**Exploring the rheological properties of hydrocolloid-mucin binary systems**

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A large number of studies lately have focused on the extensional rheology of polymers, as it plays a significant role on bolus flow during swallowing and the sensorial properties of hydrocolloids. Additionally, shear rheology is of importance as thick liquids assist in treating various oropharyngeal diseases such as dysphagia and dry mouth. In that respect, the effect of concentration and mucin on the shear and extensional rheological properties of 4 different hydrocolloids (guar gum, xanthan gum, carrageenan gum and pectin gum) was evaluated. It was found that the relaxation time and break up time remained constant for small hydrocolloid concentrations for all gums while an increase in values was mainly observed at the highest concentrations. The influence of mucin was more significant for guar gum solutions, where relaxation and disintegration times increased at low concentrations and decreased at higher concentrations. The values for the carrageenan values ​​increased with the addition of mucin, but not significantly, while addition of mucin xanthan solutions did not have any impact. As expected, all polysaccharides solution exhibited a shear thinning behavior but it was not that apparent in the case of pectin. Above a certain concentration while a significant increase in viscosity was observed with an increase in concentrations of the gums studied.