Terbinafine hydrochloride is a synthetic antifungal drug. It is slightly soluble in water (3mg/ml) and having high permeability through stomach. This results in poor bioavailability after oral administration. Therefore nanoemulsion containing terbinafine HCl was formulated to increase its solubility and bioavailability. Aqueous titration method was used to formulate nanoemulsions and pseudo-ternary phase diagrams were developed to know the nanoemulsion region. Tween 80 was selected as the surfactant and ethanol was selected as cosurfactant for the formulation and mixed in different volume ratios like 1:0 to 1:4 and 2:1 to 4:1. Based on the solubility study olive oil was optimized as an oil phase. To construct the phase diagram, oil (olive oil) and smix were mixed thoroughly with the help of magnetic stirrer in different volume ratios from 1:7 to 7:1. Formulated nanoemulsions were then evaluated for drug release, dispersibility, viscosity, surfactant concentration, electroconductivity and TEM analysis. The in vitro studies revealed that nanoemulsion formulation that is NE2 shows better drug release profile (99.28%) when compared with tablet and suspension of terbinafine HCl. The in vivo studies shows that there was 2.87 fold increase in bioavailability as compared to marketed tablet, 2.275 fold to that of solid dispersion and 2.38 fold to that of drug suspension when Terbinafine HCl was given as a nanoemulsion.