

EFFECTS ON POSITIVE BEHAVIOR AND METABOLIC CONTROL OF A FORMAL CHILDHOOD DIABETES PATIENT EDUCATION PROGRAMME

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We have established a formal diabetes education program (DEP), led by a full-time nurse-educator beginning May '88. The components of the program include individual and group counselling, a modular series of lecture-cum-demonstration sessions, use of teaching materials (books, handouts, audiovisual aids, etc.) and biannual residential camps. We have

assessed the diabetics (n=33) being enrolled in this program with regard to metabolic control (HbA1c), insulin injection technique, monitoring status, and a behaviour score, and compared them with a matched control group of diabetics (n=29) not enrolled in the DEP. All subjects studied had diabetes onset under 20 years of age and were insulin dependent.

GROUP	HbA1c	MONI	TECH	BEHA	PCI	HbA1c (%)		
						Rs. <500	500-1000>	1000
I	9.6	8.0	11.6	30.7	1022	10.9	9.1	8.8
II	9.1	4.0	11.4	21.4	768	-	9.7	9.5
III	11.4	3.6	8.9	14.0	620	11.0	11.1	11.9

The parameters analysed included glycemic control (latest HbA1c), insulin injection technique (TECH) (score 0 to 13 : storing=3; loading=2; injecting=2; site rotation=2), monitoring (MONI) (score 0 to 10 : urine/blood testing; regularity of monitoring and recording; adjusting insulin doses on basis of testing), person administering insulin (score -5 to +5) testing for ketonuria (score 0 to 5), carrying glucose on person (score 0 to 5), having glucagon injection (score 0 to 2), and omission of insulin (score -10 to 0). Total behaviour score (BEHA) (reflecting knowledge and compliance) was from -15 to +40 (Note : scores higher the better). Frequency of episodes of ketoacidosis and

severe hypoglycemia, family educational and socioeconomic status [per capita income (PCI)] were also recorded.

The subjects were divided into 3 groups;

Group I : Regular contact and follow-up in DEP (n=19; M=10, F=9; age range=92-278 months, mean duration diabetes=36.6 months).

Group II : Irregular contact and follow-up in DEP (n=14; M=11, F=3; age range=88-300 months, mean duration diabetes=38.3 months).

Group III : Not enrolled in DEP (n=29; M=16, F =13, age range=27=272 months, mean duration diabetes=43.8 months); controls.

We found that subjects in Group I had better glycemic control, monitored more intensively, and had a significantly, higher behaviour score, compared with Group III. Higher socioeconomic status partly (but not

wholly or universally) seemed to contribute towards better glycemic control. With increasing duration of diabetes (12 months vs.>25 months), children in Group I

maintained the better HbA1c (9.6 vs. 10%) and almost all scores (BEHA=32.3 vs. 30.6), while in Group III there was an increase in HbA1c (9.4 vs. 12%) and further worsening of many behavioral parameters (BEHA =21.9 vs. 8.5).

CONCLUSION : A formal Diabetes Education Programme has significantly improved and helped maintain metabolic control and self-care behavioral changes in childhood diabetes management. However, economically underprivileged subjects need additional attention and support.