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The impact of diabetes education on competency and diabetes control in type 1 diabetes

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Several studies showed that mobile phone short message service (SMS) can improve glycemic control in diabetic patients. The aim of this study is to test the effect of mobile phone short messages on glycemic control in children and adolescents with type 1 diabetes. Two hundred children with type 1 diabetes (11 years+5.5) were randomly selected at the Security Forces Hospital. Hemoglobin A1C level, frequency of hypoglycemic and hyperglycemic attacks, frequency of diabetic ketoacidosis, frequency of missing insulin injection, and compliance with blood glucose monitoring were monitored and recorded for 6 months. Then the same group of children was provided with daily educational, interactive, reminding SMS messages for another 6 months. All previously mentioned parameters were monitored again while children receiving the SMS messages. At the end of the 6 months of SMS delivery, fasting blood glucose level improved from 150.4 mg/dl+67.1 to 132.7 mg/dl+66.5, post prandial blood glucose level from 191.1 mg/dl+79.4 to 180.8 mg/dl+66.9, *HbA1C* from 10%+2 to 9.5%+1.8, frequency of simple hypoglycemic attacks per week from 0.8+1.2 to 0.6+0.9, frequency of blood glucose monitoring per day from 1.9+1.1 to 3.2+1.0. In addition to significant improvement in parent's knowledge testing score, we concluded that mobile phone text messaging offered a means of contact between clinic visits and increased the adherence with diabetes therapy and improved the clinical outcome in children and adolescents with type 1 diabetes.

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