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Project SafeCare: Improving Health, Safety, and Parenting Skills in Families Reported for, and At-Risk for Child Maltreatment

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Project SafeCare was a 4-year, in-home, research and intervention program that provided parent training to families of children at-risk for maltreatment, and families of children who were victims of maltreatment. Parents were trained in treating children's illnesses and maximizing their own health-care skills (Health), positive and effective parent–child interaction skills (Parenting), and maintaining low hazard homes (Safety). The effectiveness of these training components was evaluated as the change in the parents' scores on roleplay situations for child health problems, hazards present in the home, and the frequency and quality of parent–child interactions during activities of daily living. Statistically significant improvements were seen in child health care, home safety, and parent–child interactions.

KEY WORDS: health; safety; bonding; parenting skills; abuse; neglect; child maltreatment; parent–child interactions.

The number of child abuse and neglect reports has soared over the past 20 years. The most recent national data based on information from 44 U.S. States report that approximately 984,000 children were maltreated in 1997 (U.S. Department of Health and Human Services, 1999). These data reflect an increase in reported victims of child maltreatment from 931,000 in 1986 (Sedlack & Broadhurst, 1996).

Research has led to the identification of multiple factors that contribute to child maltreatment. This includes the discrimination between "good" and "bad" parenting, and the effect of these parenting abilities on the long-term outcomes for their children (Dore & Lee, 1999). Many current intervention programs for child maltreatment focus on improving the parenting skills of maltreating parents, and on teaching good parenting skills to at-risk parents.

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The two major intervention approaches that have been used with maltreating parents are based on cognitive–behavioral strategies and social support. These approaches have also been adapted within the context of home visitation, and multiple-component programs (Wolfe & Wekerle, 1993). These current intervention approaches take into account the multiple factors that parents face (e.g., resources, stress, poverty, marital discord, lack of social support) that are associated with child maltreatment (Azar *et al.*, 1998; Belsky, 1984).

Multiple-component programs and home visitation programs offer several services to families based on need. They focus on decreasing child maltreatment and preventing the removal of children from their homes by improving parental knowledge of child development, changing parental attitudes towards their children, improvement of the home environment, and linking parents to available community-based resources. Examples of services offered by such programs include basic skills training, stress reduction, assertiveness training, money management, home safety, substance abuse referrals, job training, and parent–child interaction training (Lutzker, 1994; Schellenbach, 1998).

There are many studies using single-case research designs that demonstrate the efficacy of using specific

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behavioral techniques or a combination of techniques in individual cases of child maltreatment; however, few program evaluations of comprehensive, multifaceted treatment programs can be found in the literature (Wolfe, 1992). Starr (1990) reviewed the grant-funding patterns from 442 grants for the National Center on Child Abuse and Neglect for a period of 4 years. This analysis showed that program funding in the United States focused on intervention and prevention programs that did not have any empirical evidence supporting the efficacy of the interventions. Overall, 66% of the programs lacked any research or evaluation component. Although an impressive array of programs was funded, there was little evidence of which intervention components constituted the most effective programs.

Some interventions appear to be more successful than others. For example, the greatest reduction in posttraining recidivism, even though the differences were small (Henggeler *et al.*, 1992; Kolko, 1996; Lutzker & Rice, 1987) have incorporated specific parent training components that use modeling, practice and feedback of parenting skills, in addition to traditional parent education. Conversely, the programs that do not show significant changes in posttraining incidents of child maltreatment (Blythe *et al.*, 1994; Cohn & Daro, 1987) offer only general community services, such as support groups, lay therapies, and parent education classes, without specific focus on training parents in specific skills.

