



Improving the Self-Efficacy of Caregivers of Children with Seizures Using Simulation and Evidence-Based Practice

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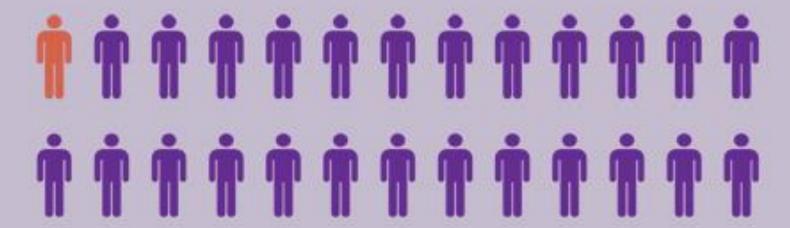
Disclosures

We have no financial disclosures or conflicts of interest related to the material in this presentation





Over a lifetime, 1 in 26 people will be diagnosed with epilepsy.







Welcome to CookChildren's.







Background: Internal

- Nursing survey evaluating pre-intervention seizure education:
 - Caregiver comfort to respond to a seizure at home
 - 95.83% of nurses rated caregiver comfort as ranging from only somewhat comfortable to very uncomfortable
 - How often caregivers express anxiety, fear, or stress related to seizures at home
 - 79.1% of nurses reported this happens often to very often
- Readmission data
 - 39.2% of readmissions on the inpatient neurosciences unit are seizure related





Background: External

- Epilepsy is a common condition in children
- A lack of self-efficacy to respond to seizures may result in negative consequences for both the child and the caregiver
- Self-efficacy is linked to caregiver well-being





Project Purpose

 Improve the self-efficacy of caregivers of children with seizures to respond to a seizure outside of the hospital environment

 PICOT Question: For caregivers of children with seizures (P), is simulation training (I), compared with no simulation training (C), effective in increasing self-efficacy to respond to a seizure outside of the hospital environment (O) within a 3-month project implementation period (T)?





Literature Synthesis

- Initial search yielded 1,043 articles from CINAHL (921), MEDLINE (37), and Academic Search Complete (85)
- Removed duplicate articles, articles with no full text, and irrelevant articles
- Review of evidence-based interventions suggested simulation would most effectively address the project's purpose
- 10 articles included in critical appraisal
- Simulation was feasible for the organization and supported by the project team





Methods: Sample and Setting

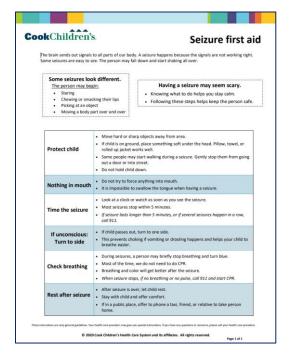
- 31 caregivers
- · Recently diagnosed with seizures or recent change to seizure rescue plan
- Recruitment via collaboration with neurology
- 3 month pilot
- Facility-wide implementation





Methods: Intervention

- Private 45 min to 1 hour training session
- Customized to child's seizure rescue plan
- Review of seizure first aid and hands on practice with actual rescue medication administration
- High-fidelity seizure response simulation with human-patient simulator









Methods: Measures

- Demographic survey
- KidSIM-ASPIRE Parent Seizure Self-Efficacy Questionnaire by Sigalet et al.
- Program satisfaction survey





Findings: Demographics

- Age
- Gender
- Level of education
- Marital status
- Race
- Ethnicity
- Relation to the patient



Findings: Self-Efficacy

KidSIM-ASPIRE Parent Seizure Self-efficacy Questionnaire Pre- and Post-Intervention Analysis

