OBJECTIVES OF THE STUDY
Cholera is a clinical-epidemiologic syndrome caused by *Vibrio cholerae*, usually of serogroup O1. Now phages are known to have some advantages associated with human therapy over the usage of antibiotics. The unstoppable upsurge in the occurrence of antibiotic resistance in bacterial pathogens, coupled with the disappointingly low rate of emergence of new, clinically useful antibiotics, has refocused attention on the potential utility of phages for biocontrol and preventing or treating human and animal disease.

NICED which was recognized as a WHO Collaborating Centre for Diarrhoeal Diseases Research and Training operates as Vibrio Phage Reference Laboratory since 1968, receives strains of *Vibrio cholerae* from all parts of India and abroad for phage typing. Phage typing findings showed that these phages could not only type the strains in different sections but also has a broad host range. However, these phages are different from each other as revealed by lytic pattern and different molecular analysis. With the new phages 99.6% of the strains was found to be typeable. These research outcomes in our lab prompted us to formulate a cocktail phage therapy in animal models so that it can be applied in human beings in near future. Multiple phage types possessing a diversity of host ranges are often combined into mixtures called ‘phage cocktails’. As a matter of fact, a number of strategies exist by which phage therapy outcomes may be enhanced and one such strategy is phage formulation into cocktails.

These findings will serve the whole world as a milestone to fight against multi drug resistant *Vibrio cholerae* O1 with the help of bacteriophages.

**The main objectives are:-**

1. To determine the *in vivo* survival and stability of cocktail phage in animal model in the absence of host bacteria.

2. To determine the *in vitro* lytic activity of the cocktail phage against *Vibrio cholerae* MAK 757.

3. To demonstrate *in vivo* efficacy of oral cocktail phage therapy against *Vibrio cholerae* infection at different time intervals.

4. Routine dose response of cocktail phage therapy applied orally in animal model.