

## Poster Session

### P-031

**Danielle Santos Rodrigues, Luciane Hiramatsu Azevedo** (Brazil)

**Category:** Systematic or narrative review

**Title:** COST-EFFECTIVENESS OF LASER LABIAL FRENECTOMY COMPARED TO THE CONVENTIONAL SURGICAL TECHNIQUE

**Aim:** To perform a cost-effectiveness analysis of laser labial frenectomy surgery compared to the conventional surgical technique.

**Material and methods:** A systematic review with meta-analysis was performed by searching leading databases to extract clinical outcomes. Direct costs associated with both standard and laser procedures were then estimated to calculate the Incremental Cost-Effectiveness Ratio (ICER).

**Results:** In the analysis of cost by employed technology, the conventional frenectomy cost US\$ 38.59, while the laser procedure cost US\$ 45.86. For this economic analysis, the average monthly cost of laser technology was 18.8% higher than the average cost of conventional frenectomy. The average investment for acquiring high-power diode laser equipment amounts to US\$ 10,735.44, in Brazil. After calculating the ICER, it was possible to affirm that for each point decrease on the visual analog scale (VAS) for postoperative pain, there is an incremental cost of US\$ 13.72 for laser technology on the first postoperative day alone. Other variables, such as discomfort during speech or chewing, showed a less favorable ICER, potentially exceeding 100% of the observed value for postoperative pain. When a scaling projection (i.e., maximum capacity) was made for labial frenectomy surgery, the cost for conventional surgery remained at US\$ 38.05. In contrast, the cost per laser surgery was defined as US\$ 22.40. Therefore, due to the reduced surgical time, the value of the laser procedure decreased. This projection is a hypothetical calculation made solely to determine the monthly production limit value and its respective maximum costs for a month of 20 working days.

**Conclusion:** Laser frenectomy is not cost-effective in itself, but it allows for increased productivity because it reduces intervention time. Such costs can still be favorably rationalized when using high-power lasers for other procedures. Further studies are recommended to incorporate more robust efficacy indicators, enabling more in-depth economic modeling.

### P-032

**Marcelo Caliman Sato, Martha Simões Ribeiro** (Brazil)

**Category:** Case report

**Title:** USE OF ULTRAVIOLET C RADIATION IN THE DISINFECTION OF 3D PRINTED ACRYLIC POLYMERS

**Aim:** Verify the effectiveness of using ultraviolet radiation in disinfecting surgical guides for dental implants.

**Case description:** Use the ultraviolet radiation in disinfecting.

**Discussion:** After applying the methods, an analysis of the microorganisms that resisted UVC irradiation on the resin-printed discs was conducted using statistical data.

**Conclusion:** After 15 minutes of ultraviolet irradiation, it was possible to observe the reduction of microorganisms.

### P-033

**Paolo Junior Fantozzi, Palaia G, Cerullo V, Del Vecchio A, Visca P., Antoniani P, Purrazzella A, Troiani E, Todescato L., Mohsen M, Pergolini D., Fantozzi PJ, Romeo U.** (Italy)

**Category:** Systematic or narrative review

**Title:** HISTOLOGICAL EX VIVO EVALUATION OF TWO-WAVELENGTH DIODE LASER IN ORAL SOFT TISSUE BIOPSIES

**Aim:** This ex-vivo study was conducted to evaluate the thermal effects of an innovative laser device using two different wavelengths (450 nm and 808 nm) on cadaver pig tongue.

**Material and methods:** The diode Wiser 3 Laser, (Doctor Smile, Brendola (VI), Italy) has three-wavelength options designed for different applications. Combining 450 nm and 808 nm wavelengths with a 300 µm fiber tip produced 36 samples from fresh pig cadaver tongues. Power ranged from 2 to 4 W in both continuous and pulsed wave modes. Specimens were divided into six groups of six samples each. Histological analysis was conducted at 2.5x magnification using an optical microscope.

**Results:** The findings revealed consistent histological clarity across all samples, with thermal damage observed in each group. The