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Formulation, Development and Evaluation of Anti-Diabetic Chewable Tablets

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Abstract: *The present study focuses on the formulation, development, and evaluation of Saxagliptine Phosphate chewable tablets intended for effective management of diabetes mellitus. Preformulation studies confirmed the drug's purity with a melting point of 210–212 °C and demonstrated favorable solubility in aqueous media, supporting its suitability for oral administration. Chewable tablets were formulated using wet granulation, incorporating excipients such as lactose, mannitol, starch, and sweeteners to ensure palatability and mechanical strength. Comprehensive pre-compression evaluations indicated excellent flow properties, facilitating uniform tablet formation. Post-compression studies showed that the tablets met pharmacopeial standards for general appearance, hardness, weight variation, friability, and drug content uniformity. In vitro dissolution studies revealed rapid drug release in 0.1N HCl, simulating gastric conditions, ensuring prompt availability for absorption. Overall, the formulation successfully delivered a stable, palatable, and effective chewable dosage form of Saxagliptine Phosphate, offering a promising alternative for enhancing patient compliance in diabetic therapy.*

Keywords: Saxagliptine Phosphate, chewable tablets, wet granulation, preformulation studies, diabetes mellitus, in vitro dissolution, patient compliance

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