SUMMARY AND CONCLUSIONS
The present work was carried out to formulate bucco-adhesive formulations of lignocaine hydrochloride and to synthesize esters and anilide derivatives of p-phenyl phenyl acetic acid non steroidal antiinflammatory agents.

Following conclusions can be drawn from the results obtained:

1. Buccoadhesive tablets and films of lignocaine hydrochloride were developed to a satisfactory level in terms of drug release, bio adhesive performance, physical and mechanical properties and surface pH.

2. Buccoadhesive films of lignocaine hydrochloride were found to be suitable drug delivery devices and could be used as alternatives to the conventional dosage form like gels etc.

3. In-vitro drug release of 88.6% could be obtained with buccoadhesive tablet in 6 hrs.

4. In-vitro drug release of 86.68% could be obtained with buccoadhesive film in 90 minutes.

5. $C_{\text{max}}, t_{\text{max}}, \text{AUC} (0-6)$ were found to be $8.5 \mu g/\text{ml}$, $150 \text{ min.}$ and $1875 \mu g .\text{min. ml}^{-1}$ respectively in situ studies.

6. In-vitro skin permeation studies revealed that only 4.13% of drug permeated in 6 hrs.

7. In-vivo evaluation of muco-adhesive tablet in healthy human volunteers revealed that the tablet produced a maximum drug concentration, $C_{\text{max}}$ of $9.4 \mu g/\text{ml}$ over a period of 6 hrs with adequate comfort, taste and non-irritancy. The $t_{\text{max}}$ was found to be $150 \text{ minutes}$ with AUC of $2178 \mu g .\text{min.ml}^{-1}$.

8. The flow through cell designed for in-situ release studies sufficiently stimulated the in-vivo conditions for release rate studies and for the determination of duration of bio adhesion / erosion.

9. Graph of cumulative percent drug release Vs square root of time and correlation between percent wet weight recovered and percent drug release revealed that the drug followed "Fickian-diffusion-swelling" mechanism of drug release.

10. The delivery of lignocaine hydrochloride so developed will guarantees complete erosion of the formulations, thereby obviating the need to remove any exhausted device.
Compounds of pharmaceutical interest in the category of non-steroidal anti-inflammatory agents were synthesized successfully. The compounds namely p-Phenyl acetophenone, p-phenyl phenyl acetic acid methyl ester, p-phenyl phenyl acetic acid ethyl ester, N-o- methyl phenyl biphenyl acetanilide exhibited anti-inflammatory activity. Out of these compounds p-phenyl phenyl acetic acid ethyl ester had comparable activity with indomethacin.