

# Comparison Between Point of Care Glucose Measurement and Laboratory Measurement in Diagnosis of Diabetes Mellitus

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## Abstract

**Background:** The diagnosis of diabetes mellitus depends on estimation of plasma glucose when the subject is fasting using classical laboratory methods, to date, only limited number of studies have addressed the applicability of point-of-care glucose testing in the diagnosis of diabetes.

**Objective:** To compare point of care glucose meter to control laboratory method in the diagnosis of diabetes.

**Patients and Methods:** Fifty one subjects recruited, their age ranged from 36-70 years. The questionnaire included socio-demographic information and date of interview, A finger stick blood sample was obtained and fasting blood glucose measurement were performed for each subject and recorded using Roche Accu-check active glucose meter. At the same time a 2ml of venous blood was taken from the same subjects and plasma glucose measured within one hour using laboratory enzymatic method and the results recorded.

**Results:** In the current study 94%2 of the samples measured by point of care method were within  $\pm 20\%$  of the laboratory values, 2 subjects discovered to be diabetic by both methods but there was significant difference between both methodologies.

**Conclusion:** Point of care glucose testing can be used as a part of diagnostic process of diabetes. However there was a significant difference between both methodology.

**Key words:** Glucose blood self-monitoring, Blood chemical analysis.

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