

AN INVESTIGATION INTO INSTANT PUDDINGS AS POTENTIAL VEHICULA FOR DRUG ADMINISTRATION IN PATIENTS WITH DYSPHAGIA

Ivana Vasiljević*, Erna Turković, Jelena Parojčić, Dragana Vasiljević

University of Belgrade – Faculty of Pharmacy, Department of Pharmaceutical Technology and Cosmetology, Belgrade, Serbia

*ivana.vasiljevic@pharmacy.bg.ac.rs

The estimated prevalence of swallowing problems and dysphagia is 22%, particularly among pediatric and geriatric population. The drug administration for these individuals is challenging and efforts are being made to enhance solid dosage forms swallowing. The aim of this work was to characterize inulin-based puddings as potential vehicula for solid dosage forms administration. Three marketed instant puddings were prepared according to instructions provided by the manufacturer (mixing with the appropriate amount of cold milk, without cooking) and characterized regarding pH value, rheological characteristics and textural properties (hardness and adhesiveness). The investigated samples differed in terms of inulin content, as gelling agent (3.3-8%), and aroma (vanilla, chocolate, coco). Generally, samples exhibited comparable characteristics. pH values of prepared puddings ranged from 6.57 to 6.90. Apparent viscosity values, measured at 50 s⁻¹, were 4850-16800 mPas, indicating that puddings belong to class 4 (extremely thick drinks), according to *International Dysphagia Diet Standardization Initiative Framework* (1), suitable for patients suffering from advanced dysphagia. Samples' hardness values ranged from 54.6 mN (coco pudding) to 63.9 mN (chocolate pudding), whereas adhesiveness ranged from 30.26 gs (coco pudding) to 40.64 gs (chocolate pudding), indicating the soft structure and swallowing suitability, without the need for intense chewing (2). The investigated puddings exhibited suitable characteristics in terms of viscosity and textural properties for patients with advanced dysphagia and represent promising approach as vehicula for solid dosage forms administration in the case of this population.

References

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ISPITIVANJE INSTANT PUDINGA KAO POTENCIJALNIH VEHIKULUMA ZA PRIMENU LEKOVA KOD PACIJENATA SA DISFAGIJOM

Ivana Vasiljević*, Erna Turković, Jelena Parojčić, Dragana Vasiljević

Univerzitet u Beogradu – Farmaceutski fakultet, Katedra za farmaceutsku tehnologiju i kozmetologiju, Beograd, Srbija

*ivana.vasiljevic@pharmacy.bg.ac.rs

Procenjuje se da oko 22% stanovništva ima probleme sa gutanjem i disfagijom, pri čemu je problem naročito izražen u pedijatrijskoj i gerijatrijskoj populaciji. Primena lekova kod ovih osoba je otežana i potrebno je razviti odgovarajuće pristupe koji olakšavaju gutanje čvrstih farmaceutskih oblika. Cilj ovog rada bio je karakterizacija komercijalno dostupnih instant pudinga, kao potencijalnih vehikuluma za primenu čvrstih farmaceutskih oblika lekova. Tri komercijalno dostupna instant pudinga su pripremljena prema uputstvu proizvođača (mešanje sa propisanom zapreminom hladnog mleka, bez kuvanja) i okarakterisana u pogledu pH vrednosti, reoloških karakteristika i teksture (čvrstina i adhezivnost). Sastav ispitivanih uzoraka se razlikovao u pogledu udela inulina kao sredstva za geliranje (3,3-8%) i arome (vanila, čokolada, kokos). Generalno, svojstva ispitivanih proizvoda bila su uporediva. pH vrednost pripremljenih pudinga bila je 6,57-6,90. Svi uzorci pokazali su tiksotropno ponašanje. Vrednosti prividnog viskoziteta, izmerene na 50 s^{-1} , bile su 4850-16800 mPas, ukazujući da pudinzi spadaju u klasu 4 (veoma guste tečnosti) prema *Smernicama Inicijative za međunarodnu standardizaciju ishrane u disfagiji* (1) i da su pogodni za pacijente sa uznapređovalom disfagijom. Čvrstina uzoraka bila je u rasponu od 54,6 mN (puding od kokosa) do 63,9 mN (puding od čokolade), a adhezivnost od 30,26 gs (puding od kokosa) do 40,64 gs (puding od čokolade), ukazujući na meku strukturu i pogodnost za gutanje bez intenzivnog žvakanja (2). Ispitivani pudinzi pokazali su pogodni viskozitet i teksturu za primenu kod pacijenata sa uznapređovalom disfagijom i predstavljaju obećavajući pristup za primenu čvrstih farmaceutskih oblika kod ove populacije.

Literatura

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