

Demystifying an adherence problem-solving intervention: An in-depth exploration of family-identified adherence barriers and solutions

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Introduction: Barriers to medication adherence are common in pediatric epilepsy and associated with medication nonadherence. Medication nonadherence leads to suboptimal seizure outcomes, decreased quality of life, and increased healthcare costs. To address adherence barriers, an education and problem-solving intervention, the Supporting Treatment Adherence Regimens (STAR) randomized controlled trial, was tested in 2-12 year-olds with epilepsy and their families. The problem-solving approach involved five steps: 1) Identify the problem, 2) Brainstorm solutions, 3) Evaluate the solutions, 4) Choose a solution, and 5) Implement the solution. The present study aimed to examine family-identified adherence barriers and solutions addressed by STAR. **Methods:** Two-hundred youth were recruited for the trial. Twenty-seven youth ($M=7.5+2.9$; 59.1% female) were randomized to STAR and completed three face-to-face and two telephone problem-solving sessions over 8 weeks. Using thematic analysis, sessions were independently coded and coding discrepancies were resolved via consensus. **Results:** Thematic coding resulted in 10 identified adherence barriers, including overall forgetting (38-57%), change of routine (14-24%), competing activities/demands (5-19%), defiance/opposition (0-9%), transition of responsibility (0-5%), running out of medication (0-10%), forgetting during travel (0-10%), medication as not a priority (0-5%), medication taste (0-5%), and pill swallowing (0-5%). Eight different solution types were chosen and implemented, including environmental cuing (29-50%), multi-pronged solutions (0-24%), reward systems/positive reinforcement (14-23%), availability of back-up doses (0-14%), medication/refill tracking (0-10%), parental modeling of adherence behavior (0-5%), pill swallowing intervention (0-5%) and other (0-5%). Solution types were also coded as parent-directed, youth-directed, or a collaborative solution. **Conclusions:** This study details primary adherence barriers faced by families of children with epilepsy and solutions implemented to address them. Results may provide guidance on how clinicians can best intervene and problem solve with families when faced with these barriers and identify solutions that are targeted and amenable to their needs.

Keywords: Pediatric epilepsy, problem solving, intervention, adherence, qualitative



Scan for references

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PRESENTER:

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BACKGROUND:

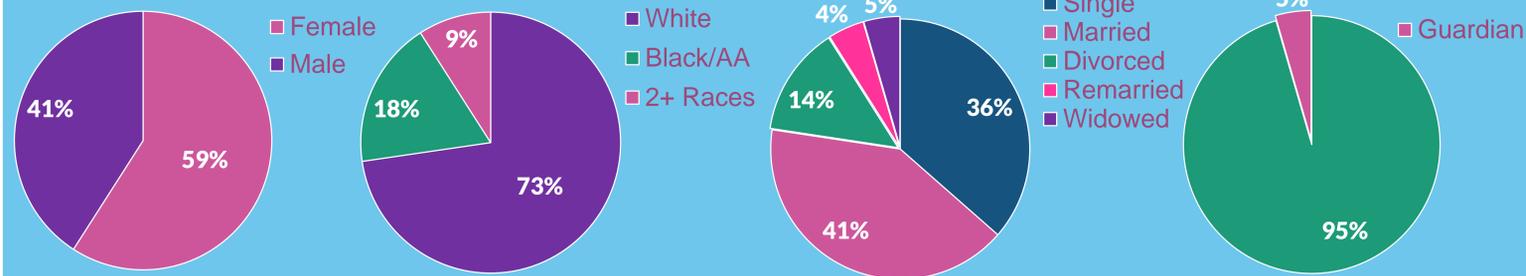
- **Nonadherence** to antiepileptic drugs (AEDs) is a **significant concern** for ~60 of youth with epilepsy¹
- To address adherence barriers, our team developed an **education & problem-solving intervention: Supporting Treatment Adherence Regimens (STAR)**²
- Despite demonstrated efficacy of multi-component interventions, **we lack specificity in identifying barriers and solutions** generated by families & their applications to clinical practice, which is **the aim of the present study**

