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5277N. The reduction in strength is due to decreased compression force andless condensed particles, requiring less force to overcome the intermolecular forces. If the tablet is too hard it may not disintegrate in the requisite time, and ifit too soft, it may not withstand patient handling or packaging. However, generally dispersible tablets have less physical resistance than regulartablets. It may be possible that moisture uptake may have affected excipientssuch as the binder allowing it to be crushed more easily.

A study conducted ondispersible lamotrigine tablets repackaged into compliance aids alsodemonstrated a reduction in hardness and 60 days into the study, a 21. 9%reduction had been reported. Variations in hardness is common with friabilityand such changes are likely to alter the dissolution profile andbioavailability of aspirin, affecting its efficacy and performance12. Friability should be measured if thestudy was to be repeated, to determine tablets ease of chipping and breaking. The timetaken for the tablet to disintegrate decreased from 20 to 12 seconds. Rapiddisintegration and in turn rapid dissolution can potentially affect performanceand bioavailability of a drug, hence impacting its shelf life. Commondisintegrants which are chemically stable in original packaging can be hugely affected by moisture.

A study conducted on asprin, atenolol and lansoprazole showed a decline in stability profiles whenrepackaged into MCA’s for 8 weeks, particularly their

disintegration times. Afaster time was observed for aspirin and atenolol, however both complied withBP standards10. It has been demonstrated that moisture uptakeassociated with disintegrants can result in micro-cracks due to the disintegrantswelling, causing it to disintegrate quicker, affecting the medicationsperformance15. According to BP, dispersibletablets disintegrate within 15 minutes, using water at 37° C7. Thus, the tablets complied with the requirements. In future dissolutioncan be tested to measure the rate of drug release, providing an indication ofthe bio-availability of aspirin.

A study on Sodium valproate 100mg tabletsafter repackaging and storage under various conditions showed variabledissolution compared to controls, with the most pronounced differences beingdemonstrated at 40°C/75% RH16. Many dissolution profiles indicatedslower, and in certain cases incomplete, absorption of the drug, thereforeaffecting the bioavailability. The study waslimited as environmental factors such as temperature and humidity weren't accountedfor, nor controlled. Tablets should be tested at differing temperatures and varioushumidity. These factors were not monitored and therefore we cannot account forany fluctuations that may have occurred. This may be measured using ahygrometer or a digital thermometer in the future. Factors such as patient orpharmacist handling weren't considered, therefore the results aren't a reliablerepresentation as different situations a patient may experience weren't simulated, such as storage in a humid bathroom. Also, measurements were taken at week 5 and notvarying time intervals, for example t = 3 weeks.

The study period for which thetablets were stored was too short to observe major changes and greater degradationmay have been apparent after 5

weeks. The safety of the use in polypharmacy wasnot tested as we didn’t combine other medications. A study stored dispersibleaspirin tablets alongside 5 other medications for 5 weeks17. Although, no degradation was detected in these quantitative HPLCmethods, this parameter should be tested in the future.

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