Diabetes Children's Insulin Programme in Kenya

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Diabetes in Kenya

- Increase in number of children with Type 1 DM over past decade
- DM in children is often diagnosed late, presenting in DKA most of the time
- Management of DM in children is poor due to:
  - Poor knowledge about DM and its management among diabetic children and their families
  - Poor access to a constant supply of insulin
  - Poor storage of insulin
  - Absence of regular blood sugar testing
  - Lack of access to a nutritionally adequate diabetic diet
  - Poor social and psychological support for the diabetic child

Kenya Diabetes Management and Information (DMI) Centre

- A not- for- profit registered medical charity
- Founded May 1999
- Operational October 1999

Mission:

- To develop a comprehensive diabetes education programme help to improve understanding of diabetes & create more public awareness on diagnosis, care, control & predisposing factors

DMI Aims & Objectives

- Increase awareness, knowledge and management of diabetes mellitus among the public and healthcare personnel

- Encourage patients recognize the importance of good blood glucose control - avoid complications

- Provide information about diabetes complications and enable people live with diabetes without sacrificing quality of life and well-being

Introduction: Diabetes Insulin Project

- Project partners: WDF and DMI Centre
- A 5 year project, commenced August 2008
- **Project Objectives:**
  - To improve the management of diabetes and quality of life of children living with type 1 DM

Methodology

- Type 1 DM children, aged 15 years and below, who were poorly controlled due to lack of a constant supply of insulin, were identified from selected diabetes centres countrywide

- Children and parents / guardians were re-educated on diabetes management emphasising on – diet, insulin, exercise, sick day rules, blood glucose monitoring etc.

- Each child was supplied with a glucometer, strips, diabetes diary, monthly supply of insulin, needles and syringes

Methodology

- Demographic data, random blood sugar, HbA_{1c} were recorded for each child at time of enrolment

- Daily blood sugar readings were measured and recorded in the diary

- Glucometer readings were downloaded during monthly review sessions at DMI Centre

- Urinalysis was done at 3 monthly intervals

- Measurements of HbA_{1c}, heights and weights were repeated at 6 monthly intervals

Newly enrolled beneficiaries receiving equipment from project partners

Table 1: Clinical and demographic characteristics of children at enrolment

Male: Female ratio	16 : 25
Age (years)	12 (4.0 – 15.0)
Diabetes duration (years)	3.0 (0.1 – 11.0)
BMI	16.5 (12.4 – 23.5)
HbA_{1c} (%)	13.6 (3.2 – 18.4)
Data are medians (ranges)	

Table 2: Number of Hospital admissions

Condition	6 months	12 months	18 months
Hyperglycaemia	3	3	0
Stomach problems	2	0	0
Typhoid	1	0	0

Conclusion

- Constant supply of insulin has improved the management of Type 1 DM in this project as evidenced by:
  - Reduction in daily blood sugar concentrations
  - Reduction in HbA_{1c}
  - Reduced hospital admissions
  - Improved academic performance
  - Enhanced participation in sports
  - Growth parameters

Children, parents / guardians and project partners at an annual meeting

Acknowledgements

- WDF - funding
- Children and parents / guardians
- CAFKID Programme Organisation – 3 monthly urinalysis
- DMI staff and volunteers