PROCEDURE AND TREATMENT OF THE DATA
The purpose of this study is to find out the factors related with prognosis of cases suffering from depressive illness. For the purpose, the cases who attended the psychiatrist's clinic and were diagnosed as Depressive by two attending psychiatrists were referred for the study. Only cases attending one particular psychiatrist's clinic were taken because the study requires control of drug to be administered, and psychiatrists differ in their selection of drug for treatment of similar cases.

The psychiatrist attends a general hospital and initially attempt was made to have cases from there also. But patients attending the general hospital come from low socio-economic strata. They took the drug supplied to them by the hospital authorities, but were unable to buy from outside on their own. Their inability to come to the hospital on the Scheduled (Drug) date or sudden running out of the stock of appropriate drug in the hospital resulted in irregularity of drug - another variable influencing the results. So, only cases attending the psychiatric's clinic were studied. After establishment of the diagnosis (by two psychiatrists, sitting at the same clinic), the standard prescription was given to the patients and they were referred for the present study.

The cases were interviewed within the next two days. During the first interview, case-record schedule was filled up, Beck's Inventory for measuring depth of depression was administered. The second interview for administering Barron's Ego-Strength Scale, KNPI and Rorschach came within another two days.

The follow-up data was taken at intervals of 3 weeks and 6 weeks, after the start of treatment. Then, Beck's Inventory
for measuring depth of depression was administered again.

Altogether a record of 84 cases has been completed. At the end of record of 60 cases, calculations were started. The data was properly tabulated. Percentage of improvement over 6 weeks interval was calculated from change of score in the interval. Thus if a patient started with the score on Beck’s inventory as 45 and got a score of 20 after 6 week interval percentage of improvement over 6 week interval was taken to be 55.56%. So what was considered to be important was not the post treatment score but the relative change in score, which is the real measure of the improvement.

A follow-up interview was taken at 3 week interval also, to keep track of the patient and to ensure maintenance of regularity of drug by proper rapport. Calculation of extent of improvement however has been computed from change in Beck’s score over six week period.

As stated earlier, the present study attempts to determine combinations of different personal and symptomatic factors to prognostise cases suffering from depressive illness and of receiving a particular mode of treatment. Prognosis has been identified with decrease in depth of depression after six weeks from the start of treatment and has been calculated as the relative decrease in the score on Beck’s inventory obtained by dividing the drop in score by the initial score and multiplying by 100.

As a preliminary study prognosis measures (as explained earlier) were classified according to values or categories for each of the factors considered. It was desirable to identify factors or traits which are significantly associated or corre-
lated with prognosis. This was done by calculating the product-moment correlation coefficient (r) in the case of measurable characteristics like age of onset. A test for significance of such a correlation was carried out by comparing the value of
\[ t = \frac{r \sqrt{n - 2}}{\sqrt{1 - r^2}} \]
with significant prints of the t-distribution corresponding to the n - 2 d.f. In the case of characters giving rise to dichotomy of the patient or even a multichotomy x^2 values could be obtained. However, this would mean a grouping of prognosis measures. To retain the % changes in improvement as such without grouping, point biserial correlation of each such factor with % improvement was obtained.

Once some of the factors or traits were identified to have significant association or correlation with prognosis a multiple linear regression of prognosis on such factors was determined by the usual method of least square using the standard programme on a computer. In fact 25 factors or traits including some qualitative ones were included as explanatory variables in the m.l.r. Each partial regression coefficient was then tested for its significance by calculating
\[ t = \frac{b_{11}}{\text{Se}^2 / S_{11}} \]
where \( \text{Se}^2 = \left\{ \text{Sy}^2 - \sum_{i=1}^{20} b_{1}y_{1i} \right\} / (n - 27) \)
denoting prognosis and
\[ x_i \ (i = 1 \text{ to } 25) \] representing explanatory characters.

While the multiple correlation coefficient is expected to be pretty high because of the large number of explaining characters considered in the regression analysis, it was suggested that
the linear regression obtained could be used to predict prognosis for some other individuals whose characters were not included in the determination of m.l.r. In fact, comparison revealed a very poor agreement between the observed and predicted measures of prognosis for 24 new individuals. One reason can be readily adduced viz. that the use of a m.l.r. using indicator variable is not fully justified. To get round this difficulty five measurable characteristics strongly correlated with prognosis were then used to determine a second m.l.r. This new regression equation was then applied to secure predicted values for the 24 new individuals. In order to compare the predicted measures of prognosis with the actual ones obtained by a follow-up study of the cases, individuals were classified according to the predicted value "being above the median" or "below the median" and according as the observed improvement is "above the median" or "below the median", a $\chi^2$ test for the two-way table revealed the possible association between the two classifications.

Once the validity of a multiple m.l.r. analysis is justified and the ability of such regression to predict values closely in agreement with the actual ones has been established; partial regression coefficients associated with different independent variables can be regarded in some sense as relative contribution of the different personal or symptomatic factors to prognosis.