Tailored Medication Adherence Incentives for High-risk Children with Asthma: A Pilot Study

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While reminder-based electronic monitoring systems have shown promise in enhancing inhaled corticosteroid (ICS) adherence in select populations, more engaging strategies may be needed in families of children with high-risk asthma. This study assesses the acceptability and feasibility of gain-framed ICS adherence incentives in families of urban, minority children with frequent asthma hospitalization. We enrolled children aged 5-11 years with multiple yearly asthma hospitalizations in a 2-month, mixed methods, ICS adherence incentive pilot study. All participants received inhaler sensors and a smartphone app to track ICS use. During month 1, families received daily adherence reminders and weekly feedback, and children earned up to $1/day for complete adherence. No reminders, feedback, or incentives were provided in month 2. We assessed feasibility and acceptability using caregiver surveys and semi-structured interviews and ICS adherence using electronic monitoring data. Of the 29 families approached, 20 enrolled (69%). Participants were primarily Black (95%), publicly insured (75%), and averaged 2.9 asthma hospitalizations in the prior year. Fifteen of the 16 caregivers (94%) surveyed at month 2 liked the idea of receiving adherence incentives. Mean adherence was significantly higher in month 1 compared with month 2 (80% vs. 33%, mean difference = 47%; 95% CI [33, 61], $p < 0.001$). Caregivers reported that their competing priorities often limited adherence, while incentives helped motivate child adherence. ICS adherence incentives were acceptable and feasible in a high-risk cohort of children with asthma. Future studies should assess the efficacy of adherence incentives in enhancing ICS adherence in high-risk children.

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