

In vitro evaluation of formulation factors: the granule size and type of binder upon physiochemical characterisation of paracetamol capsules

Abstract:

Paracetamol is antipyretic and analgesic agent. It has been used for long time in different types of dosage forms. Capsule is one of the common dosage forms that characterized by ease of production and faster release in comparison to tablet. The release of active pharmaceutical ingredient (API) from capsules is dictated by formulation factors of binder and particle size of the granules. Those factors were investigated here to find out the appropriate binder and the optimum granule size. In addition, characterization of the flow properties, friability of the granules, the actual content, the release profile, kinetic of release were investigated. It was found that the optimum granule size in term of flow property is 25-mesh size. There was no significant difference in release profile among all the examined binders (starch, acacia, and PEG4000). However, using of PEG4000 as binder gives granules with reasonable hardness that can withstand subsequent process (i.e., capsule filling). These facts make PEG4000 as binder to be more preferable.