



A Bespoke Blend Of MCT In The Management of GLUT1-DS



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Objective

To assess the impact of a bespoke blend of MCT (K.Vita) in the dietary management of Glucose Transporter Type 1 Deficiency Syndrome (GLUT1-DS) in children and young people.

Introduction

K.Vita is a unique, patented, strawberry-flavoured medical food containing 80:20 of C10:C8 triglycerides. It is prescribable in the UK for the dietary management of drug-resistant epilepsy (DRE) from 3 years of age. Typical intake of K.Vita for a child is one pouch (120ml) per day with a maximum of two pouches (240ml) daily, or to provide a maximum of 35% of daily energy requirements. K.Vita should be taken at regular intervals, three or four times daily with food.

Method

A retrospective case note review was completed at Royal Manchester Children's Hospital including children and young people with a confirmed diagnosis of GLUT1-DS who were prescribed K.Vita as a medical food. Data was collected including baseline characteristics, compliance, adverse effects and outcomes at 3- and 12-month time points.

Treatment schedule

Patients were provided with a 4-6 week introduction plan to achieve their target daily dose of K.Vita in 3-4 daily doses. It took a median of 6 weeks to reach the target dose of 120-240ml with a range of 3-24 weeks. Delays in introducing K.Vita were reported to be secondary to anxiety about gastrointestinal side effects.

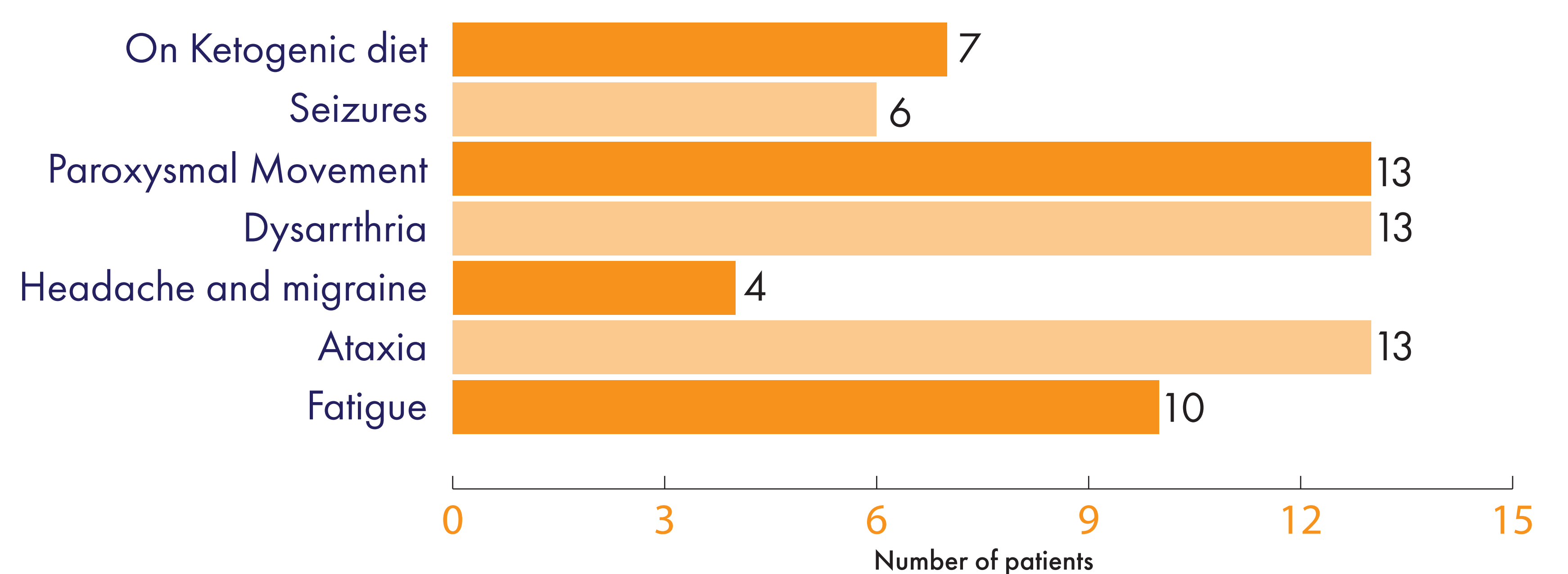
Compliance

77% (10/13) were compliant with the treatment schedule. Three patients discontinued K.Vita due to poor compliance and/or limited impact. Two patients who struggled with compliance noted improvements in headaches and energy levels with K.Vita and return of symptoms when non-compliant. K.Vita was well tolerated with reports of only mild or transient gastro-intestinal discomfort.

Cohort

13 patients – 8 male, 5 female
Age range at introduction 3-17 years (median age 11 years)
K.Vita was introduced to help with symptom management which included; seizures, paroxysmal movement disorder or migraine.
Seven patients were concurrently on the ketogenic diet and in therapeutic ketosis. K.Vita was included to replace the equivalent quantity of LCT or MCT fat source, so the dietary ratio was not altered.

