EXPERIENCES WITH SELF HOME BLOOD GLUCOSE MONITORING (SHBGM) IN AN ECONOMICALLY DEVELOPING SOCIETY

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We have analysed the clinical, metabolic and SHBGM performance characteristics of 21 diabetic subjects attending our Diabetes Clinic, including the Diabetes Education Programme (A : lDDM, n=17 (M=7, F=l0), age onset 13 years (2-25), diabetes duration 7 years (1-35), current age 20 years (9-36), B : NIDDM, n=4 (M=3, F=1), age onset 44.5 years (36-62), diabetes duration 9 years (1-26), current age 54 years (37-66). 90% of the subjects were 'literate' (age-specific educational achievement), and 86% belonged to the upper middle socioeconomic class.

Types of SHBGM included l. Visual Dextrostix (n=6), 2. Visual Hemoglucotest 20-800 (n=1), 3. Glucometer I (n=3), 4. Glucometer II (n = 7), 5. Reflolux/Accucheck II (n = 1), 6. Other reflectance meters (n=3). SHBGM duration was 1.2 years (0.3-4.0), SHBGM frequency 11/month (2-33; frequency tended to decline after initial enthusiasm in many subjects), and simultaneous urine glucose monitoring (UGM) frequency 41/ month (0-118). 61% of subjects used 'cut-strips' (glucose oxidase), and 95% reused lancets/needles [11 times each (3-50)]; blood letting devices were 'automatic' (spring-loaded) in 61%, and 'manual' (plain needle) in 39%. The youngest subject performing SHBGM was 9 years of age, and the oldest subject 66 years. During a supervised procedure, the mean SHBGM technique score was 2.1 (1.5-4; scale 1=excellant to 5=poor); common errors included poor blood drop and smearing of blood on reagent pad (occassionally, incorrect timing and inappropriate visual match); correlation between SHBGM readings and simultaneous laboratory analysed whole venous blood glucose values (Ortho-toluidine method) was --- (p value---). IDDM patients used the SHBGM data for self insulin adjustment (as per algorithm) to variable degree-mean 2.2 (1.5-5.0; 1=excellant to 5= poor/nil, adjustment by doctor or nurse only).

While on SHBGM there was reduction in mean blood glucose (in 85% of subjects), HbAlc (in 85%) and the frequency of hospital/ laboratory visits (in--%). Increased frequency of Hypoglycemic episodes probably due to overzealous self monitoring and therapy were observed in 2 IDDM subjects.

ECONGOMICS : 1. Capital meter costs : upto Rs. 8000; 2. Recurring costs : enzyme strips=Rs. 5-15 each, lancets/needles and other supplies. Besides high costs, availability/ servicing of

PARAMETER	B. GLUCOSE mg/dl	HbAlc %	HOSP-VISIT/ year	
PRE-SHBGM	200 (61)	11.4 (2.4)	14 (6)	( )=SD
ON-SHBGM	147 (26)	9 2 (1.6)	8 (4)	

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'indigenous'/'imported' meters and strips is a common problem. (Average per capita income in India=Rs.---.)

CONCLUSION : SHBGM as an useful component of diabetes care is feasible even in an economically developing and heterogeneous society, like India. With individual motivation and suitable modifications/adaptations of the SHBGM process, along with responsible social support and policies, the benefits of SHBGM can be made available to an increasingly larger number of fellow citizens with diabetes mellitus.