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Summary of the DVM thesis No **18875**, Faculty of Veterinary Medicine, Urmia University

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Title: Evaluation of the effect of *Limosilactobacillus reuteri* and *Pediococcus acidilactici* lactobacilli culture extract on wound healing infected with *Pseudomonas aeruginosa* in rats.

Summary:

Dissertation abstract No;**18875** general doctorate, faculty of veterinary medicine, Urmia University, academic year 1403-1404

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Thesis title: Evaluation of the effect of *Limosilactobacillus reuteri* and *Pediococcus* a*cidilactici* lactobacilli culture extract on wound healing infected with *Pseudomonas aeruginosa* in rats.

This study was conducted to evaluate the effects of *Lactobacillus reuteri* and *Lacticidis* bacteria extracts on wounds infected with *Pseudomonas aeruginosa* in rats.

Lactobacillus rteueri and lactisidis bacteria were obtained from the Bacteriology Department of the Faculty of Veterinary Medicine.

. First, the pure colony of each bacterium was cultivated separately in (MRS) broth medium and placed in a incubator at 37 degrees Celsius under aerobic conditions. After 24 hours, the culture medium was centrifuged (at 2500 rpm fort20 minutes) and the supernatant was collected as culture extract. Finally, the combination of glycerol and bacterial extract was used for local treatment of experimental wounds. For this purpose, 30 adult rats with an average weight of 200 to 250 grams were prepared. After two weeks of adaptation of the animals to laboratory conditions, they were randomly divided into six groups and each group included 5 mice. In order to create a full-thickness wound on both sides of the back area, each mouse was anesthetized by intraperitoneal injection of 80 mg/kg ketamine and 5 mg/kg xylazine. The hair on the back of the rats was removed using a clipper Then, by pulling up the skin of the animal in the dorsal midline between two fingers, a full-thickness skin wound was created in the resection wound model using an 8 mm biopsy punch. And after observing green pus, local treatment of wounds was done in different groups.

The negative control group is a control wound, an uninfected wound and no treatment was performed on the wound.

The infected group served as a control of infection and were only infected with *Pseudomonas aeruginosa* bacteria and no treatment was performed on their infected wounds. in

The positive control group, which served as a drug control, was infected with *Pseudomonas aeruginosa* after creating a wound and was treated topically with silver sulfadiazine 1%.

treatment groups treated separately with extracts of *Limosilactobacillus reuteri and Pediococcus acidilactici* bacteria after creating a wound and infecting it with *Pseudomonas aeruginosa* bacteria.

The placebo group was infected with *Pseudomonas aeruginosa* after creating a wound and the wounds were treated topically only using probiotic gel (containing 25 ml of bacterial extract, 25 grams of glycerin and 7 grams of glycerol).

Wound contraction in the form of planimetry and bacterial count were evaluated in different groups during different time intervals.
. Extracts of both bacteria were able to reduce the amount of contamination with *Pseudomonas aeruginosa*, although no statistically significant difference was observed between these two groups. The best average percentage of wound closure in treatment groups on the seventh day of treatment was observed in treatment group.

Key words: *Pseudomonas aeruginosa*, probiotic extract, rat, wound