METHODS

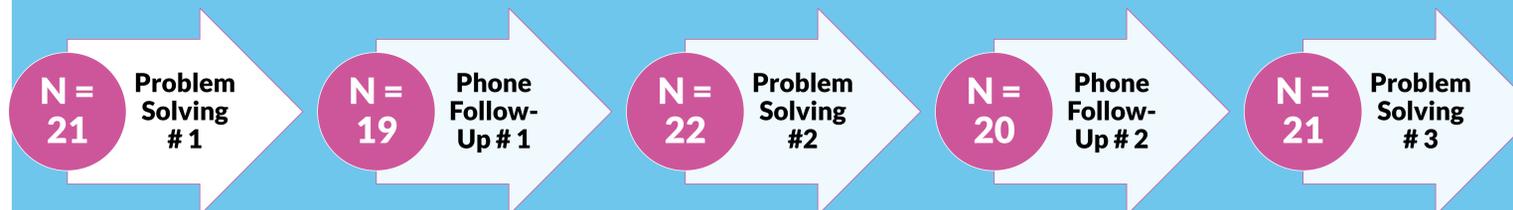
- The current study was conducted as part of a larger RCT trial of 200 children with epilepsy
- **Participants:** 27 youth (2-12 years) & their caregivers randomized to STAR:
 1. Epilepsy diagnosis w/in 7 months & prescribed an oral AED
 2. AED adherence <95% across 30 days
 3. Resides \leq 75 miles & English-speaking
- **STAR Procedures:** See Modi et al. (2020) →
- **Data analysis:** descriptive statistics (demographics) & thematic coding³ of adherence barriers and generated solutions
- Qualitative data was coded by the first & senior authors (97% agreement)

Sample Descriptives (n = 22)

$M_{age} = 7.5 (SD=2.9)$

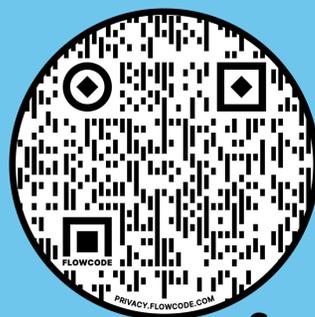


- **Forgetting** was the most common barrier identified by families
- **Environmental Cuing** was the most common solution generated by families



- Solutions generated by families were often **attempted** ($\geq 90\%$ of the time) & **remained unchanged over time** ($\geq 84\%$ of the time)

- **Solution Target:**
 - Child: 38-41%
 - Parent: 27-33%
 - Collaborative: 29-33%



Scan for more details on the STAR intervention & trial

RESULTS

Coding of problem-solving sessions & phone follow-ups resulted in the following themes:

- **Adherence Barriers Identified by Families**
 - **Overall Forgetting (38-57%)**
 - **Change of Routine (14-27%)**
 - **Competing Activities/Demands (5-19%)**
 - Forgetting During Travel (0-9%)
 - Out of Medication (0-10%)
 - Opposition/Defiance (0-9%)
 - Pill Swallowing (0-5%)
 - Medication Taste (0-5%)
 - Transition of Responsibility (0-5%)
 - Medication Not a Priority (0-5%)
- **Solutions Generated by Families**
 - **Environmental Cuing (29-50%)**
 - **Multi-Pronged Solutions (0-24%)**
 - **Reward/Reinforcement (14-23%)**
 - Back-up Doses (0-14%)
 - Medication/Refill Tracking (0-10%)
 - Parental Modeling (0-5%)
 - Pill Swallowing Intervention (0-5%)
 - Other (0-5%)
 - Parent/Guardian Reminders (0%)

DISCUSSION

- Barriers & solutions identified in the current study support the extant literature⁴
- **Results may guide clinicians** on how to **intervene & problem solve** with families when faced with adherence barriers & **direct them to solutions** that are targeted & amenable to needs