

Redesign the Care Process of Epilepsy Paediatric Patients To Increase Caregiver's Epilepsy Management Knowledge

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Introduction

Epilepsy is common in Singapore children (incidence of 25 per 100,000 person-years) [1]. It has significant impact on caregivers and patients, especially at seizure onset and diagnosis [2, 3]. Accurate information and counseling at the point of diagnosis promotes coping and long-term adjustment skills and reduces misconceptions [3, 4]. Currently, caregivers of newly diagnosed children with epilepsy do not receive standardized epilepsy counselling tool, resulting in poor caregiver knowledge retention and repeated epilepsy management-related enquires. Prior studies identified education as crucial to improve compliance [5]. The aim is to implement a standardized epilepsy counselling tool to increase caregiver knowledge on epilepsy and seizure management.

Epilepsy Action Plan (Figure 1)

The EAP document is divided into several sections:

- Figure 1A: How to position your child in the recovery position?** - Includes diagrams showing the correct posture for a child during a seizure.
- Figure 1B: Rectal Diazepam** - Includes diagrams showing how to administer rectal diazepam.
- Figure 1C: How to administer Rectal Diazepam?** - Includes diagrams showing the correct technique for rectal diazepam administration.
- Epilepsy Management in Children** - A central graphic with a photo of a child and text: "PATIENTS AT THE HEART OF ALL WE DO".
- Epilepsy Action Plan** - A checklist for healthcare providers to complete, including:
 - Parent's/Doctor's Name and Address
 - Medication 1 and 2 (Name, Dose, Frequency)
 - When child is stable or having about seizure (5 minutes) and recovers fully afterwards
 - When child is not stable or seizure continues (more than 5 minutes)
 - When child has another seizure or several seizures
 - When child has a seizure with loss of consciousness
 - When child has a seizure with loss of consciousness and injury
 - When child has a seizure with loss of consciousness and injury and loss of consciousness
 - When child has a seizure with loss of consciousness and injury and loss of consciousness and injury
 - When child has a seizure with loss of consciousness and injury and loss of consciousness and injury and loss of consciousness

Methods

The current care process comprises verbal instructions by multiple healthcare providers.

Solution: Design and implement an Epilepsy Action Plan (EAP) to improve caregiver knowledge retention of Epilepsy & Seizure Management and aid empowerment (See figure 1).

Unique design for

- Standardized counseling
- Easy to read, with step-wise instructions
- Literacy-friendly colour-printed pictorial guide on
 - Epilepsy medication usage
 - First aid seizure management
 - Emergency medication administration

Measure:

- Caregiver knowledge score- before and 2 weeks after implementing the EAP.
- Satisfaction of caregivers and 35 non-neurology trained healthcare providers (doctors, nurses and pharmacists) on the new implementation
- Percentage enquiries from caregivers before and after the implementation of the EAP.

Results

35 caregivers of patients with seizures or newly diagnosed epilepsy who required rectal diazepam at discharge received the EAP.

Impact on Caregivers:

- An average knowledge improvement score of 12% ($P < 0.001$) (Graph 1).
- Satisfaction Survey - 100% strongly agreed EAP is:
 - Useful
 - Informative
 - Clearly written
 - Aids knowledge retention
 - Empowered self-management

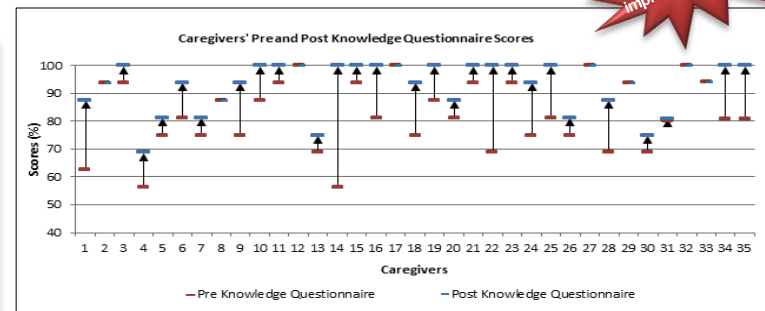
Impact on Non-Neurology Trained Healthcare Providers (doctors, nurses and pharmacists):

- Satisfaction Survey - 100% agreed or strongly agreed EAP is: (Graph 2a,b,c)
- ✓ Educational tool for healthcare professionals
- ✓ Standardizes epilepsy counseling/ seizure first aid

