**The Development of a Chocolate-Based Chewable Tablet of Prednisolone—Enhancing the Palatability of Steroids for Pediatric Use**

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**Background and aims.** Oral liquid prednisolone medications have poor acceptance among paediatric patients due to ineffective masking of the bitterness taste of prednisolone. This study aimed to develop a child-friendly prednisolone tablet using a patented chewable chocolate-based delivery system (CDS) previously applied successfully to mask the bitterness tastes of midazolam and tramadol.

**Methods.** Prednisolone sodium phosphate (PSP) and prednisolone base (PB) CDS tablets were prepared, and the manufacturing process was optimised using a design of experiments (DoE) approach. Stability was assessed by quantifying residual drug content via a validated HPLC assay. A pilot randomised crossover taste study involving 25 young adult volunteers evaluated taste-masking effectiveness against Redipred™, a commercial oral PSP liquid medicine.

**Results.** The results showed that the PSP CDS tablet was chemically stable following storage for three months at ambient temperature, while the PB CDS tablet was unstable. The optimised PSP CDS tablet, manufactured at 50 °C with a stirring time of 26 h, was found to release over 80% of its drug load within 20 min in 0.1 M HCl and had a significantly better mean taste score compared to Redipred™ (7.08 ± 2.40 vs. 5.60 ± 2.33, p = 0.03). Fifty six percent of the participants preferred the PSP CDS tablet.

**Conclusion/Discussion.** In conclusion, compared to Redipred™, the CDS technology provided a more effective taste masking of PSP, potentially offering a child-friendly prednisolone formulation with improved compliance, dosing accuracy, and storage stability.