APPLICABILITY OF "WITS" APPRAISAL IN CEPHALOMETRIC ANALYSIS TO THE SRI LANKAN POPULATION

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Cephalometry was first introduced in 1935 and is widely used for a range of purposes in modern orthodontic practice.

Many methods of analysis have been recommended following studies all over the world but considerable doubt exists whether the figures recommended could be applied to the Sri Lankan population in the same manner since most of the studies have been carried out in Caucasian and Negroid populations. Steiner Analysis, Steiner with Eastman Correction and "Wits" appraisal are some of the commonly adopted methods of Cephalometric analysis. The aim of this study was to identify whether the "Wits" measurement could be applicable to the Sri Lankan population as described by A. Jacobson after a study done in Africa or whether the figures may have to be modified to fit the local population in order to obtain an accurate estimate of jaw disharmony.

Sixty Cephalogrammes were selected from patients attending the Division of Orthodontics, Faculty of Dental Sciences, clinically falling into skeletal classes 1,2 and 3 and who have not had previous orthodontic treatment. The Cephalogrammes were traced by one examiner using Steiner, Steiner with Eastman Correction and "Wits" appraisal methods. The Percentage agreement and correlation coefficients were calculated with Steiner and "Wits" using Steiner with Eastman Correction as the Gold Standard. Ten percent of the tracings were repeated by the same examiner after two weeks. Spearman's correlation coefficient was performed and the readings were .972, .991 and .937 for SNA, SNB and "Wits" respectively.

The Steiner and Steiner with Eastman Correction estimates showed satisfactory agreement with each other in all three classes of sagittal jaw disharmonies (Class 1=60%, Class 2 =80% and Class 3=85%) whereas Wits showed satisfactory agreement only in the Class 3 sample. (Class 1=35%, Class 2=35% and Class 3 =90%).

The Steiner analysis is more applicable to all classes of sagittal jaw disharmonies of the present study population whereas, "Wits" is reliable only in cases with Class 3 skeletal pattern. The present study reveals that the Norms for "Wits" appraisal have to be determined for the Sri Lankan Sinhalese population in a further study if it is to be used with accuracy for all classes of sagittal jaw disharmonies.