CHAPTER V

CONCLUSIONS

1. KP gels prepared with 2% and 3%w/w of CBP2020, CBP980, and HPMC showed similar permeation of KP.

2. The viscosity of gels prepared with 1.5% to 3%w/w of CBP2020 or CBP980 or 2% to 3%w/w of HPMC had no effect on KP permeation.

3. The variation of ETOH concentrations from 30%, 35.5%, and 40 %w/w , the KP permeation was not statistically significantly different.

4. Varying the pH of gel from 3.4, 5.7, and 7.0, KP permeation from gel pH 3.4 was higher than gel pH 5.7 and 7.0. It was due to more un-ionized KP at low pH.

5. The skin permeation of KP gel with and without single additive:
   a. KP gel prepared without additive was lower than with L-LA, but higher than TW80 or PG.
   b. KP gel with L-LA was higher than TW80 or PG.

6. The skin permeation of KP gel with and without combined additives, both binary additive (PG-L-LA) and ternary additive (PG-TW80-L-LA) were higher than without additive, but another binary additive (PG-TW80) was lower.

7. The lag times of all combined additives formulations were shorter than non-additive formulation.

8 KP gel prepared with binary additive (PG-L-LA) showed higher permeation of KP than one commercial KP gel and similar with the another KP gel product.

9 Storage of KP gels at room temperature for six months or under the stress conditions of heating and cooling for six cycles did not adversely affect the KP content, pH, and viscosity of gels.

10 For further study effect of other types and concentration of additives, such as a more powerful penetration enhancer, high KP solubility vehicles, or fragrance should be studied. These studies should focus on the effect on KP permeation to develop KP gel formulations for patient satisfaction. *In vivo* KP permeation should be studied to predict the efficacy of the prepared KP gels.