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Rheological characterization and controlled release properties of novel *Abelmoschus moschatus* mucilage based system

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In present scenario of pharmaceutical development, researchers are focusing on the herbal product as pharmaceutical excipients in drug delivery system. In the same context, present work describes rheological characterization of novel *Abelmoschus moschatus* stems mucilage, as a function of concentration and particle size. Further, mucilage was investigated for their potential as release retarding material in matrix tablets. As a result, power law model described that aqueous solution of dry mucilage, exhibited non-Newtonian pseudoplastic flow property since the flow behavior index (n) was found less than 1 in all solutions prepared by changing the concentration and particle size. The consistency coefficient (k) was found to increase with increase in concentration and particle size. The Arrhenius model well described temperature dependency of viscosity, since activation energy (E_a) was found to decrease from 7858.86 to 4548.86 J/mole-1 with increase in concentration. Viscosity found to be increased by increasing the pH of the media. Release kinetics study revealed that drug release mechanism was anomalous transport, therefore extracted mucilage may be considered as release retarding material in tablet formulation.

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