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Probiotics effects on viral infections

Several studies have highlighted the beneficial effect of probiotics towards viral diseases (Kanauchi et al., 2018). Viral infections comprise influenza, Norovirus, pneumonia, common cold as well as severe acute respiratory syndrome coronavirus, including the recent SARS-CoV-2 (appeared at the end of 2019 in China, and responsible of the current pandemic). For instance, one study showed the positive impact of consuming yoghurt fermented with *Lactobacillus delbrueckii* ssp. *bulgaricus* OLL1073R-1 on elderly people (Makino et al., 2010). Indeed, it has been demonstrated that the activity of natural killer cells increased (*i.e.* one of the cells responsible for the defense mechanism against viral infections), as well as a lower risk of catching the common cold infection, compared to elderly individuals consuming milk instead of the fermented yoghurt. Another study showed the efficiency of an oral administration of *Saccharomyces boulardii* combined with rehydration on children hospitalized for acute diarrhea caused by the rotavirus, who had shorten duration of diarrhea compared to children treated with rehydration and placebo (Grandi, 2010).

More specifically, SARS-CoV-2 is responsible of severe acute respiratory syndrome, and interestingly, probiotics strains have shown to reduce the risk of respiratory tract infections in childrens (Garaiova et al., 2015; Hojsak et al., 2010).

Additionally, a recent study demonstrates that a microbial (probiotic-based) cleaning shows promising results on surfaces compared to conventional cleaning products (*e.g.* chlorine derivatives). Those probiotic treatments allow to reduce the number of microorganisms responsible of Health Associated Infections in healthcare facilities (Vandini et al., 2014).

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