

## **E02 Proximate composition and antimicrobial activity of kefir produced from cow's and almond drink mixtures with different ratio**

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Fermentation is important in the diet of people around the world. Milk kefir, fermented milk which originates from Tibet and Caucasus has successfully gained popularity worldwide. It is designated as 21<sup>st</sup> century yoghurt due to its high nutritional value. Traditionally, the most common substrate utilised for kefir fermentation is cow's milk. However, non-dairy milk kefir has gained popularity due to some reasons such as scarcity of animal-based milk in some countries, dietary constraints, and health risk. In this study, almond drink is chosen because it is one of the most popular non-dairy drink and there is a scarce of study on almond drink kefir. Hence, the study was conducted to evaluate and compare the nutrient composition and antimicrobial activity of the kefir produced from cow's and almond drink mixtures with different ratios. The proximate composition was analysed by using AOAC 2000 method while the antimicrobial activity against *Escherichia coli*, *Staphylococcus aureus*, and *Salmonella typhi* was analysed by using the agar well diffusion method by Azizkhani *et al.* (2021). Comparison has been made between the three kefir samples (100% cow's milk kefir (CMK), 1:1 ratio of cow's and almond drink kefir (MMK), and 100% almond drink kefir (AMK)) by using a one-way ANOVA test. Results showed that the moisture content, total dietary fibre, and fat content were significantly different from each other ( $p < 0.05$ ), while the other proximate composition did not. No significant difference was observed between the diameter of zone of inhibition of the tested kefir samples for *Escherichia coli* and *Staphylococcus aureus* ( $p > 0.05$ ) while a significant difference was observed for *Salmonella typhi* ( $p < 0.05$ ). Generally, the mixture of cow's milk and almond drink may be a better substrate for kefir fermentation as it produced a better overall nutrient profile and higher antimicrobial activity.