

Oral Mucositis Laser Therapy:

Treating Oral Manifestations of Radiotherapy with Lasers

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For an individual undergoing cancer therapy, would low-level laser therapy (LLLT) provide relief from oral mucositis?

INTRODUCTION

What is photobiomodulation?

Using light energy to change cellular structures.

What is oral mucositis (OM)?

Erythematous and ulcerative lesions of the oral mucosa.

How does oral mucositis (OM) impact the quality of life of patients undergoing cancer treatment?

The pain associated with OM leads to a sharp decline in patient nutrition leading to a decrease in overall health.

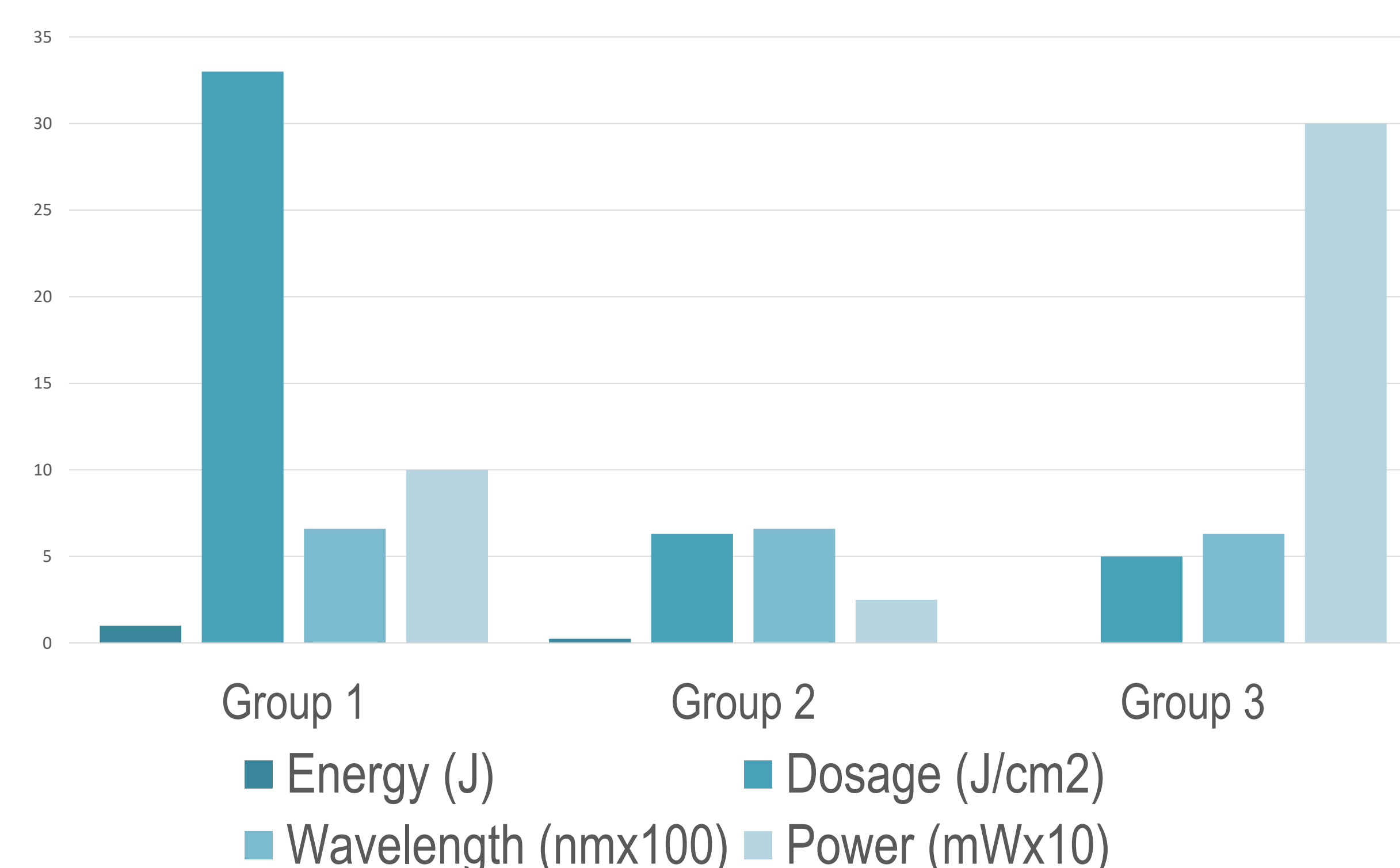
What is the benefit of LLLT?

Patient's have better nutrition because they are less likely to avoid eating as they would if they were experiencing pain.

