

# **Study of the loading and release of ranitidine hydrochloride drug in polyvinylpyrrolidone-polyvinyl alcohol hydrogel**

Parivash Molapoor\*,

**The use of PVA based hydrogels as biomaterials has recently gained great importance in view of the low toxicity, non-carcinogenic, and high biocompatibility by many of them. In this work polyvinylalcohol/polyvinylpyrrolidone (PVA-PVP) cross-linked hydrogels were prepared using K2S2O8 in aqueous media. Then, loading and release of ranitidine hydrochloride drug was investigated using polyvinylpyrrolidone-polyvinylalcohol hydrogels. The effects of temperature and pH on the loading and release of ranitidine hydrochloride drug in polyvinylpyrrolidone-polyvinylalcohol hydrogels were studied. The results showed that the highest loading of the drug was achieved at room temperature after 5 hours. Also, the highest drug release was observed after 2 hours at room temperature in pH = 8.**

**Keywords : Ranitidine hydrochloride, Polyvinylpyrrolidone, Polyvinylalcohol, Hydrogel, Drug release**

[Islamic Azad University, Rasht Branch - Thesis Database](#)  
[دانشگاه آزاد اسلامی، واحد رشت - سامانه بانک اطلاعات پایان نامه ها](#)