SUMMARY
β-Phenylethyl amine and its derivatives form an important class of physiologically active compounds. Interest in these compounds was aroused in the beginning of this century when epinephrine was shown to be a derivative of β-phenylethyl amine. Many other β-phenylethylamine derivatives were later shown to have an action on the sympathetic nervous system, very similar to the action of epinephrine. These were named sympathomimetic amines. An extensive study of the chemistry and pharmacology of β-phenylethylamines and many of its derivatives has been made by several workers to find out structure activity relationship in this field.

However, a study of literature reveals that the effect of acylamino and alkylamino substituents on nitrogen atom of β-phenylethylamine molecule has not been studied so far. The present work was taken up to study the effect of variation of such groups to arrive at structure activity relationship. Thus compounds of following general structures were synthesised and submitted for pharmacological evaluation.

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\begin{align*}
R_1 &
\end{align*}
\]
where $R_1 = H, \text{methoxy or ethoxy}$

$R_2 = H, \text{methoxy or ethoxy}$

$R_1R_2 = \text{methyleneoxy}$

$Y = -\text{CH}_2-, -\text{CH}-, -\text{CH}_2\text{-CH}_2$\text{-CH}_3$

$-\text{N} \bigcirc Z = \text{diethylamino, morpholino, piperidino, pyrrolidino, } \alpha-, \beta- \text{ or } \gamma\text{-pipecolino.}$

The present thesis consists of five chapters.

Chapter I.

The chemistry and pharmacology of $\beta$-phenylethyl amines is briefly reviewed in this chapter.

Chapter II.

This chapter describes the preparation of
N-chloroacetyl-β-phenylethylamines of the general structure I. These were prepared by reaction of appropriately substituted β-phenylethylamines with chloroacetyl chloride, 2- and 3-chloropropanionyl chlorides.

Chapter III.

This chapter deals with the preparation of various N-aminoacyl-β-phenylethylamines of general structure II. They were prepared by condensation of appropriately substituted N-chloroacetyl-β-phenylethylamines with a few secondary amines viz., diethylamine, morpholine, piperidine, pyrrolidine and α-, β- or γ-pipicolines.

Chapter IV.

The preparation of a number of N-aminoalkyl-β-phenylethylamines of general structure III is described in this chapter. These were prepared by condensation of diethylamino, morpholino and piperidinoalkyl chlorides with various alkoxy substituted β-phenylethylamines or in some cases by the reduction of N-aminoacetyl-β-phenylethylamines (described in Chapter III) with the lithium aluminium hydride.

Chapter V.

The results of preliminary pharmacological screening of some of the compounds described in chapter II, III and IV which were available till the time of writing of this thesis
are incorporated in this chapter. An attempt has been made to establish structure activity relationship from the available data. The pharmacological evaluation of other compounds is in progress.