

Title: Tribology can be used to assess texture perception of oral medicines

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- Introduction

Palatability is defined as the overall appreciation of a medicinal product in relation to its smell, taste, aftertaste and texture (i.e. feeling in the mouth). Tribology offers an understanding of oral processes and can allow physical properties of materials to be linked to “mouthfeel”.

- Purpose

This abstract described the evaluation of oral liquid medicines using tribology to evaluate whether this technique has applications in the *in vitro* evaluation of mouthfeel of new oral medicines.

- Materials and Methods

Co-trimoxazole (Septrin®), Lactulose, Calpol® infant sugar free paracetamol 120mg/5mL suspension and generic paracetamol suspensions were investigated.

The friction properties were measured using a mini traction machine (MTM2 PCS Instruments, London).

Temperature was controlled at 20 °C. Stribeck curves were formed for all samples by measuring traction from 1-1500 mm/s with a 2 N normal force. 2 N was chosen to provide contact pressures relevant to oral processing.

- Results

The lubricating properties of the medicines were measured to determine if any differences could be identified for a range of samples. The oily nature of lactulose is evident from the low traction coefficient values, which demonstrates that this product is likely to coat surfaces easily.

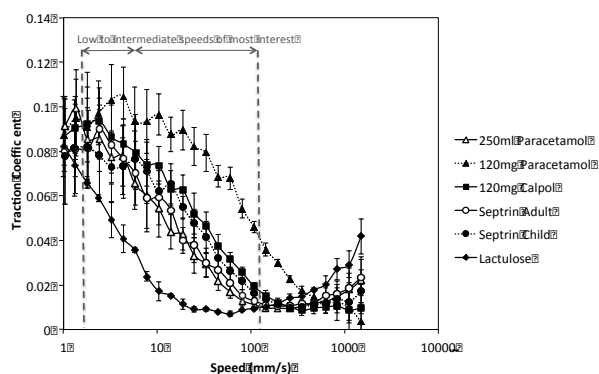


Figure 1. Stribeck curves (coefficient of friction versus speed) of measured samples. Data points are mean values with error bars representing 1 standard deviation.

- Conclusions

These results highlight the use of tribology as a tool to understand mouthfeel of oral liquid medicines and the unique information it can provide. However, like any physical *in vitro* technique, it is still difficult to directly relate tribological measurement to sensory perception and developments therefore additional work is required to correlate *in vivo* sensory panel data and *in vitro* data from a range of measurements for future products.