



Benefits Of Switching Insulin From Twice Daily To Multiple Daily Injections On Glycaemic Control In Children With Type 1 Diabetes Mellitus (T1DM) In Sri Lanka at Lady Ridgeway Hospital

Atapattu N¹, Vithanage V¹

Endocrinology and Diabetes Unit, Lady Ridgeway Hospital, Sri Lanka

Introduction

- Metabolic disease
- Characterised by chronic hyperglycaemia
- Due to impaired insulin secretion
- T cell mediated (auto immune) pancreatic beta cell destruction
- Clinically manifest when 90% of beta cells are destroyed

Aims of Therapy

- Good glycaemic control
- Prevention of hypoglycaemia/DKA
- As little as possible impairment of
 - Physical
 - Psychosocial development
- Near normal life style compared to an unaffected child

Objective

Effect on glycaemic control in children with T1DM after the change of insulin regime to multiple daily injections from twice daily insulin Regime

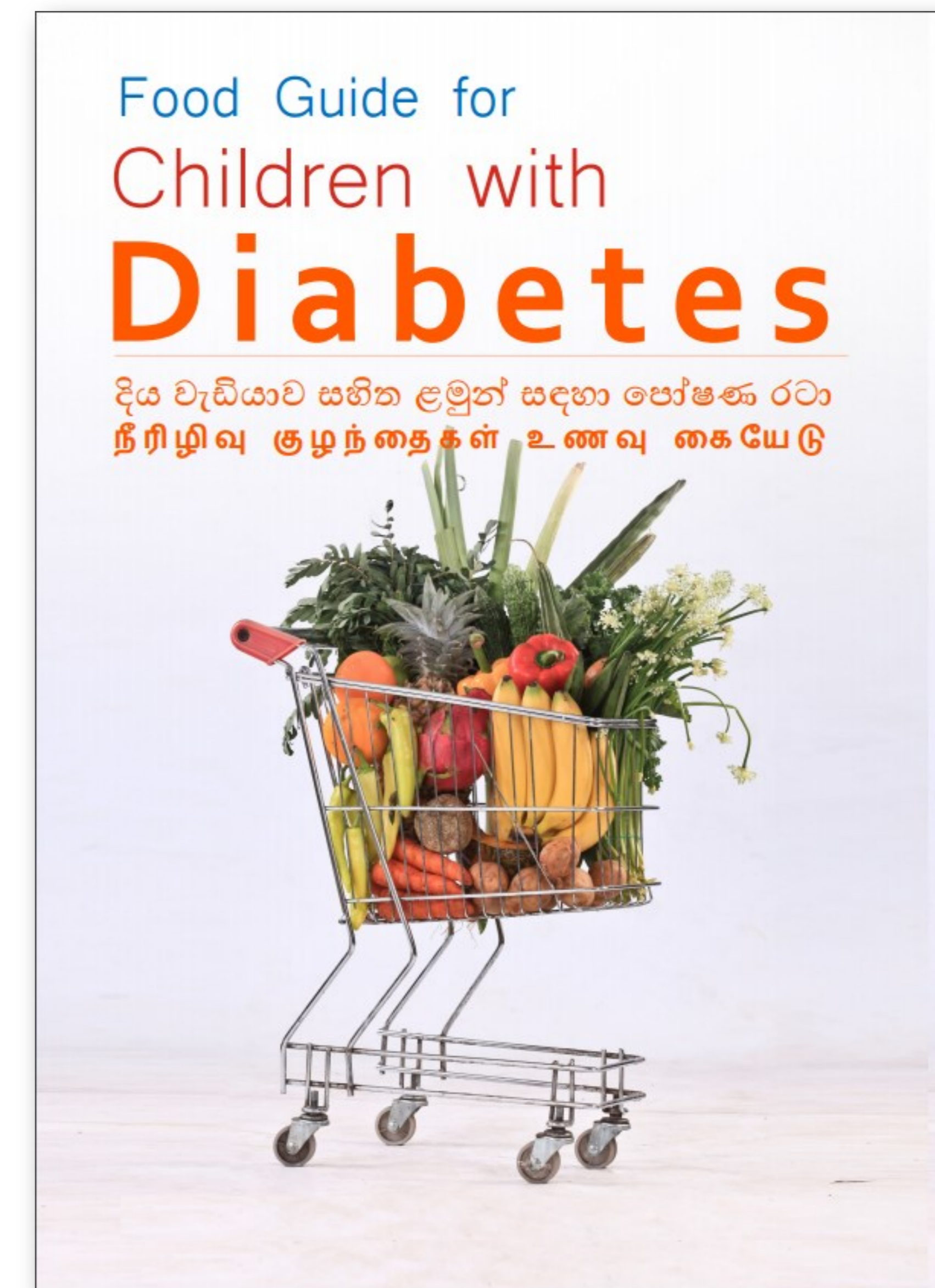
Methodology

- Children attending diabetes clinic with poor glycaemic control were recruited
- Ethical approval obtained from Lady Ridgeway Hospital
- Longitudinal observational study
- All parents and children were taught on carbohydrate counting
- Parents were given the opportunity to contact the unit/ investigators frequently
- Patients were closely monitored by contacting them every 3 days initially until they are confident on carbohydrate counting
- Food diaries were maintained
- Frequent blood sugar monitoring (3-4/day)
- Symptoms of hypoglycaemia and management was explained.
- HbA1c Prior to initiation of new regime, 3 months , 6 months after the change in insulin regime were recorded
- Major hypoglycemic episodes were recorded

Exclusion Criteria

- Those who are not willing to take multiple injections
- Those who had social issues to give lunch time insulin
- Those who had good glycaemic control while on twice daily injections

A guide book was prepared for carbohydrate counting



Results

- Forty children were included
- 37 %were male
- Mean age at the commencement of the study was 9 years 3 months(range from 2 years 3 months -14 years and 8 months)
- Mean HbA1c at the start of the treatment-9.815 %
 - At 3 months 8.66 %
 - At 6 months 8.32 %
- The change in HbA1c from the baseline to 3 months and 6 months was significant with a P value of < 0.01
- There were no major hypoglycaemic events during the study period
- There was no significant difference in BMI during the 6 months period

Conclusion

Change in insulin regime from twice daily to multiple daily insulin resulted in significant improvement in glycaemic control over 3 months and 6 months.

No major hypoglycaemic events were recorded.

Limitations

- Small sample size
- Unable to compare the hypoglycaemic episodes (mild/moderate) while on twice daily and MDI regimeMean age at the commencement

Authors have nothing to disclose