

## **ASSESSING BLOOD GLUCOSE BY GLUCOMETERS MAY BE INJURIOUS TO HEALTH**

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### **AIM:**

To study the agreement between blood glucose levels measured by glucometers and estimated in biochemistry lab.

### **MATERIAL AND METHOD:**

50 patients admitted in medicine dept. at S.R.T.R. Govt. Medical college Ambajogai were selected randomly. Plasma samples from these patients were analyzed for glucose concentration by the glucometers and by glucose oxidase peroxidase (GOD-POD) method in biochemistry laboratory simultaneously at the same time. The results were analyzed by appropriate statistical methods to evaluate their agreement and by using Clark's error grid analysis method to evaluate utility in clinical settings.

### **RESULT:**

The mean $\pm$ S.D. for glucometers is 207 $\pm$ 84.23 and that by GOD-POD is 126.96 $\pm$ 52.69. The mean value of glucometer is significantly different from lab method ( $p < 0.001$ ). Bland-Altman analysis shows disagreement between two methods. Glucometer always show higher values in comparison with that of lab method. Error grid analysis confirms the same and the test results maximally scattered in B, C & E areas of error grid which suggesting unnecessary treatment to euglycemics.

### **CONCLUSION:**

The uses of glucometer in wards and ICCU for tight glycaemic control are not advocate due to lab differences from lab results. Glucometers are not in agreement with standard method for glucose estimation. It necessitates regular maintenance and calibration of glucometers and further rapo with laboratories before starting insulin.