

## 6<sup>th</sup> Global Diabetes Summit and Medicare Expo

November 02-04, 2015 Dubai, UAE

## Dietary intake and glycaemic control of children and adolescents with type 1 diabetes: Kuwait's Experience

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**Objective:** The aims of this quantitative, prospective cohort pilot study is to compare the habitual diet of children and adolescents with T1DM against the International Society for Paediatric and Adolescents Diabetes (ISPAD); and to examine the association between nutritional intake with haemoglobin A1c (*HbA1c*) among children and youth with T1DM attending Dasman Diabetes institute (DDI).

**Methods:** Children and adolescents (N=40, mean age=12.3 years, SD=0.9 years, mean *HbA1c*= 9.0, SD=1.8) reported on youths' dietary intake via 3-day food diary. Dietary intake was scored using The Food Processor Nutrition Analysis Software and glycaemic control was assessed by measurement of *HbA1c*.

**Results:** According to the ISPAD recommendations, we found 12.5% exceeded the limits for carbohydrate intake, whereas 55% met the recommendation and 32.5% consumed less the recommendation. In addition, 7.5% consumed more protein than the recommendations and 32.5% met the recommendations, whereas 60% consumed less amount of protein compared to the recommendations. Fifty percent exceeded the limit of total fat intake and only 15% consumed less than the recommendations and 35% met the recommendations. Overall, of this sample, only 7.5% of the study subjects met all ISPAD recommendation of carbohydrate, protein and dietary fat intake. Further, no significant correlation was found between children's *HbA1c* and carbohydrate intake (r=0.092, p=0.103). There was also no significant correlation between children's *HbA1c* and protein intake (r=0.056, p=0.508). However, a statistically significant negative correlation was found between *HbA1c* and total fat(r=-0.543, p=0.002).

**Conclusion:** Fifty percent did not meet ISPAD recommendations for total fat intake. This may place them at increased risk factor for diabetes-related complications, specifically cardiovascular disease in the future. Thus, a new approach about healthy eating, or alternative interventions are required to improve the individual's health outcome.

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