CHAPTER 31

SPECIAL FEATURES OF THE THESIS

1. Stability of the colour for spectrophotometric readings is established for the FIRST time. The procedure for such establishment is newly introduced during the course of the present study.

2. The method for Serum Iron Estimation is much MODIFIED - 3 steps are newly added and 3 steps are modified, only after which the results were obtained.

3. The procedure for Iron Standardisation is simplified and presented in an easily practicable manner along with the Iron Standard Curve.

4. Preparation of glassware is much MODIFIED:
   (a) 1 N HCl (instead of 2.5 N, 6 N or 10 N HCl) is used for the FIRST time in the present study

for rendering the glassware iron-free.

1 N HCl has been proved to be quite efficient
for the purpose of rendering the glassware
iron-free.

(b) Boiling as recommended in the original
method (Marrack 1956) for the preparation
of glassware is omitted in the present study
and is successfully replaced by prolonged
immersion of the glassware in 1 N HCl at
room temperature.

(c) Gloves were used during the preparation of
glassware for the first time in the present
study. This has not been adopted in the pre-
vious studies, though the same is found to be
extremely useful.

5. Procedure for preparation of reagents required
   for serum iron estimation is simplified and is
   described in full details.

6. Procedure for the preparation of different Iron
   Standards (stock iron standard, dilute iron
   standard and working iron standard) is described
   fully.

7. All the important steps of the procedure for
   Serum Iron Estimation are demonstrated photographically

in order to simplify the complicated subject. The serum Iron Responses and the various Haematological responses obtained in first pair of each "Treatment-group" are also presented photographically.The total number of photographs amounts to about 100.

8. The indispensable pre-requisites for serum iron estimation have been fully considered and fulfilled for the FIRST time in this study. Moreover, all the factors affecting the Serum Iron values have been, for the FIRST time, considered and possibly controlled while selecting the subjects and collecting the blood samples for serum iron estimation.

9. Serum Iron Values in Normal Indian subjects (Males Females separately) have been determined and compared with those found by other workers.

10. Serum Iron values in Anaemic Indian Subjects (Males and Females separately) have been determined and Compared with those found by other worker. (Only one worker's figures are found in the literature for comparison.)

11. Serum Iron Response to iron therapy is studied and such response obtained on first day of treatment is compared with that obtained on 21st day of treatment. The importance of serum iron response in studying the absorption of the Test-dose of an iron preparation is discussed.

12. Comparative clinical trial of Ferrous Fumarate - a new drug in the market - is taken UNDER STANDARD CONDITIONS. Such a clinical trial under STANDARD conditions is an important attempt in accurately comparing the therapeutic efficacy of the two iron
    and
    preparations viz. Ferrous Sulphate/Ferrous Fumarate under study.

13. Method for the estimation of ELEMENTAL IRON CONTENT per tablet of each iron preparation is simplified and modified and is described stepwise in an easily practicable way.

14. Estimation of elemental iron content per tablet of iron preparations to be used for the comparative clinical trial is, probably for the first time, incorporated in such a study. Its importance in such a clinical study is self-evident.

15. The electrocardiographic changes in anaemia are also studied. Such a study was carried out in India by only one worker in 1953, and hence the importance.

16. Mechanism of hypoferremia is discussed thoroughly.

17. Aetiopathology of iron deficiency anaemia is fully discussed with special reference to the part played

by hookworm, dietetic phytates, salicylate
administration and the dermal loss of·iron.

18. Simple presentation with due maintenance of chain
of sequence while describing the plan of work or
even the complicated methods.