	Item	Pre-simulation median	Post-simulation median	z-score	<i>p</i> value	Effect size (r)
A. How sure a	are you that you know when your child is eizure?	3.0	5.0	-3.533	<.0001	.45
seizure at l	are you that you can manage your child's home rather than calling 911 or driving to the emergency department?	3.0	4.0	-4.662	< .0001	.59
or drive yo	are you that you know when to call 911 our child to the emergency department are having a seizure?	3.0	5.0	-3.236	.001	.41
	are you that you can protect your child when having a seizure?	3.0	5.0	-4.182	<.0001	.53
	are you that you can place your child in ry position?	3.0	5.0	-4.283	<.0001	.54
	are you that you will carry the rescue ns on you at all times?	4.0	5.0	-3.07	.002	.39
	are you that you can follow the directions stering the rescue medication correctly?	4.0	5.0	-3.619	<.0001	.46
	are you that you can draw up the correct scue medication when your child is eizure?	3.0	5.0	-3.915	< .0001	.50
	are you that you can administer your cue medications during a seizure?	3.0	5.0	-4.065	<.0001	.52
rescue me	are you that you can administer the dication if your child has a seizure for n 5 minutes?	3.0	5.0	-4.312	<.0001	.55
	are you that you know the emergent side effects of your child 's dications?	1.0	5.0	-4.641	<.0001	.59
	are you that you can assess your child 's during a seizure?	2.0	5.0	-4.381	< .0001	.56

Note. Item column reflects questions included on the KidSIM-ASPIRE Parent Seizure Self-efficacy Questionnaire (Sigalet et al., 2014). p = <0.05. small effect size (r) = 0.1, medium effect size (r) = 0.3, large effect size (r) = 0.5 (Cohen, 1988).





Findings: Program Satisfaction

"Thank you"

"I learned more about how to give rescue medications"

"I am much more comfortable in caring for (my child) in case of any long seizures"





Limitations

- Logistical challenges and scheduling
- Differing levels of caregiver knowledge
- Survey item confusion
- Caregiver concern





Why did this work?

- Leadership support
- Facilitator schedule
- Close collaboration with Neurology team





Incidental Discoveries

 Psychogenic Non-Epileptic Seizures (PNES)

• CPR

Unexpected teaching opportunities



Infant CPR birth to 1 year

Decide if responsive

- 1. Gently tap bottom of baby's foot.
- 2. Support baby's head.
- 3. Place on firm surface.
- If baby does not respond send someone to call for help and get an Automated External Defibrillator (AED).

Chest compressions

- 1. Move clothes out of way.
- Place 2 fingers on breast bone, just below nipple line.
- 3. Push down about 1 ½ inches.
- 4. Give 30 fast pushes.
- Push at a rate of at least 100 to 120 times per minute.
- 6. After 30 pushes, give 2 breaths.

Give breaths

- Make tight seal with your mouth over baby's nose and mouth.
- 2. Give 2 slow breaths.
- Be sure baby's chest rises with each breath.
- Resume pushes after 2 breaths even if chest does not rise.





Send someone for help



Give 30 fast compressions.

Rate of at least 100 to 120 a minute



Give 2 slow breaths.

Take 1 second for each breath

Continue CPR until help comes.

Keep pushing until:

- · The child responds.
- · Another person with more training takes over.

After 2 minutes of CPR, call 911.

These instructions are only general guidelines. Your health care providers may give you special instructions.

If you have any questions or concerns, please call your health care providers.

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Long-Term Impact: Nursing

	Pre-Intervention	Post-Intervention
Caregiver comfort to respond to a seizure at home	4.17% of nurses rated caregiver comfort as comfortable to very comfortable	100% of nurses rate caregiver comfort as comfortable to very comfortable
How often caregivers express anxiety, fear, or stress related to seizures at home	79.1% of nurses reported this happens often often	16.7% of nurses rate this happens often

100% of surveyed nurses <u>strongly agree</u> that the Simulation Seizure First Aid Course appropriately teaches caregivers what to do in an emergent situation

100% of surveyed nurses <u>strongly agree</u> that the Simulation Seizure First Aid Course leaves families **more prepared** than traditional discharge strategies





Long-Term Impact: Patients & Caregivers

• 95% of patients who completed the course with a known seizure outside of the hospital had their seizure medication administered correctly

Ongoing evaluation of seizure readmission rates



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Questions?





