DEVELOPMENT AND EVALUATION OF POLYMERIC SCAFFOLD CONJUGATED AMBROXOL HYDROCHLORIDE ORODISPERSIBLE TABLETS

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ABSTRACT

The current research aimed to develop orodispersible tablets (ODTs) of ambroxol hydrochloride using Amberlite® IRP69 and IRP64 polymeric scaffolds. The taste-masking orodispersible complexes were prepared in various ratios of Amberlite® IRP64. The physicochemical properties of the complexes were characterised using FTIR spectroscopy, particle size analysis, solubility and *in vitro* taste evaluation. The best results were obtained using a 1:3 drug-resin ratio, which effectively masked the taste of ambroxol hydrochloride. The prepared ODTs had a weight variation between 250.2 ± 0.18mg and 250.7 ± 0.22mg, thickness between 2.48 and 2.68 mm, friability between 0.32 ± 0.06% and 1.5 ± 0.05%, and specific hardness between 2.85 ± 0.2 and 4.31 ± 0.7 kg cm^{-2}, with a disintegration time of 62 to 46 seconds. The ODTs showed 92.86% drug release within 30 minutes, which is essential for a faster onset of action. The Amberlite® IRP64 ion exchange resin complexes effectively masked the taste without compromising the drug release.