

The Effect of Polymer Coating on Taste-Masking Ability of AZT (HIV Drug) for Pediatric Oral Delivery

Zhang, Maggie (School: Blue Valley Center for Advanced Professional Studies)

Formulating an HIV drug as an oral thin film (OTF) can overcome many drawbacks of the current WHO-approved pediatric HIV antiretroviral therapy regimen used in sub-Saharan Africa. The current regimen uses two liquid HIV medications that are packaged in two large, bulky bottles. These bottles can be difficult to transport and store. Additionally, infants tend to spit up large amounts of liquids which can easily lead to dosing error. Oral thin films offer a more patient-compatible alternative compared to the current regimen. We tested four different ratios of drug:polymer to find which would be most optimal for the formulation of an oral thin film without sacrificing dose. We hypothesized that the 65:35 ratio would be the most optimal as we hypothesized that increasing polymer in the ratio would reduce dissolution of AZT in the mouth. However, after analyzing results, further research is needed to answer the research question as the change in dissolution between ratios could be due to either changing ratios or changing fraction of soluble drug-further research is needed to determine which factor is responsible. More work should be done to confirm what variables are controlling the release of AZT from the spray dried formulation.

Awards Won:

U.S. Agency for International Development: Third Award Global Health