

# **Abstract**

## **Background**

Diabetic foot is a leading cause of DALY with both physical and economic cost to the patient. It can range from a small trophic ulcer to frank sepsis and shock. With increasing cost of healthcare and antibiotic resistance, there is a need for new and innovative methods for management of the diabetic foot ulcers.

## **Aims and objectives**

To study the effect of local application of probiotics on the healing of Diabetic foot ulcers

1. To compare the change in wound bed score in the test and control population
2. To compare the wound swab culture results in the test and control population

## **Methodology**

Diabetic patients presenting with acute infected ulcers of the foot (below ankle) are taken up for surgical debridement on the day of presentation. The size of their wounds are assessed by wound tracing and planimetry method. The patients are screened for peripheral vascular disease by using ankle brachial pressure index. The patients are also screened for peripheral neuropathy. The patients who consented to participate in the study were allocated into two. The control group where the current regimen of sharp and chemical debridement at ward, cleaning and dressing, glycemic management and antibiotic therapy is given. In the intervention group, in addition to the above, probiotic solution is applied daily during dressing. Wound bed scoring

system developed by Falanga was utilised to monitor the wound in an objective manner. Wound swab cultures are taken at Day 0, Day 5 and Day 10. Both the groups will be compared with respect to the wound bed score at day 1, day 7 and day 14 and the wound swab cultures and outcomes identified. The results were analysed.

## **Results**

- 1) A total study population of 36 was analysed
- 2) All the patients had improvement in the wound status
- 3) The mean wound bed score of the intervention group was better than the control group
- 4) The wound swab culture report was also reported as no growth in more number in the intervention group however it was not statistically significant.

## **Conclusion**

1. Probiotics can be safely utilized in therapy of infected diabetic wounds
2. They do hasten the wound healing process as evidenced by the significant difference in the day 7 wound bed score
3. More studies are needed in this field to give better evidence for the support of probiotic use

## **Keywords**

Probiotics, diabetic foot ulcer, lactobacillus, gangrene.