

A convenient measure of Insulin resistance

Insulin keeps blood glucose within a narrow range, by sophisticated interactions between insulin and its action in target organs. If this action is impaired, Insulin Resistance (IR) occur.

The Gold Standard for evaluating IR is the Euglycaemic clamp method which require patient's hospitalization and sophisticated equipment. Fasting Insulin Resistance Index (FIRI) was used to assess the IR.

$$\text{FIRI} = (\text{Fasting serum Glucose} \times \text{Fasting Insulin}) / 25$$

As drugs are being developed to reduce the IR, Assessment of IR is very important, So far, there are no published studies in Sri Lanka on IR, This research was carried out to assess IR and to identify the factors associated with it in Sri Lankan diabetics.

141 diabetics attending a Medical clinic at Colombo South Teaching Hospital were used. Glucose was estimated by an enzymatic-colourimetric method and insulin concentration by an enzyme-immunological method.

A questionnaire was filled for each to obtain information on duration of diabetes, smoking habits, stay abroad, alcohol consumption, weight, height, treatments used and family income. Among the 141 diabetics in the study, there were 46 males and 95 females. (Age 27-83 years) The average FIRI was 3.38 ± 0.28 .

The females had higher insulin resistance than males. Insulin resistance increased with increasing age, BMI history of diabetes, Statistically significant higher IR was seen in those who stayed abroad, consumed alcohol and those who were on both Metformin and Glibenclamide and Glibenclamide alone as treatment.

Diastolic and Systolic pressure and smoking habits did not show a positive correlation with the IR.