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لم ترد بالأصل

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Accuracy of Self-Monitoring of Blood Glucose by Insulin Dependent Diabetic Patients

Thesis

Submitted in Partial

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In

[Pediatrics]

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List of Abbreviations

HbA_{1c}	: Hemoglobin A_{1c}
Gly. Hb	: Glycosylated hemoglobin
SMBG	: Self monitoring of blood glucose
HBGMs	: Home blood glucose monitors
IDDM	: Insulin dependent diabetes mellitus
CBG	: Capillary blood glucose
FAD	: Food & Drug Administration
NSCQA	: National Steering Comittee for Quality Assurance
ADA	: American Diabetes Association
CBGM	: Capillary blood glucose monitoring
HBGM	: Home ' :' glucose monitoring
NIR	: Near infrared
DEMPU	: Diabetic Endocrine Metabolic Pediatric Unit
SBG	: Sample of blood glucose
SBGM	: Self blood glucose monitoring
$GHbA_1$	: Glycosylated hemoglobin A_1
LJM	: Limited joint mobility
FBG	: Fasting blood glucose
PPBG	: Post prandial blood glucose
DKA	: Diabetic ketoacidosis

REVIEW OF LITERATURE

INTRODUCTION
AND
AIM OF THE WORK

INTRODUCTION AND AIM OF THE WORK

Obtaining an accurate estimate of glycemic control remains a challenge to individuals with diabetes and the physicians caring for them. Home glucose records have become an important tool in diabetic decision making for both the patient and the clinician. However, home glucose monitoring has a number of limitations. The accuracy of home monitoring is not equal to that of the laboratory. Visual reading of glucose-oxidase permeated strips or portable glucose monitoring devices offers an accuracy of approximately ±15% under ideal conditions (Koschinsy et al ,1988).

Furthermore, home conditions are often less than ideal. Patient reliability and compliance are a common problem for a variety of reasons : distaste and discomfort associated with finger puncture, expense, interference with normal activities and encumbrance of monitoring paraphernalia (Mazze et al ,1984 ; Ziegler et al, 1989).

For all of these reasons, additional confirmatory information is a necessity. Any of the commonly used methods of assaying glycated protein levels, HbA_{1c}, Gly Hb, and fructosamine correlate well with mean home glucose values.

This was true whether the comparison was the average glucose value for the preceding week or the preceding 6 weeks. Earlier work by Svendsen and colleagues (1982) noted that HbA_{1c} determination, although helpful, was not a highly sensitive index of glycemia. Although none of the presently available laboratory methods to measure average glycemia are sufficently precise to allow assignment of a specific glucose value for a given laboratory measurement , all appear to correlate equally well whether glycemia is estimated over 1 week or 6 weeks during a period of improved glycemic control .

GLYCEMIC CONTROL