in the second phase ( $p < 0.001$ ). The most marked reductions occurred in physical pain and psychological distress; for the remaining parameters assessed, an improvement in the OHIP-14 score was also observed, albeit to a lesser extent. Analysis of the questionnaire collecting subjective data reinforces the previous findings, showing a reduced need for analgesics, an increased perception of well-being, and an increased perception of overall satisfaction [4]. **Conclusions:** Through the analysis of the results, we found that laser application proved to be an effective alternative in treating the observed conditions, having improved objective parameters and healing. Furthermore, improvements were observed in patients' individual experiences, reducing pain, anxiety, and discomfort in the post-operative period.

**Keywords:** diode laser; photobiomodulation; Oral Medicine; health quality; OHIP-14; LLLT

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