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- ## 17108 | Patient centric design of a topical vehicle for corticosteroids: a strategy to improve adherence to dermatological treatments

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Topical corticosteroids are a mainstay for the treatment of several skin diseases. Adherence to topical treatments is known to be influenced by the vehicle properties. Several studies emphasized as positive attributes of topical vehicles: low residue, minimum clothes´ staining and low stickiness. Marketed medicines containing betamethasone dipropionate currently available include ointment, cream and solution. The aim of this work was to develop a new vehicle (emulgel) for corticosteroids, focusing on patient preferences, as a strategy to improve medication adherence.

An emulgel obtained from a polyacrilic acid polymer hydrogel was prepared using a non-irritating surfactant, with a cold emulsification process. Betamethasone dipropionate (0.64 mg/g) was incorporated into the oily phase. The textural analysis was performed in the compression mode in a texturometer by carrying out a spreadability test. Measurements were performed in triplicate at 20°C. The parameter negative area (correlated with stickiness) was calculated from the texturogram. Evaporation rate and residue were evaluated after application on polymethyl methacrylate plates (1.5 mg/cm2). Clothes´ staining was assessed by covering the plates with polyester fabric and obtain photographic records. Petrolatum (which is the main component of ointments) was similarly evaluated for comparison purposes. Physical stability was evaluated by centrifugation.

The emulgel presented a white, shiny appearance and good spreading properties. No phase separation was observed after centrifugation. Lower residue, lower stickiness and less ability to stain polyester fabric, in comparison with petrolatum, were observed

Following these results, satisfaction with treatment is expected to be higher for the emulgel than for ointments, which can have a positive effect on medication adherence. The impact of this new vehicle on adherence to topical treatments should be further confirmed in real clinical settings.