

Drug Formulation & Bioavailability Congress

September 05-07, 2016 Beijing, China

Preliminary studies on binding potentials of defatted cake derived from *Blighia sapida* seeds in Ascorbic acid tablets

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Objective: Cheaper and renewable natural plant's materials serve as lead to the discovery of materials that can be modified to give superior grade excipients. The physicochemical properties and binding potentials of defatted cake derived from *Blighia sapida* seeds (BSSC) were studied.

Method: Milled seeds of BSSC was macerated with n-hexane for 5 days to separate the oil, the resultant defatted cake was further extracted with a mixture of ethanol and water (4:10). The physicochemical properties of the BSSC were determined. Ascorbic acid tablets were formulated using varying concentrations of the BSSC as a binder. The physical properties of formulated tablets were studied.

Result: BSSC had pH of 5.58 and a moisture content of 6.68%. Its bulk and tapped density were $0.35\pm 0.3\text{g/ml}$ and $0.45\pm 0.4\text{g/ml}$; the powder had fair flow with angle of repose 400 and Hausner ratio of 1.29. The ascorbic acid tablets formulated using BSSC as binder had low friability; hard tablets with consistent disintegration rates and also similar binding properties to maize starch BP (a commercial brand) were obtained.

Conclusion: BSSC has similar binding properties compared to commercial maize starch BP and can be a potential source of a low-cost binder in oral pharmaceutical solid dosage form.

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