CURRENT RESEARCH METHODS

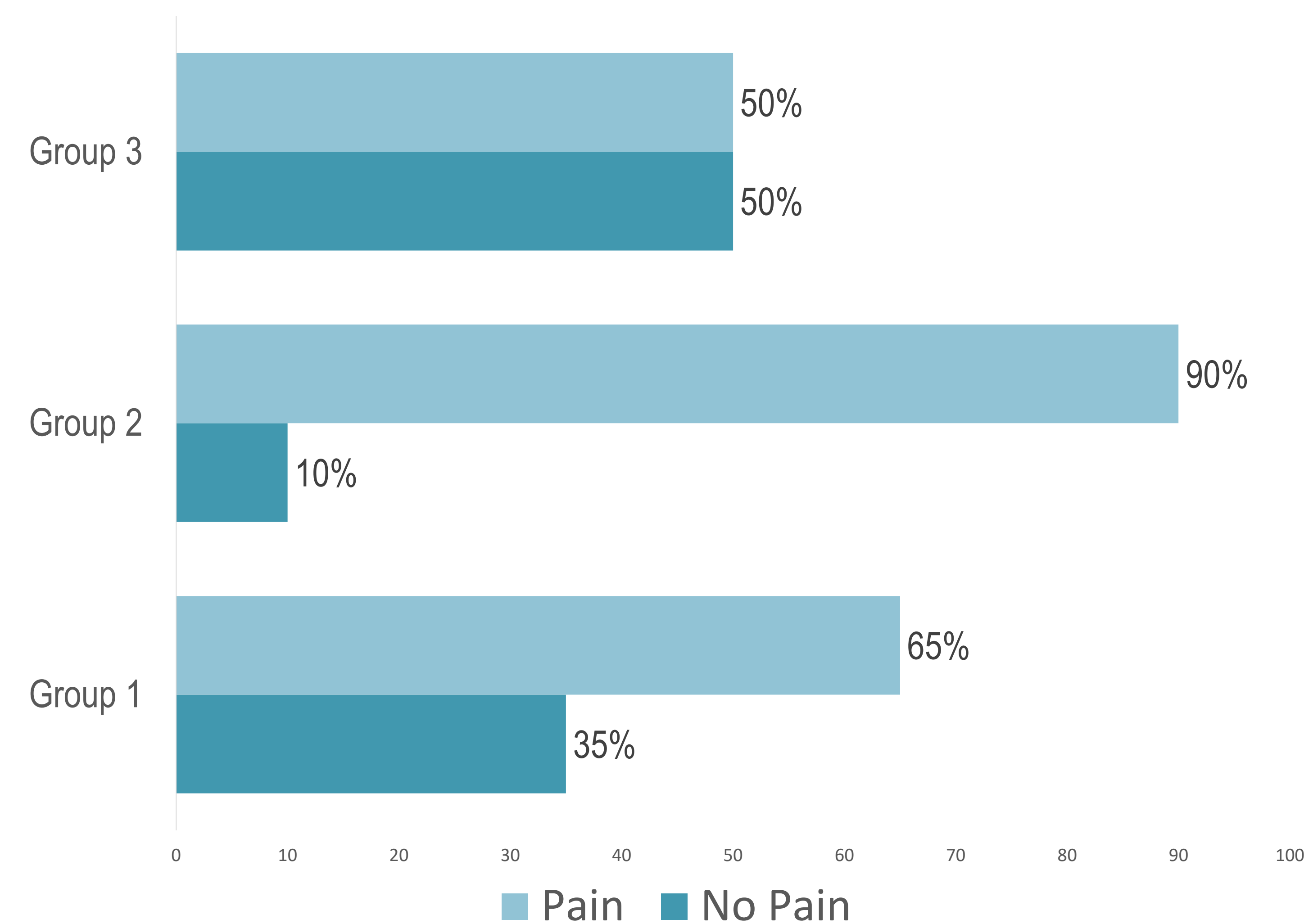
- Patients were screened by various exclusion methods and received the same cancer treatments
- Double blinds were placed, and randomized groups received a low-level laser therapy.
- One study had two groups (Groups 1 and Group 2) that received varying levels of light energy.
- OM was valued in grades, provided by the WHO, ranging from none (0) to life-threatening (4).
- Costs of treatments were also recorded to be compared to effectiveness.
- All patients in the groups shown received LLLT with different laser qualities.

Laser Characteristics



DISCUSSION

- Results varied greatly among the studies.
- Groups 1 and 2 found that LLLT was relatively effective in reducing pain and severity of OM.
- Groups 1 and 2 found that OM onset was delayed with LLLT.
- Over half of the patients undergoing therapy with LLLT reported no pain and half of those without LLLT reported extreme pain.
- At 2 weeks, 13 participants from Group 1 reported OM while Group 2 only reported 7, meanwhile Group 3 reported 10 cases of OM.
- Of the 82 participants receiving low-level laser therapy, only 12 reported no pain at any point of the study.



CONCLUSIONS

- The majority of the studies came to the conclusion that more research would be required to show effectiveness of LLLT.
- The energy level of the laser used in photobiomodulation plays a significant part in how OM responds to treatment.
- The use of LLLT can postpone the manifestation of OM in patients undergoing radiotherapy.

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