Diabetes mellitus (DM) affects nearly 3.9 million individuals in Egypt, currently ranking the 10th worldwide in terms of diabetes prevalence. Egypt is expected to jump to 9th position by 2025 [11]. Structured diabetes self-management education (DSME) is the key to a successful outcome [12]. The objective of this work is to evaluate the effectiveness of the current educational interventions for children and adolescents with type 1 diabetes applied at the Diabetes Endocrine Metabolism Pediatric Unit (DEMPU), Children’s Hospital Cairo University. Specifically, it addresses the following research questions: Evaluation of the quality of education program and defining the points of strength and weakness of this program.

Type of study: Observational longitudinal study. Duration: during the period between October 2011 and April 2012. Population of the study: 100 cases of T1D admitted in Diabetes Endocrine and Metabolism Pediatric Unit (DEMPU) inpatient section, Cairo University, Egypt. Exclusion criteria: T1D who admitted to inpatient word of DEMPU with classic symptoms of hyperglycemia or DKA and had five sessions of educational program; age range from 2 to 14 years with a male to female ratio 1:1. All patients were subjected: Complete history taking, full clinical and Anthropometric examination and Questionnaire conducted before the education program and after the completion of program. The program was conducted by diabetes specialist, nutritionist, practical trainer, psycho social worker and was conducted in 5 days. Patient and their parents attended this programme in group (8 to 12 patient or their families). Consists of 5 sessions (90-120 minute each). Session 1 (General information about T1D, session 2) Diabetes nutrition, session 3) Insulin injection, sites, types of insulin and its actions, session 4 (Diabetes complications including hyperglycemia and DKA, session 5) Awareness about follow up and psychological support. All statistical calculations were done using computer program's SPSS (Statistical Package for the Social Science; SPSS Inc., Chicago, IL, USA) version 15 for Microsoft Windows (Armitage and Berry's, 1994).

Mean age of the studied groups was 8.60 ± 3.64 years. The majority (84%) were newly diagnosed while only 16% (16%) were diagnosed more than 6 months before the onset of this study. Evaluation the quality of the education Program: As regards diabetes knowledge, it was significantly improved after attending the education program as illustrated in table 1 and figure 1. Regarding the role of diet in management diabetes, there is marked increase (but not satisfactory) in knowledge about proper nutrition as shown in table 2. There was a great deficit in CHO counting as only 52% could not count CHO after the education session and Comparison between the two groups, the 1st group who could calculate CHO and the 2nd group who couldn't calculate CHO after attending the session was illustrated in table 3, in this study there was highly statistically significant increase in diabetes hyperglycemia knowledge and management of diabetes during exercise as shown in table 4.5, there was significant improvement in mean HbA1c after attending educational sessions (8.38 ± 1.77%) than before (9.08 ± 1.63%) in the old 16 diabetic children with p-value (0.00). It was found increase awareness about role of family history in developing T1D, as before education session about 68% of interviewed family answered wrong (yes there is role, don't know) but after education session 97% knew that diabetic parents were not responsible for the affection of their children with diabetes, and 100% of interviewed parents gained the information that they couldn't adjust blood glucose without insulin after education. There was increased school awareness about this nature of child disease (T1D), as 94% of the studied children and their families reported that their schools were aware about the child disease and 92% of them allow their children to share in school activities. Linear regression analysis showed that the only factor which has an effect on HbA1c was total post education score.

The present work showed the efficient points of the education program at DEMPU as identified as:
1. Knowledge about the nature of T1D.
3. The importance of regular attendance to the follow up clinics and Hba1c regular assessment.

RECOMMENDATIONS: Change the way to explain CHO counting as this was the non efficient point identified in this study. CHO counting session has to attend several times to refresh the knowledge about diabetes nutrition. Another study to discuss different methods that may be used to enhance knowledge about CHO counting and how to evaluate them. Media alert to T1D to decrease DKA as first presentation, this should include high index of suspicion for the physicians as well as the general population.

References:

