Abstract

Introduction: Kefir is obtained by fermentation of milk with complex microbial populations present in kefir grains. Several health-promoting benefits have been attributed to kefir consumption. Objective: The objective of this work was to conduct a subchronic toxicity study, offering the rats normal or high-doses of kefir and evaluating growth, hematology and blood chemistry, as well as assessing bacterial translocation and the integrity of the intestinal mucosa of animals. Methods: Wistar rats were randomly divided into three groups (n = 6/group): control group received 0.7 mL of water, kefir group received 0.7 mL/day of kefir, (normodose), and Hkefir group received 3.5 mL/day of kefir (fivefold higher dose). Feeding was carried out by gavage. The animals were housed in individual cages and maintained under standard conditions for 4 weeks. Results: The normodose and high-dose of kefir supplementation did not harm the animals since growth, hematology and blood chemistry in rats, as well as the potential pathogenicity in tissues were within normal limits, demonstrating that consumption of normodose and highdose of kefir are safe. In addition, administration of the normodose of kefir reduced cholesterol levels and improved the intestinal mucosa of the rats. Conclusion: These results demonstrate that the consumption of kefir is safe. Importantly, while damages are not seen for the high-dose, the normodose consumption is recommended due to the pronounced beneficial effects, as safety is concerned.

Keywords
Kefir, Toxicity, Safety, Histological analysis, Bacterial translocation.