

TITLE: EVALUATION ANTIMICROBIAL OF NORTHEASTERN DONKEY'S MILK AGAINST *Salmonella typhi*

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ABSTRACT

The uncontrolled use of antibiotics associated with reduced incidence of multidrug-resistant strains in the clinical treatment option, and thus the use of natural compounds has significant potential because of its low toxicity and high specificity. Antimicrobial compounds derived from milk demonstrate a wide range of activities against pathogenic microorganisms. Currently a growing interest in milk of different species as an alternative to cow's milk, and among them stands out the asses of milk, due to its composition similar to human milk. Thus, the present study aims to evaluate the antibacterial activity of raw milk extract from donkeys from the Northeast of Pernambuco. For this, donkey's milk was pasteurized under manual and slow shaking at 65 ° C for 30 min. The material was lyophilized and crude protein was resuspended in different concentrations: 15, 10, 5 and 2.5 mg / mL, and subjected to antibacterial activity against *Salmonella typhi* ATCC 19430 in a 96-well microplate. Using the different concentrations, we obtained antibacterial activity between 36.23% and 85.60%, respectively the highest and lowest concentration, exerting better inhibition against the pathogen with the lowest concentration of the crude extract. Recent studies indicate that the concentration or sequence applied may interfere with the inhibition of the microorganism, and may be better and more specific, in which case the lower concentration was more effective. The high activity can be attributed mainly to the bactericidal action of lysozyme, a compound present in high concentration in the milk of donkeys. The results of this work were superior to recent studies when compared to the usual milks, among them bovine and goat, with 80.12% and 77.90% respectively, using crude extract concentration. We can conclude that pasteurized donkey milk presented better availability of antimicrobial compounds against *Salmonella typhi* strains, suggesting that this food may be a useful alternative for direct consumption, and development of new bactericidal compounds that are used by the food and pharmaceutical industry.

Keywords: Antimicrobial, donkey, milk.

Development Agency: FACEPE