CONCLUSIONS

Turmeric has been used in Ayurvedic medicine since ancient times, with various biological applications. However, as curcumin is now available in pure form, which shows a wide spectrum of biological activities, it would be easier to develop new drugs from this compound. Although some work has been done on the possible medicinal applications of curcumin, no studies for dosage form development have been carried out as yet. Recent years have seen an increased enthusiasm in treating various diseases with natural products. Curcumin is a non-toxic, highly promising natural antioxidant compound having a wide range a wide spectrum of biological functions. It is expected that curcumin may find application as a novel drug in the near future to control *H. pylori* infection.

The optimized formulation for curcumin mucoadhesive microspheres was obtained with ethylcellulose and carbopol 934P using response surface methodology based on a central composite design. It was found that the optimized formulation was achieved and the observed responses were close to the predicted values for the optimized formulation. The drug release from the optimized formulation showed a controlled release pattern which could offer both local and systemic action for effective treatment of *H. pylori* infection. Increasing complications in the conventional triple therapy (TT) stimulate an urgent need to develop new non-antibiotic antibacterial agents against *H. pylori* infection that are safe, highly effective and have specific cellular targets. Since curcumin is cheap and easily available in developing countries like India, this study opens scope for an easy therapeutic solution to a potentially complicated *H. pylori* related disease.