

## **Abstract**

Over the past decade, scientific research has focused on the intricate relationship between the human microbiome and the immune system. A particular emphasis in the last three years has been on investigating the impact of the microbiome on the susceptibility and severity of COVID-19 infections. There is substantial evidence suggesting that the consumption of fermented foods, ranging from fermented vegetables and kefir to yogurt and kimchi, has a beneficial effect on the composition of the intestinal microbiome and, consequently, on the function of the immune system.

This study, part of a bachelor's thesis, explores the complex association between regular consumption of fermented foods and the frequency of infectious diseases. Through the analysis of data obtained from a questionnaire, it was found that individuals who regularly incorporated fermented products into their diet exhibited a lower frequency of infectious diseases over the past two years. These results indicate that the consumption of probiotics and prebiotics may positively influence the immune system, reducing the risk of disease.

Regarding the examination of the relationship between the consumption of probiotics from food sources and the frequency of COVID-19 infections, a contrasting observation emerged. Those who were fully vaccinated and consumed probiotics from food sources were more frequently ill than those who were fully vaccinated but did not consume probiotics. A similar relationship was identified among the unvaccinated individuals who regularly consumed fermented foods.

Additionally, the study demonstrates that the use of probiotics during antibiotic treatment may reduce the likelihood of subsequent infectious diseases. An important finding from this questionnaire-based study is that adherence to healthy lifestyle principles, such as those embodied in Healthy 13, can lead to a reduction in the frequency of infectious diseases.

The research was conducted through an online questionnaire, with the participation of 274 respondents.

**Keywords:** fermented foods, gut microbiota, immunity, microbiota, prebiotics, probiotics