

Increasing Car Seat Use for Toddlers from Inner-City Families

ABSTRACT

Barbara Louis, PhD, and Michael Lewis, PhD

Objectives. The purpose of this project was to increase toddler car seat use in low-income minority families.

Methods. Families from Newark, NJ, were divided into two study groups. Both groups were given car seats; one group also received education regarding car restraint use. Observations were made of car seat use before car seat distribution, immediately after distribution, 4 to 5 months later, and 1 year later.

Results. Car seat use increased markedly immediately after distribution and remained high 1 year later, regardless of education.

Conclusions. These results indicate that distributing car seats results in long-term use among a currently low-use population. (*Am J Public Health*. 1997;87:1044-1045)

Introduction

Despite the fact that car seat use has been shown to be effective in reducing injury and death to children under 4 years of age who are passengers in cars,^{1,2} many parents do not use car seats for their children or use them incorrectly. Car seat use has been found to decrease as children get older, and toddlers have been found to receive less protection from motor vehicle-related injuries than infants.^{1,3-6}

While the rate of car seat use for the population as a whole has been found to be quite high,⁷ a lower rate has been found among low-income families.^{8,9} Loaner programs have contributed to increased use of car seats among the general population.¹⁰⁻¹³ However, these programs have shown only short-term effects in low-income communities,¹⁴ with little or no change in long-term behavior after the end of the lease period.^{15,16}

The purpose of this project was to increase the use of car seats for toddlers from low-income minority families by providing them with their own car seats. The role of education was assessed in regard to its effectiveness in further increasing the use of car seats once they become available.

Methods

Fifty-three families from nine day-care centers in Newark, NJ, a primarily low-income urban minority community, participated. (Seventy-eight families originally participated in the study. As a result of the transient nature of this population, subject loss to follow-up resulted in 53 families who had been observed both before receiving car seats and 1 year later. Data from these 53 subjects paralleled those of the entire sample.) A convenience sample was obtained on the basis of questionnaires and observations indicating that these families did not have car seats for their toddlers. Observations of car seat usage were conducted by trained teachers on two occasions when families picked their toddlers up from day care.

As a means of testing the effect of knowledge on car seat use, parents were randomly divided into two groups. One

group received car seats and instructions on their use (car seat only group; $n = 25$). The other group received an additional 1-hour education session on the importance of using car restraints designed and presented by an expert in the field of highway traffic safety (car seat and education group; $n = 28$).

Observations of use after car seat distribution were conducted in the same manner as the preintervention observations. Each family was observed within 1 month of receiving their car seats, 4 to 5 months after receiving their car seats, and 1 year after receiving their car seats.

Results

The two observations at each time point were pooled into a single score. Prior to car seat distribution, 6% of the toddlers were in car seats. After receipt of car seats, 83% of the children were observed in car seats (by McNemar test; $P < .0001$). At observations 4 to 5 months later, 74% of the children still were in car seats (by McNemar test; $P < .0001$); at 1 year, the rate was 60%. Sixty percent represents a significant decline from the rate found immediately after distribution (by McNemar test; $P = .03$) but still constitutes a significantly greater use rate than at preintervention (by McNemar test; $P < .0001$). Age of the children was likely to have been a significant factor in this decline, 51% of the sample children being 4 years of age or older at the 1-year observation.

The rate of car seat use also was analyzed as a function of education. Before car seats had been distributed, 4% of the toddlers in the car seat only group (one child) and 7% of those in the car seat and education group (two children) were reported to be using car seats. Immediately after car seats had been received, use

The authors are with the Institute for the Study of Child Development, University of Medicine and Dentistry of New Jersey—Robert Wood Johnson Medical School, New Brunswick, NJ.

Requests for reprints should be sent to Michael Lewis, PhD, UMDNJ—Robert Wood Johnson Medical School, 97 Paterson St, New Brunswick, NJ 08903.

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increased significantly for both groups, to 84% and 82% for the car seat only and car seat and education groups, respectively (by chi-square analysis; $P < .0001$). Five months later, the increase over the predistribution rate remained significant (by chi-square analysis; $P < .0001$); the rates were 83% for the car seat only group and 65% for the car seat and education group. One year after car seats had been distributed, there were no differences in use between groups (60% and 61% for the car seat only and car seat and education groups, respectively). Both groups continued to show a significant increase over their predistribution rate 1 year after they had received car seats (by chi-square analysis; $P < .001$).

Discussion

This study shows that providing low-income families with toddler car seats increases car seat use, even up to 1 year later. Why do inner-city families not use car seats for their toddlers? We tested the possibility of lack of knowledge regarding the importance of car seats by assigning parents to a group that received a car seat or to a group that, in addition to a car seat, received a 1-hour education session on the importance of car restraint use. No group differences were found. This suggests that lack of knowledge, as currently interpreted by experts in the field and presented in this project, does not explain the low use of car seats among the families in this study.

In addition to discomfort for the child and inconvenience for the parents,¹⁷ cost has been cited by parents as a considerable barrier to car seat use.^{17,18} The results of this study support that belief. When poor families were given car seats, either with or without education, they used them and continued to use them 1 year later. This suggests that access to car seats was the deciding factor in car seat use.

These results corroborate past findings on other safety-device giveaway programs¹⁹⁻²² and indicate that provision

of car seats to poor inner-city families is the intervention most likely to result in high use of car seats in a population not currently using them. Establishing a program in which car seats are given to poor families who qualify is likely to be effective in increasing the use of car seats for toddlers. Such a program could ultimately be cost-efficient, since it might decrease the number and severity of injuries now occurring as a result of toddlers not using car seats. □

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