

OSP-12

Oral Revive Pectin Film (Targeted Healing and Localized Nutritional Support)

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Oral mucositis is a serious side effect of chemotherapy and radiotherapy, leading to painful ulceration and inflammation of the oral mucosa. Traditional methods, including oral rinses, topical anaesthetics, and coating agents, offer only short-term relief, lack targeted healing, and do not address nutritional deficiencies, which delay recovery and lower the quality of life. To tackle these difficulties, we formulated Oral Revive Pectin Film, an innovative mucoadhesive oral dissolving strip enriched with organic and therapeutic agents, containing pectin, glycerol, and infused with vitamin C, zinc gluconate, L-glutamine, turmeric powder, and Aloe Vera gel. The film that effectively binds to oral tissues is both biocompatible and biodegradable, delivering anti-inflammatory, antioxidant, antibacterial, and tissue-repairing agents directly to the lesion site. The formulation was prepared by solvent casting, and its properties were subsequently examined for flexibility, mucoadhesion, pH compatibility, swelling ratio, uniform thickness, and controlled drug release. Compared to the conventional methods, the primary results indicate firm adhesion, rapid disintegration, and long-lasting therapeutic action. This integrates mucosal tissue protection, targeted healing, and localized nutritional support in a single formulation, bridging the gap between symptomatic management and comprehensive therapy. Beyond oral mucositis, this helps in wound healing, aphthous ulcers, and buccal drug delivery. This film offers a scalable and patient-friendly therapeutic solution with significant clinical and translational promises as it is cost-effective, safe, and eco-friendly.

Keywords: Mucoadhesive film, Nutritional support, Oral mucositis, Pectin, Targeted drug delivery

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