ORIGINAL ARTICLE

Automated Glycemic Pattern Analysis Can Improve Health Care Professional Efficiency and Accuracy

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Abstract

Background:
Health care professionals (HCPs) routinely review handwritten blood glucose (BG) logbooks during office visits of patients with diabetes.

Method:
In this study, 64 HCPs were asked to assess glycemic patterns and estimate BG averages in six simulated handwritten logbooks. The HCPs then reviewed the pattern logs and averages in six OneTouch® Verio™IQ meters containing corresponding data sets.

Results:
The average time needed for pattern review was 7.3 min for handwritten logbooks versus 0.9 min using the meter. The total error rate for logbook pattern identification was 43.0% compared with the meter. The mean percentage deviation between HCP estimates of 30-day BG averages and actual values was 14.5%.

Conclusions:
The meter is associated with faster and more accurate pattern analysis compared with handwritten logbooks.

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Abbreviations: (BG) blood glucose, (CI) confidence interval, (DE) diabetes educator, (HCP) health care professional, (PCP) primary care physician, (SMBG) self-monitoring of blood glucose

Keywords: blood glucose, health care professional, logbook, meter, self-monitoring of blood glucose

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