Impact on epilepsy management-related enquiries:

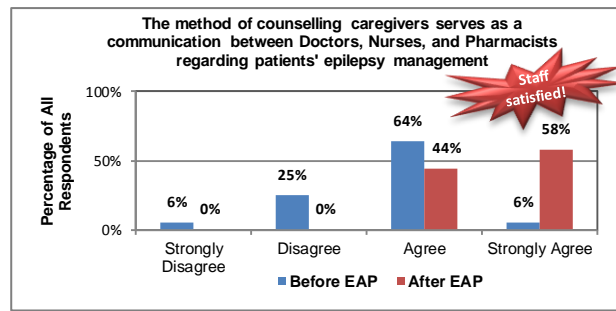
- 0% first aid-related calls from EAP patients (unnecessary enquiries).
- Man-hours saved on repeat counselling translates to approximately **\$9600** per year (Graph 3).

Knowledge improvement score (Graph 1)



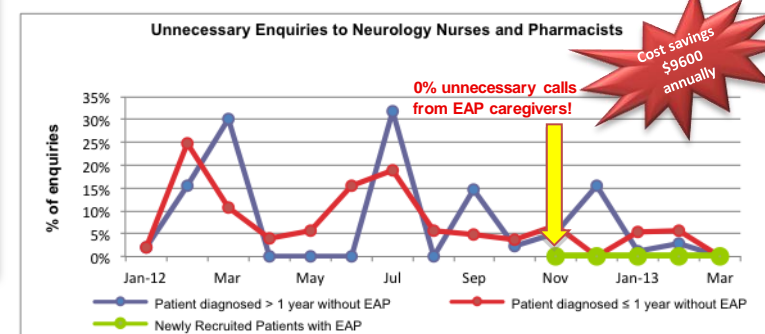
Knowledge improved by 12%!

Non-Neurology Healthcare Staff (Graph 2a,b,c)

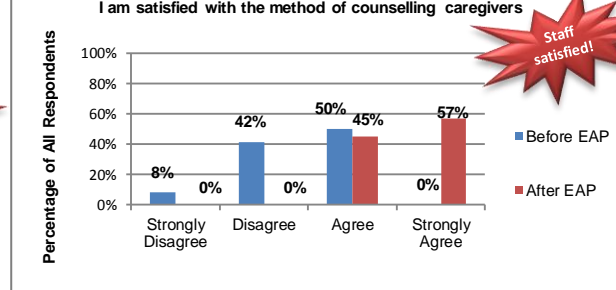


Staff satisfied!

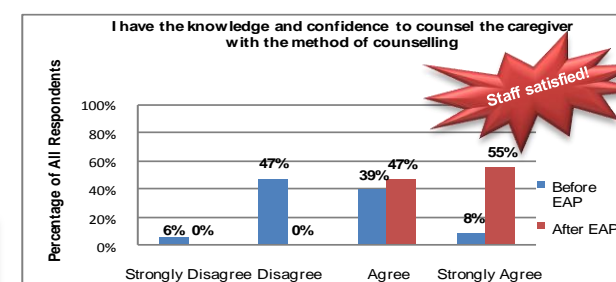
Unnecessary Enquiries & Cost saving (Graph 3)



Cost savings \$9600 annually



Staff satisfied!



Staff satisfied!

Conclusions

The Epilepsy Action Plan:

- Was well received caregivers and healthcare professionals.
- Had significant impact on caregivers' knowledge retention, empowerment and self-management.
- Enables epilepsy paediatric patients to receive prompt first aid treatment from their caregivers and hence improve patient safety.

The EAP is a simple yet useful and cost-effective solution, with low cost in terms of printing and man-hours required to provide the structured educational counselling.

References

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Sustainment

This easy-to-use tool will be adopted by the hospital with the guidance of the Neurology team and supported by Medical Affairs and Department of Paediatric Medicine.

Interest has been shown to implement it overseas in the National Health Service in the United Kingdom, hospitals in the United States and as part of educational initiatives for the International League Against Epilepsy.

Acknowledgement

Dr Derrick Chan, Head and Consultant of Pediatric Neurology
Ms Lee Siew Kum, Assistant Director of Nursing
Ms Pang Nguk Lan, Deputy Director of Medical Affairs
Ms Janice Lim, Principal Pharmacist Head of Outpatient Pharmacy