Foods are always mixed with human saliva during chewing before bolus swallowing and the saliva contains α-amylase responsible for the early breakdown of food starch components, which can reduce food viscosity markedly. In addition, this significant viscosity decrease can affect the safety and increase the risk of aspiration in dysphagic patients.

The objective of this work was to characterize rheologically one commercial dysphagia-oriented product, which was also mixed with fresh saliva from 5 healthy human volunteers and with water in order to know the saliva effect in the bolus behavior and rheological properties for dysphagia management.

The addition of saliva produced a significant decrease of shear stress ($\tau_{\text{new}}$) and strain maximum ($\gamma_{\text{max}}$) amplitudes and complex modulus ($G'$). The loss factor (tan $\delta$) increased. And the linear visco-elastic range shortened markedly in these samples. Hence, the saliva produced a decrease in the structural stability.

The mechanical spectra of all samples were typically like weak gels with higher frequency dependence for both viscoelastic-moduli in all saliva samples.

The addition of saliva produced a pronounced change in the structure and viscosity of the cream because of the hydrolysis reaction with salivary α-amylase. The effect of dilution of water was not very important. However, the flow index, closely related to the safety of swallowing of thickened products, remains stable in general.

Differences among saliva samples reflect that human saliva is unique.