7. CONCLUSION

The objective of present work was to formulate the improved mucoadhesive dosage form of chitosan by using various thiolating agents & enhance the residence time of dosage form in GI tract of Methotrexate & Cefuroxime axetil.

- Chitosan-TGA and Chitosan-Cy was successfully prepared by the method described and can be used to formulate mucoadhesive dosage forms.
- The conjugates are termed as thiolated chitosans. In short, small molecular mass thiol group bearing compounds are covalently bound to polymeric backbones. Therefore, thiomers are polymers which display thiol groups on their surface.
- Despite the chemical modification they showed a delay and increased swelling property. These properties are required to prolong the release and the adhesion of dosage form on mucosal layer.
- It is clearly evident from the studies performed that thiolated chitosan display increased cohesiveness, mucoadhesiveness and gastric retention time because of \textit{in situ} gelling property.
- The study testifies for the formation of covalent bonds between thiolated polymers and mucin glycoprotein as mucoadhesion is strongly increased.
- Water uptake studies, in vitro mucoadhesion, in vitro residence time, in vitro gastric retention and in vitro release studies indicate increase in the solubility, absorption and plasma half life of the selected drugs.
- It can be concluded from the overall results that, thiolated chitosan can be used for formulating mucoadhesive dosage forms and as a release retarding agent.
7.1 FUTURE SCOPE

- The research work can be further proceeded to prove its suitability for human usage with the evolved clinical studies.
- Comparison of prepared thiolated formulations with marketed products.
- Exploration of different thiolating agent for their suitability of mucoadhesion.
- The effect of different excipients & drug on thiolated mucoadhesive polymers has to be studied.
- Cause for the decreased mucoadhesion of Chitosan-Cy than Chitosan-TGA.