

# THE EFFECT OF EARLY DIABETES SELF-MANAGEMENT EDUCATION ON GLYCEMIC CONTROL IN CHILDREN WITH TYPE 1 DIABETES

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**Abstract.** Although diabetes self-management education (DSME) is provided to most newly diagnosed diabetic patients, some patients continue to experience suboptimal glycemic control. We hypothesize the timing of initiation of DSME after diagnosis may impact outcomes. Therefore we aimed to determine if the timing does impact outcomes. We conducted a retrospective review of pediatric patients with diabetes mellitus who presented to the Pediatric Department at Siriraj Hospital, Bangkok, Thailand, beginning in January 2005. Our review was conducted from May 2015 to January 2016. All patients and their parents underwent a DSME program. Parents and caregivers were interviewed and medical records were reviewed. Subjects were grouped according to the length of time between the diagnosis of type 1 diabetes mellitus and the initiation of DSME: < 1 month ( $n=58$ ), 1-6 months ( $n=30$ ), and > 6 months ( $n=22$ ). The average hemoglobin A1c (A1c) levels for each group at one and two years after DSME were calculated. One hundred ten patients (56.4% female) were included in the program. The mean age at initiation of DSME was  $8.6 \pm 3.4$  years and the mean A1c level at initiation was  $11.2 \pm 2.7\%$ , at 1 year A1c was  $8.7 \pm 1.4\%$  and at 2 year was  $9.1 \pm 1.4\%$ . The percentage of patients who had good glycemic control (A1c < 7.5%) who received DSME within one month of diagnosis was significantly ( $p=0.035$ ) higher at 1 year (22.4%) than those who had DSME at 1-6 months (10%) and > 6 months (4.5%); however these were not significantly different by 2 years ( $p=0.64$ ). Factors significantly associated with having a A1c < 7.5% among study subjects throughout the time they had diabetes were higher parental education ( $p=0.022$ ), having more family members receiving DSME ( $p=0.025$ ) and having a more intensive insulin regimen ( $p=0.014$ ). Receiving DSME within one month of diagnosis was associated with better glycemic control at 1 year after DSME but not 2 years. This suggests maintenance of good glycemic control in this study population requires ongoing education and diabetes self-management support.

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Early and ongoing intensive diabetes education is recommended for this study population to improve glycemic control.

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