

Interventions to Reduce Secondhand Smoke Exposure in Head Start Children

Anne Turner-Henson^{1*}, Yu-Mei Schoenberger², MPH, Naomi Goldberger²,
Connie L. Kohler², Nalini Sathiakumar², Roni Grad³,
University of Alabama at Birmingham School of Nursing¹,
School of Public Health², and School of Medicine³
Birmingham, AL, USA
Supported by CDC Special Interest Project

Introduction

- Secondhand smoke exposure in young children:
 - Number one respiratory irritant
 - Results in increased risks for:
 - Acute respiratory infections (bronchitis, pneumonia)
 - Otitis media
 - Exacerbations in chronic respiratory conditions (asthma, cystic fibrosis)¹
- Estimates of secondhand smoke exposure in US children's homes range from 11.7% to 34.2% based on number of homes with an adult smoker²
- Previous research has primarily focused on adult-based interventions in hospital or clinic settings.

Purpose

The purpose of this study was to conduct a process evaluation of a community based intervention designed to reduce preschool children's exposure to second hand smoke.

Methods

- Child interventions were conducted in 2 Head Start Centers
 - 4 month period
 - 10 intervention sessions
- Intervention had 3 primary performance objectives:
 1. Awareness of dangers of secondhand smoke
 2. Knowledge of the dangers of exposure
 3. Skills in avoiding secondhand smoke exposure
- Learning activities
 - Consisted of:
 1. Classroom activities
 2. Homework activities to be completed by mother and child
 - Utilized to promote active learning and involve the parents in the child's activities
- Key intervention strategies
 - Promote child's self-care ability to avoid secondhand smoke
 - Enhance child's ability to communicate with the parent regarding these health behaviors (avoiding secondhand smoke)

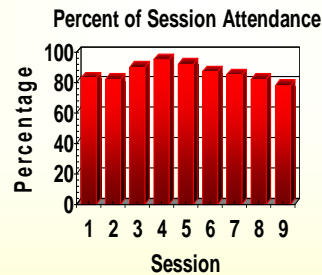
Results

Sample Characteristics (N=139)

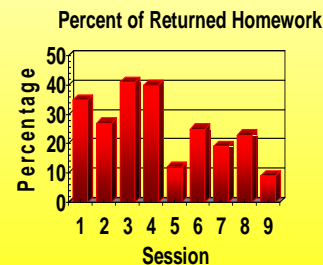
- Average age = 4 years
 - Mean = 4.14
 - SD = 0.65
- Gender
 - 55% Male
 - 45% Female
- Race
 - 97.9% African American
 - 1% Hispanic
- Primary Caregiver
 - 83% Mother
 - 7.5% Grandmother
 - 9.5% Other Relative

Child Intervention

- 139 children were enrolled in the intervention study
- All children enrolled in the Head Start Center program received the intervention sessions
- An average of 86.95% enrolled children attended all sessions (Range by classroom 80.7 – 93.8%)
 - This reflects a high attendance rate for the children considering the typical increased rates of school absences due to winter/spring respiratory illnesses



- Homework sheets (usual Head Start program weekly activity)
 - Sent home after each session
 - Children who returned homework received a food coupon
 - Average of 27.5% of children returned homework sheets (Range by classroom 6.94 - 42.3%)



Conclusions

- While attendance was high in the intervention program, participation through returning homework assignments was low.
- Homework sheets were designed to promote the child's ability to communicate with the parents regarding new learned health behaviors (how to avoid secondhand smoke).
- Analysis of exposure rates (by biomarkers and parental self-report) is ongoing.
 - Secondhand smoke exposure (urine cotinine) at baseline accounted for 60% of the sample.
- Programs such as Head Start may facilitate the delivery of health messages to high-risk preschool children.
- Future studies are needed to determine if child-focused interventions can impact a child's ability to demonstrate new self-care behaviors outside the learning environment and communicate these with parents.



References

- ¹Institute of Medicine [IOM] (2000). Clearing the air: Asthma and indoor air exposures. National Academy of Sciences.
- ²CDC (1997). State-specific prevalence of cigarette smoking among adults, and children's and adolescents' exposure to environmental tobacco smoke – United States, 1996. MMWR, 46, 1038-1043.