

**Adenovirus-36 seropositivity among children in the UAE:
is there a link with diabetes and obesity?**

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Introduction: Adenovirus-36 (Adv36) causes obesity in animals and is associated with human obesity. Several pediatric populations studied had an average infection prevalence of 26%. There is a high prevalence of obesity and diabetes in the Middle East, but there are no data on Adv36 in this population.

Methods: We assessed the link of Adv36 with diabetes and obesity among 430 children (age: 11.9 ± 3.2 years; 69% female, 31% male) attending a large Diabetes Centre in Abu Dhabi, UAE. Anthropometric measures, fasting glucose and diabetes status were recorded. Overweight was defined as BMI $\geq$ 85th centile for age. Adv36 serostatus was assessed by ELISA (Obetech, USA).

Results: Results have been summarized in fig 1. Overall, the prevalence of Adv36 seropositivity (Adv36+) was 34% and was higher in females (38%) compared to males (24%) and among T1DM patients (40%). Overweight children with T1DM had the highest Adv36+ rate of 50%. Female T1DM and normal fasting glucose (NFG) patients had similar Adv36+ rates. However 38% of male patients with T1DM were Adv36+ compared to only 20% of males with NFG.

Conclusions: These data indicate a higher rate of Adv36+ in UAE children compared to other areas and an association of type 1 diabetes, particularly in males, with Adv36+. Adv36 may be a potential contributing factor to the higher rate of obesity and diabetes in children in the Middle East.

Fig 1-Adv36 seropositivity in different patient groups

NFG-normal fasting glucose, NW-normal weight, OW-overweight,
IFG-impaired fasting glycemia

