# PREPARATION AND CHARACTERIZATION OF SOLID DISPERSION USEFUL IN MAKING SUBLINGUAL TABLETS OF PIROXICAM

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(Received 21 February 2024) (Accepted 08 April 2024)

**ABSTRACT**

This study aimed to investigate the usage of solid dispersion (SD) to enhance the dissolution rate of the poorly soluble drug piroxicam for sublingual formulation. Poloxamer grade 407 (Kolliphor® P-407), a commercially available polymer, was chosen, and various solid dispersions with different weight ratios of piroxicam and Poloxamer were prepared using the hot melt method. Compatibility tests using FTIR spectroscopy, DSC, and XRD were conducted to assess any chemical or physical interactions between the drug and polymer. *In vitro* dissolution tests were performed on the solid dispersions. The results of the FTIR spectroscopy study indicated no chemical interaction between the drug and the polymer. Similarly, the DSC and XRD analyses showed no physical interaction between the drug and the polymer. The maximum cumulative percentage release of the pure drug and the solid dispersion at 15 minutes were 40.90±1.83% and 99.56±3.25%, respectively. Based on these findings, it was concluded that the solid dispersion with a ratio of 2:1 (Drug: Poloxamer-407) showed a noteworthy upsurge in the dissolution rate in comparison to the pure drug.