Baseline Characteristics

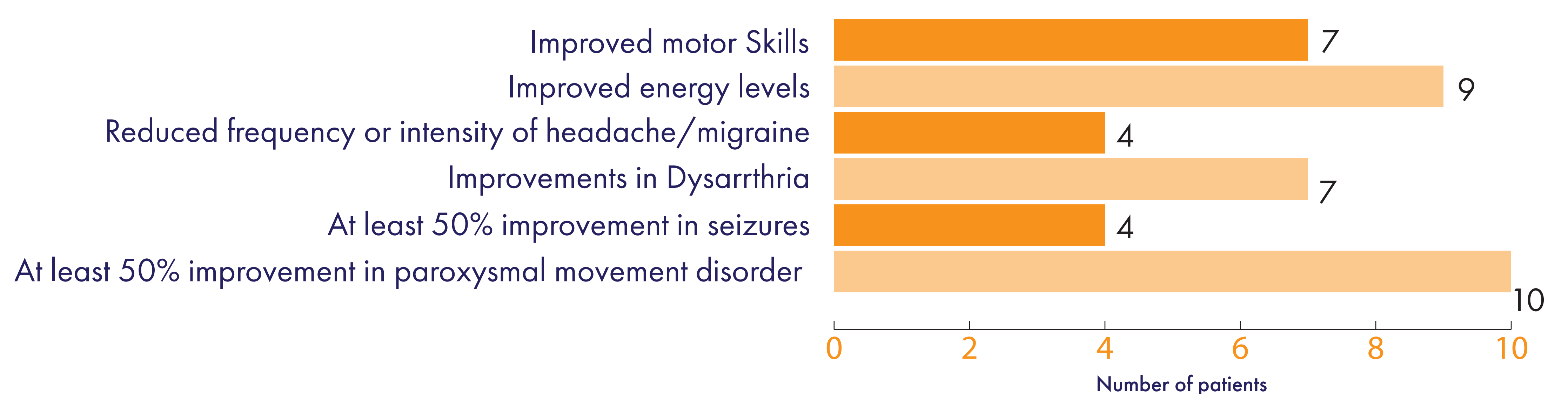


Outcomes at 3 months

Those who were compliant with the treatment schedule noted improvements in symptoms within 3 months of reaching the target dose. Three of the seven following Ketogenic Diet noted improvements in ketones



Outcomes at 3 Months

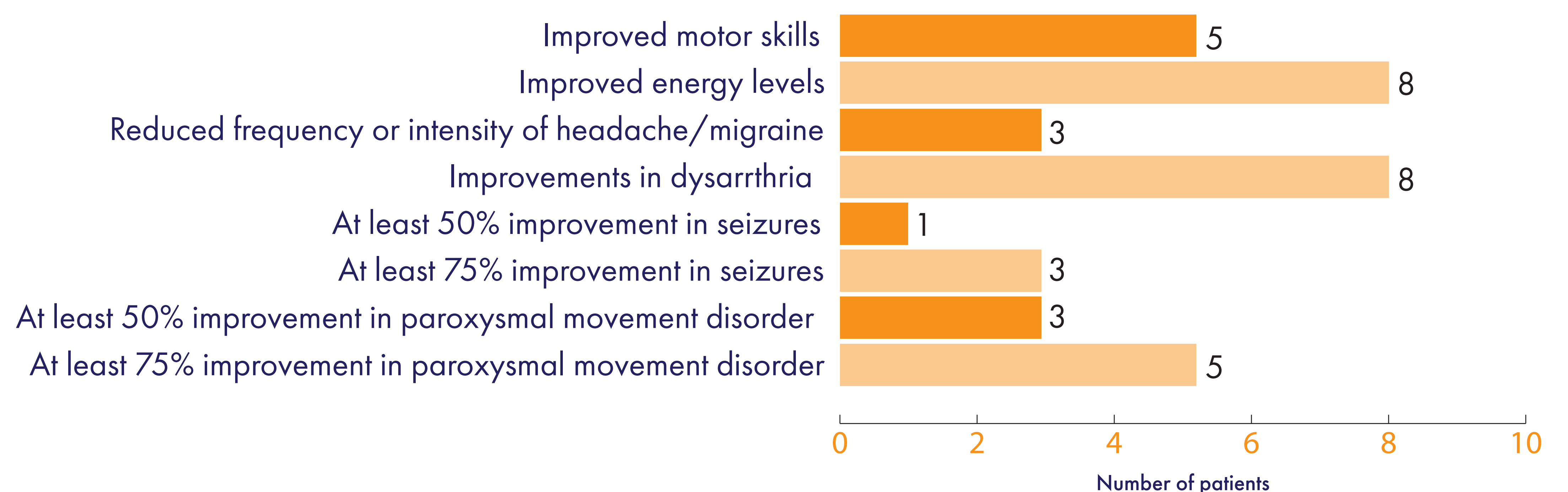


Outcomes at 12 months

Eight of the 13 patients have been taking K.Vita over 12 months. With sustained or improved symptom control.



Outcomes at 12 months



Conclusion

K.Vita is a promising and well tolerated addition to the options available for the dietary management of GLUT1-DS and its associated symptoms. Interestingly it has shown benefits in the non-seizure manifestations including dysarthria and paroxysmal movement disorders. It has also shown benefit for those not following a ketogenic diet.