



## The Clinical Efficacy of Pulsed Radio Frequency Energy on Chronic Wound Healing

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**Abstract: Purpose:** to investigate the efficacy of pulsed radio frequency energy as physical therapy modality in the treatment of chronic lower limb ulcers. **Methods:** Forty patients who had chronic unhealed lower limb ulcers (diabetic foot ulcer) for longer than three months participated in this study. Their ages were ranged from 40-50 years with mean value  $43.99 \pm 2.843$  years. The patients were selected from Egypt Railway Hospital (Department of General Surgery) in the period between May 2014 and Dec 2015. Patients who met the selection criteria were divided randomly into two equal groups, Group (A): Pulsed Radio Frequency Group received PRFE with pulse width 400  $\mu$ sec, 70 pulses per second with average power of 23 w for 30 min, 3 sessions per week for 6 weeks and medical care. Group (B) (Medical Treatment Group) received medical care only. **Measurements:** Wound surface area (WSA) was assessed by Digital Camera and **ImageJ 1.47**.computer software and wound volume was assessed before treatment and after 6 weeks of treatment. **Results:** The findings of this study indicated significant decrease in WSA and wound volume after treatment in both groups A and B ( $P < 0.001$ ). There was significant difference between both groups after treatment in WSA ( $p < 0.001$ ) and wound volume ( $p = 0.010$ ) with favored results in group A **Conclusion:** Pulsed radio frequency energy for 6 weeks is an effective adjuvant therapy in treatment of chronic lower limb ulcers through accelerating wound healing, reducing wound surface area (WSA) and wound volume.

**Key words:** (Pulsed radio frequency energy, lower limb ulcers).