

CHAPTER V

CONCLUSION

The miconazole buccal mucoadhesive patch formulation using single polymers and combined polymers was investigated. Mucoadhesion, drug release and drug stability were studied *in vitro*. The study of resident time of patch on buccal mucosa in healthy volunteers was also included. The results of the investigation can be summarized as follows:

1. The mucoadhesives containing of SCMC HV showed the highest adhesive force. The inclusion of CP 934 in the formulations containing cellulose derivatives resulted in an increase adhesive force. Thus, anionic polymers showed more effectively mucoadhesive than neutral polymers.

2. The mucoadhesives containing of SCMC MV showed the highest drug release rate, while the lowest rate was obtained from the patches of HPMC combined with CP 934. CP 934 was observed to delay release rates of miconazole from patches.

3. The mucoadhesives containing neutral bioadhesive polymers which were MC1500, MC4000 and HPMC were very stable after exposure to

the stressed condition. Whereas the formulations containing anionic polymers which were SCMC and CP 934 degraded in a greater extent.

4. The longest resident time on buccal mucosa was achieved from the formulation consisted of the mixture of HPMC and CP 934.

Consequently, the most appropriate polymers for miconazole mucoadhesive patches was the mixture of HPMC and CP 934 since they were stable and showed suitable mucoadhesive force, the lowest drug release rate, and the longest resident time. Nevertheless, further *in vitro* and clinical studies on antifungal efficacy of the dosage form should be carried on.



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