Integrating Injury Prevention Messages into Home Visitation Programs with Lay Educators

Shelli Stephens Stidham, Maria Colunga, Carla Mowell,
Ursula Johnson, Gregory R. Istre
Injury Prevention Center of Greater Dallas; Parkland Health & Hospital System

BACKGROUND

Home Visitation Programs

- Proven effective when using professionals (nurses) at reducing certain injuries (child maltreatment)
- Limited data about the efficacy of the use of non-professionals in these programs
- The Injury Prevention Center (IPC) partnered with Texas Home Instruction for Parents of Preschool Youngsters (HIPPY), an established education-oriented home visitation program
  - Targeted two burn prevention messages with measurable outcomes
    - Smoke alarm (SA) prevalence
    - Hot water temperature (H2O temp)

AIM

To measure the impact of a burn prevention intervention on working smoke alarm prevalence and hot water temperature in Irving, Texas.

METHODS--Intervention

- Two sites selected
  - Intervention (Irving, TX)
  - Comparison (Dallas, TX)
- IPC staff provided training to HIPPY home educator in the intervention group.
  - Smoke alarm placement and testing
  - Decreasing the hot water temperature for the household.
- Home educators provided literature and verbal educational messages about the importance of SAs and appropriate H20 temp (i.e., < 120 F) to parents.

METHODS-Evaluation

- Trained IPC staff assessed working SA status and tap hot water temp in each intervention and comparison home initially and 2 months later.
- An additional written survey was completed on participants only in the intervention group, which included a question on the most important factor that led to the household making a change.
- A total of 96 families in the Intervention site, and 99 families in the Comparison site, had complete data for the evaluation

STUDY

	Intervention Site (Irving, TX) N=96	Comparison Site (Dallas, TX) N=99
Pre Test	Measure smoke alarms in home and hot water heater temp	Measure smoke alarms in home and hot water heater temp
Intervention	Instructor provides education on smoke alarms and hot water temperature	
Post Test	Measure smoke alarms in home and hot water heater temp HIPPY educator completes survey on participants	Measure smoke alarms in home and hot water heater temp

RESULTS

Smoke Alarm Results

	Intervention		P-value	Comparison		P-value
	Pre	Post		Pre	Post	
Working SA	77% (74/96)	86% (83/96)	<0.02** O.R.=5.5 (1.2-24.8)	73% (72/99)	75% (74/99)	NS** O.R.=1.5 (0.04-5.3)
Average # Working SA	1.5	1.7	0.01**	1.6	1.7	NS**
Optimal SA*	39% (37/96)	45% (43/96)	NS** O.R.-4.0 (0.9-18.8)	34% (34/99)	37% (37/99)	NS** O.R.=4.0 (0.5-35.8)

*Optimal smoke alarm prevalence is defined as having at least as many smoke alarms as sleeping areas.
**By matched pairs analysis, comparing Pre vs. Post time periods. O.R.=Odds Ration (95% C.I.)

Hot Water Temperature Results

	Intervention		P-value	Comparison		P-value
	Pre	Post		Pre	Post	
Average H2O Temp	126.7	124.2	<0.01*	124.9	122.8	<0.02*
<120 degrees	32% (31/96)	42% (40/96)	0.012** O.R.=5.5 (1.2-24.8)	35% (35/99)	43% (43/99)	0.049** O.R.=3.0 (0.97-9.3)
>120 average temp decrease	-3.7		<0.01*	-3.9		<0.01*
>140 average temp decrease	-14.5		<0.01*	-8.4		NS*

*By Paired T-Test
**By matched pairs analysis, comparing Pre vs. Post time periods. O.R.=Odds Ration (95% C.I.)

- Of the 84 participants in the Intervention site who needed to obtain a SA and/or lower H20 temp, **23 (27%) made at least one documented change** and 40 (48%) reported trying to make a change; in all, 63 (75%) either were successful at making a beneficial change, or attempted to do so.

Reported Reason(s)* for Making/Attempting to Make Change

Reason	No.	%
Encouraged by HIPPY educator	15	24%
Individual checking SA or H20 temp	17	27%
Written information provided	12	19%
Other	15	24%

*Participants could have multiple responses.

LIMITATIONS

- Although the measurement of hot water temp and SA function was done by an uninvolved evaluator, the follow-up survey of participants' reason for action, etc., in the Intervention site was self-reported.
- We had no follow-up survey in the comparison group, to assess whether the measurement of temp and SA function was a factor in their making a change.

CONCLUSIONS

- By several measures, the intervention group had statistically significant improvements in hot H2O temp and working SA prevalence compared to baseline measurements.
- The most common reason reported for making or attempting to make these changes, was the fact that someone had come into the residence and checked the H2O temp and SA function.
- The Comparison group also had some significant improvements, although the magnitude was not as great as in the Intervention group.
- It is likely that in the Comparison group, having someone check the H2O temp and SA function is what resulted in the beneficial changes seen in this group as well; there was likely a "contamination" effect by measuring the baseline status of the comparison population.

SIGNIFICANCE/CONTRIBUTION TO THE FIELD

Using non-professional educators to incorporate injury prevention messages into an existing home visitation program may be an effective way to increase working SA prevalence and improving H2O temp, especially if it includes physically checking the status of SAs and H2O temp.

It is difficult to evaluate community-based interventions because the act of evaluating (i.e., checking SA/H20 temp) in the Comparison site may also alter behavior, as described by the "Hawthorne effect," which demonstrated that behaviors may be altered by the study itself, rather than the effects the study is researching.