

FARMACEUTSKI OBLICI LEKOVA PRILAGOĐENI POTREBAMA PEDIJATRIJSKIH I GERIJATRIJSKIH PACIJENATA

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Farmaceutski oblici lekova prilagođeni specifičnim potrebama dece i starijih osoba su od suštinskog značaja u obezbeđenju terapijske efikasnosti kod pacijenata iz ovih populacionih grupa. Deca predstavljaju jedinstven izazov zbog svojih fizioloških karakteristika kao što su razlike u metabolizmu, enzimatskoj aktivnosti i preferencijama ukusa, što zahteva razvoj inovativnih oblika doziranja (1). Neki od njih su tablete za žvakanje, dispergovanje, sprinkle formulacije, mini-tablete i oralno-disperzibilne forme. Razvijaju se i tačni farmaceutski oblici, sa fokusom na različite tehnike maskiranja ukusa. Sa druge strane, izazovi koji se susreću u gerijatrijskoj populaciji pacijenata uključuju polifarmaciju, kognitivne probleme i disfagiju, što iziskuje razvoj kombinovanih preparata i farmaceutskih oblika koji su laki za primenu (uključujući i gutanje) uz odgovarajuću ambalažu koja može da dodatno olakša doziranje i pruži jasne informacije (2). U slučaju obe populacije pacijenata fokus je na razvoju bezbednih i efikasnih formulacija koje su prilagođene potrebama pacijenata i karakteristikama patološkog stanja koje se leči (3). Sa tim u vezi, postoji značajan istraživački interes za razvoj preparata za topikalnu i transdermalnu primenu preparata, formulacija sa modifikovanim oslobađanjem, bukalnih i sublingvalnih formi. Savremeni trendovi uključuju i primenu raznih tehnika 3D štampanja, kao i različite inteligentne sisteme za isporuku lekova i/ili digitalne terapeutike. Jasno je da prilagođavanje farmaceutskih oblika lekova može imati značajan uticaj na poboljšanje terapijskih ishoda kod osetljivih populacija. Prikazane strategije u prilagođavanju oblika doziranja imaju za cilj da omoguće bolje pridržavanje terapijskom režimu, smanjenje neželjenih efekata i interakcija između lekova, i u krajnjem ishodu, poboljšanje kvaliteta života dece i starijih osoba.

Literatura

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AGE MATTERS: CUSTOMIZING DOSAGE FORMS FOR PEDIATRIC AND GERIATRIC PATIENTS

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Pharmaceutical dosage forms tailored to the specific needs of children and the elderly are crucial in ensuring therapeutic efficacy for patients from these population groups. Children present a unique challenge due to their physiological characteristics such as differences in metabolism, enzymatic activity, and taste preferences, necessitating the development of innovative dosage forms (1). Some of these are chewable and dispersible tablets, sprinkle formulations, mini-tablets, and orally dispersible forms. Liquid pharmaceutical forms are also developed, with focus on various taste masking techniques. Challenges encountered in the geriatric patient population include polypharmacy, cognitive issues, and dysphagia, necessitating the development of combined products and pharmaceutical forms that are easy to administer (including swallowing) with appropriate packaging that can further facilitate dosing and provide clear information (2). In the case of both patient populations, the focus is on the development of safe and effective formulations that are tailored to the needs of the patients and the characteristics of the pathological condition being treated (3). In this regard, there is significant research interest in the development of preparations for topical and transdermal application, modified-release formulations, buccal, and sublingual forms. Modern trends also include the application of various 3D printing techniques and diverse intelligent drug delivery systems and/or digital therapeutics. It is evident that adapting pharmaceutical dosage forms can have a significant impact on improving therapeutic outcomes in vulnerable populations. Presented strategies in adapting dosage forms aim to enable better adherence to the therapeutic regime, reduce adverse effects and interactions between drugs, and ultimately, improve the quality of life of children and the elderly.

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