TITLE: UNRIPE *MUSA SAPIENTUM* PEEL HEALING AND ANTIMICROBIAL ACTION IN WOUNDS

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ABSTRACT

Currently, it is estimated that 3% of Brazil's population have different kinds of skin wounds; this percentage increases to 10% on diabetic pacients who may even have injuries contaminated with microorganisms. Due to many discoveries about the benefits found in a wide variety of foods and plants, such as antioxidant and antifungal activities, there is a better acceptance and adoption of herbal medicines, especially those persons who are on treatment of chronic diseases with other medicines. We performed a clinical trial with 5 patients ranging from 45-70 years with venous and diabetic wounds who attend the clinic of São João neighborhood of Pouso Alegre City. These patients received every week during 30 days a 10% gel of unripe banana (*Musa sapientum*) peel in treating their wounds, and we measured the wound area. Besides that, we collected samples from de wounds and analyzed the antimicrobial action of the gel during this period. The total counting of the bacteria's by PCA (Plate Count Agar) was performed. The bacteria score was performed after 24 and 48 hours of incubation at 37° C. The evolution of the measurement area was accompanied by drawing the wound edges in sterilized acetate, traced to a vertical line and one horizontal, in order to obtain an angle of 90° between them; the values were recorded in centimeters. We compared the values obtained by digital planimetry using Auto CAD software 14®. As main results, there was a reduction of microorganisms in patient 1 of 37.08%, 99.39% of the patient 2, 53.57% of the patient 3, and 98.70% of the patient 5. Only in the patient 4 had a 129.41% increase in microorganism count. The total average of the 5 patients is a decrease of 31.86%, while the average of only those patients who achieved a reduction of microorganisms was 72.18%. When we look at the areas of the wounds, it was realized 100% healing in patients 1 and 2, and patient 3 was a 20% reduction in the area of the original injure. On the other hand, on patient 4 there was an increase from the initial wound area of 53.29%, and an increase of 28.57% in the patient 5. It was observed that there was a reduction of microorganisms in the majority of the patients who used 10% gel of unripe banana (*Musa sapientum*) peel in treating their wounds, and the areas of the wounds were reduced with important clinical improvement in almost all cases.

Keywords: Musa, Healing, Wound, Bacteria, Phytotherapy

Development Agencies: Fundação de Ensino Superior do vale do Sapucaí - FUVS