Using ‘HypoKits’ as a Tracer for Evaluating Episodes of Hypoglycaemia:
Technicians Driving Clinical Research

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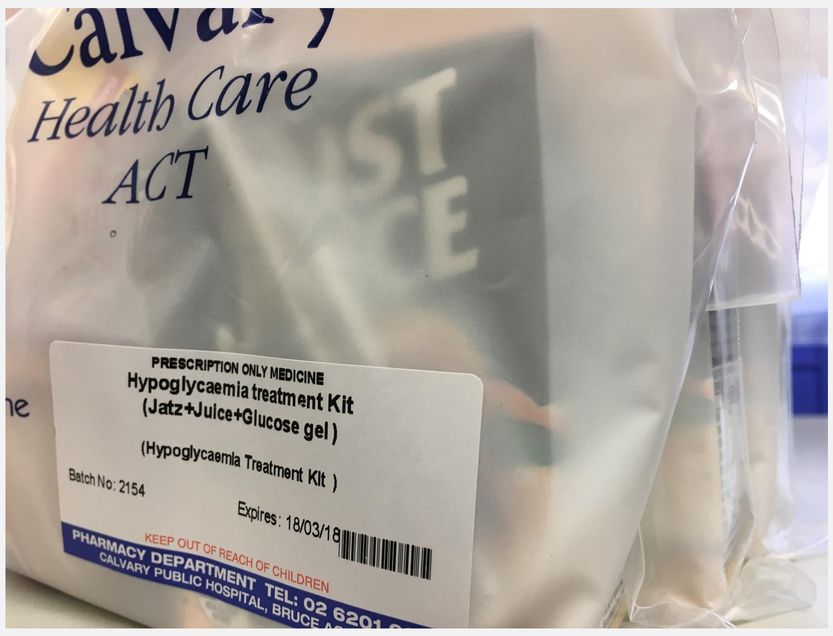
BACKGROUND

The hospital procedure for hypoglycaemia management (BGL < 4mmol/L) in adult patients with diabetes mellitus requires the oral administration of a fast acting 15g tube of glucose gel or a 200mL carton of 35% fruit juice. This is followed with 15g of slow acting carbohydrate in the form of six Jatz™ biscuits. These three products are pre-packaged and stocked on the wards as a ‘Hypoglycaemia Kit’ (HypoKit).

The pharmacy technicians are responsible for pre-packing and distributing the HypoKits to the wards. Conscious of the workload involved in preparing the kits, the technicians raised the issue that over 500 HypoKits per annum were being manufactured and distributed, and questioned whether this reflected the actual number of episodes of hypoglycaemia occurring in our 250 bed general hospital.

AIMS

- To retrospectively audit the use of the Hypokits and determine whether they were being used for a hypoglycaemic episode or misused
- If the number of HypoKits used reflected the number of hypoglycaemic episodes, then convene a multidisciplinary team to determine if the occurrence of hypoglycaemic episodes requires further investigation



METHODS

In conjunction with the diabetes educators, the technicians developed an audit form which was attached to each HypoKit

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The form collected data on the patient ID, date, time, BGL reading, and which components of the kits were administered

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Pharmacy technicians posted signs in each ward and engaged with nursing staff to encourage the completion of the audit form each time a HypoKit was used

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Technicians presented the project plan to a meeting of the clinical pharmacists. Clinical pharmacists assisted the technicians to identify patients who had received a HypoKit if an audit form was not completed

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Data was collected over a five week period from 14th October 2016 to 26th November 2016

RESULTS

- During the audit period, 65 HypoKits were distributed across six wards which reflected the average usage
- 45 audit forms (82%) were completed and returned
- BGL’s prior to administration of the HypoKit ranged from 1.7 to 4.2 with an average of 3.0
- The time of the day the HypoKit was administered was recorded for potential further investigation into contributing factors such as mealtimes and insulin administration times
- The data was shared with the Diabetes Education Service for further research into the reasons for the incidence of hypoglycaemic episodes and to improve hypoglycaemia management
- A multidisciplinary team consisting of a diabetes educator, pharmacists and a pharmacy student has since been convened to prospectively repeat the audit and determine further actions

CONCLUSION

The results of the audit determined that the number of HypoKits being distributed did reflect the number of hypoglycaemic episodes and that the HypoKits were being used appropriately according to the Hypoglycaemia Management Procedure. The audit highlighted the need to further investigate if hypoglycaemia can be potentially avoided or better managed.

This audit, proposed and conducted by the Pharmacy technicians, demonstrates how a simple project can act as a ‘tracer’ for a complex clinical issue requiring investigation and improvement. Pharmacy technicians can be involved in multidisciplinary clinical research, from identifying an issue, to designing the project and undertaking the data collection to ultimately improve patient care.