Project 12-Ways is aimed at the prevention and intervention of child abuse and neglect in rural southern Illinois (Lutzker, 1984). It uses a multifaceted approach involving parental, social, and environmental factors. After an in-depth assessment of the home has been conducted, parents are taught to address the areas of childcare and family living specific to the problems identified in the assessment process. All services are provided directly in the clients' homes, schools, foster care settings, and daycare. Services have included basic skills training (toilet training, basic hygiene), skills related to job-finding, money management, health maintenance, nutrition, home safety, problem-solving skills, parent–child interactions, and stress reduction (Campbell *et al.*, 1983; Delgado & Lutzker, 1988; Sarber *et al.*, 1983; Tertinger *et al.*, 1984). Parents were also provided referrals for substance abuse (Lutzker *et al.*, 1984). Project 12-Ways has been in continuous operation since 1979.

Project SafeCare, an in-home, 4-year, research and intervention program for parents reported for, and at-risk for, child abuse and/or neglect, was a systematic replication of Project 12-Ways (Lutzker *et al.*, 1998). Like Project 12-Ways, Project SafeCare provided in-home services. Project SafeCare, however, only provided teaching in 3 of the 12 components provided by Project 12-Ways. These were child health care (referred to as health), parent–child interactions (referred to as parenting), and home safety and accident prevention (referred to as safety). These particular components were chosen because they met the mission of the funding source, were well validated, and had much potential for dissemination. Further, these components were designed to be trained succinctly, whereas in Project 12-Ways services were provided over a longer time period. Finally, unlike Project 12-Ways, which assessed the needs of each individual family and then provided intervention based on those needs, Project SafeCare offered the same three components to all families.

The intervention goals of Project SafeCare were to improve parenting skills and reduce future occurrences of maltreatment. The purpose of this study was to examine the aggregate of pre–post differences in the three training components of all families who completed each component.

METHOD

Participants

The Project SafeCare sample included families at risk for, as well as families with histories of child maltreatment. There were two sources of referrals to Project SafeCare: the Department of Children and Family Services (DCFS) that referred families with recent reports of child maltreatment (referred to as Maltreating Families), and a local hospital that referred families without a history of child maltreatment, but who were considered at-risk for child maltreatment (referred to as At-Risk families). The local hospital was selected because it served the same geographic area that Project SafeCare served and because the hospital staff was willing to participate in the study. The at-risk families were referred by social workers at the maternity center based on the risk for child maltreatment due to the parents' age, the lack of a social support network, and a low level of education.

Project SafeCare only accepted referrals from the referral source if the target children were between the ages of birth and 5 years old, if the family lived in the local service area, and if the report in the case of DCFS families, was for physical abuse or neglect. Any referrals that reflected additional reports for sexual abuse or substance abuse by the parents were only accepted if the family was enrolled in some other form of intervention that addressed those issues specifically.

A significant percentage of the 266 families initially referred to Project SafeCare dropped out of the program before assessment or before intervention was completed.

Table I. Level of Participation of Families Referred to Project SafeCare

Level of participation	Number of families	
	Total	%
Total families referred to Project SafeCare	266	100
Families who would not give consent to participate	61	23
Families who participated in some baseline data collection but no intervention	92	35
Families who participated in some intervention but did not complete all 3 training components	49	18
Families who completed all 3 training components	41	10

Of the 266 initial referrals, 80 families completed training in health care skills, 52 of those 80 families completed the safety-training component, and 41 of those families completed parent–child interactions training. Table I shows the degree of participation of the families served by Project SafeCare.

Procedures and Data Collection

Project SafeCare was designed for brief intervention. The entire program from the first day of face-to-face contact, during which baseline data collection began, until the completion of training in all three components was designed to last approximately 24 weeks.

The three training components of Project SafeCare were generally taught sequentially, beginning with health training, followed by safety training, and then parenting. This order was followed because the baseline data collection for health could be completed in a short period, which allowed intervention to begin. If a family presented a hazardous home environment, however, safety was trained first. Each of the intervention components was taught over the course of five sessions. If the family was unable to meet the training criterion of each component in this period, one additional training session in that component was provided, resulting in a maximum of six training sessions per component. The parents' performance in achieving the goals of each of the three teaching components was assessed individually using direct observation in role-play situations.

