

## **Efficacy of low level laser therapy on wound healing in patients with chronic diabetic foot ulcers-a randomised control trial.**

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### **Author information**

### **Abstract**

Foot ulcers are serious complications of Diabetes Mellitus (DM) and are known to be resistant to conventional treatment. They may herald severe complications if not treated wisely. Electromagnetic radiations in the form of photons are delivered to the ulcers in laser form to stimulate healing. This study was conducted to evaluate the efficacy of Low Level Laser Therapy (LLLT) in diabetic ulcer healing dynamics. To determine mean percentage reduction of wound area in study and control groups.

### **SETTINGS:**

KLES Dr. Prabhakar Kore Hospital and Medical Research Centre, Belgaum.

### **STUDY DESIGN:**

Randomized-Control Study.

### **METHODS:**

A total of 68 patients with Type 2 DM having Meggitt-Wagner Grade I foot ulcers of at least more than 4 weeks duration, less than 6 × 6 cm(2) with negative culture were studied. Patients were randomized into two groups of 34 each. Patients in study group received LLLT with conventional therapy and those in control group were treated with conventional therapy alone. Healing or percentage reduction in ulcer area over a period of 15 days after commencement of treatment was recorded.

### **STATISTICAL ANALYSIS:**

Unpaired Student T Test and Mann Whitney U test. Mean age of the patients was 50.94 years in control group and 54.35 years in study group ( $p = 0.065$ ). There was no significant difference between control and study group with respect to mean FBS and HbA1c levels ( $p > 0.05$ ), suggesting no biochemical differences between two groups. Initial ulcer area was 2608.03 mm(2) in study group and 2747.17 mm(2) in control group ( $p = 0.361$ ). Final ulcer area was 1564.79 mm(2) in study group and 2424.75 mm(2) in control group ( $p = 0.361$ ). Percentage ulcer area reduction was  $40.24 \pm 6.30$  mm(2) in study group and  $11.87 \pm 4.28$  mm(2) in control group ( $p < 0.001$ ,  $Z = 7.08$ ). Low Level Laser Therapy is beneficial as an adjunct to conventional therapy in the treatment of diabetic foot ulcers (DFU).

### **KEYWORDS:**

Adjuvant therapies; Diabetic foot ulcers; Low Level Laser Therapy (LLLT); Wound healing