Metformin hydrochloride and guaifenesin ER tablets had acceptable physical properties (mechanical strength 20–200 N, flatness less than 1%). The extended release matrix tablets of metformin hydrochloride and guaifenesin manufactured with 10% and 20% Carbopol 971P NF showed faster release in 0.1N HCl than the other two media.

Results

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The faster release in 0.1N HCl from tablets containing Carbopol polymers has been controlled by the synergistic combinations of co-ingredients that favor the hydration processes in the tablet matrix.

Conclusion

The study demonstrated development of multimodal compliant extended release matrix tablets of metformin HCl or guaifenesin by using synergistic combinations of Carbopol 971P NF polymer and co-ingredients. The findings from this study may be extended to other drugs on a case-by-case basis.