The Enteroviruses comprise a large genus belonging to the family *Picornaviridae*. Sixty-six immunologically distinct serotypes are known to cause infections in humans. Most of the infections caused by NPEVs are mild or asymptomatic, and as a result they were considered as unimportant human pathogens. However these viruses may result in serious or even fatal disease especially in children. In tropical countries like India, EV infections could occur throughout the year. Very few reports are available on EV isolation and identification from India, and none of them describes the molecular makeup of these viruses.

Identification of EV isolates generally employs neutralization assay based serotyping using intersecting antiserum pools, but the problem of UTEV is frequently encountered. Disease spectra of different EV serotype overlap considerably. All have the potential to invade central nervous system producing disease with variable severity. Therefore, correct identification of UTEV isolated from children having AFP becomes extremely important with more emphasis for the presence of EV71, since it was reported as the most frequent NPEV that can cause AFP like illness.

Enteroviruses replicate through an error prone RNA-dependent RNA polymerase, hence the molecular evolution rate of these viruses is very high (~1-2 nucleotide substitutions/genome/week, along each line of transmission). This evolution primarily occurs by genetic drift that results due to replication of viral quasispecies in genetic bottlenecks. In case of enteroviruses these bottlenecks occurs during their replication within the human intestine. The conventional serotyping methods could not help in identification of these variant viruses, as the neutralizing epitopes are located in highly variable VP1 region. So, for the development of molecular typing scheme the ideal target should be a relatively more conserved region like 5'UTR.
Data on molecular characterization of EV isolates of north India is not reported elsewhere, without which it is very difficult to develop new molecular reagent for specific and more accurate diagnosis.

Therefore, the present study was undertaken with the following aims and objectives:

1. To isolate and identify the nonpolio enteroviruses from the stool samples of children having acute flaccid paralysis using their phenotypic and genotypic markers.

2. To carry out the molecular characterization of frequently isolated nonpolio enteroviruses.

3. To isolate and identify the enterovirus-71 from the untypeable enteroviruses.

4. To identify untypeable enterovirus isolates (variant type) having distinct neutralization characteristics.