Once the families were referred to Project SafeCare, an initial contact was made with the family and an appointment for the first home visit was scheduled. During the first home visit, parents were requested to sign an informed consent giving permission to Project SafeCare staff to conduct the interviews, administer the assessment measures, and obtain medical records from their physician's office and from local hospitals. The families also acknowledged that Project SafeCare staff were mandated reporters of child maltreatment and would be required to report any suspicions of child maltreatment.

Project SafeCare staff members collected all data throughout the study. Baseline measures of safety and parenting were collected toward the completion of training in health and safety, respectively.

Infant and Child Health Care

The health component of Project SafeCare was designed to teach parents to identify the symptoms of common childhood illnesses and provide the appropriate intervention to their children (Bigelow & Lutzker, 2000). This included a determination of the type of intervention the illness required: self-treating at home by the parent, calling the doctor, or urgent care at a hospital. In addition, parents were trained on techniques to prevent illness and maintain general good health.

Parents were trained in health care using a series of role-play scenarios that depicted different childhood illnesses and health-related problems. The parent received scenarios from each of three categories of illnesses: those that could be treated at home by the parents (self-treat); those that required calling the doctor; and those that required an emergency room visit.

After reading a scenario (e.g., diaper rash), the parent was asked to state the problem, identify the symptoms, decide what form of intervention was necessary, read the instructions on how to administer the medication/intervention, check the symptoms at specific time intervals, readminister intervention if necessary and terminate the intervention when appropriate. Parents were provided with a health checklist and a health recording chart to aid them in following the correct steps for treating the illness.

Parents were presented with a health manual that gave information regarding the use of the manual, planning for the occurrences of an illness, prevention of illnesses, self-treating illnesses at home, consulting a physician or calling for emergency intervention (Bigelow & Lutzker, 2000). This manual was validated by over 20 health care professionals. In addition, the A-Z Symptom and Illness Guide was provided which enabled parents to identify illnesses based on symptoms. Once the symptoms were identified, the parent could then use the manual to find a description of the illness and information, which specified whether the illness could be treated at home or needed physician consultation. Project SafeCare also provided basic health supplies to the parents such as thermometer, a medicine dropper, and antibiotic ointment.

The parent was typically trained in a total of five sessions. Each training session consisted of a discussion of information contained in one chapter of the health manual, training by the counselors, and one or two role-play scenarios. Training included the use of instruction, modeling, parent practice, and feedback from the counselor with positive practice of the steps that were not completed correctly.

The training session began with one role-play scenario and the completion of the task analysis for that scenario. The counselor then reviewed the task analysis with the parent and discussed the rationale for each of the steps. The counselor modeled the steps of the task analysis while treating the illness depicted on the role-play scenario card. Next, the parent was asked to practice these steps. The staff once again rated the parent's performance on a new scenario. The counselor then provided the parent with performance feedback and modeled any other steps that the parent neglected to perform. The parent then practiced the steps, the counselor scored performance again, and feedback was provided to the parent.

During the first baseline session for health training, a 10-item true/false quiz was administered to parents to assess their general knowledge of health care. Following the quiz, baseline performance measures of the parent's actual behavior on five different role-play scenarios was assessed. Parental behavior during the scenario (the steps required when identifying and treating illnesses) was evaluated using a task analysis that had been written by Project SafeCare and validated. The parent's score was determined by the percentage of correct responses for each role-play scenario. Baseline data collection was typically conducted in a total of two or three sessions.

After completion of baseline data collection, the health manual and symptom guides were provided to parents. Parents were initially given the manuals without any training on how to use them. Research assistants returned the following week and conducted one more role-play scenario to assess whether the parents would consult the manual without any prompting or training on how to do so. After this assessment had been conducted, health training began. Training was typically delivered in a total of four sessions. The fifth training session consisted of three role-play scenarios which provided parents with the opportunity to meet the training criterion of 100% correct performance on one scenario from each of the three categories: self-treatment, calling the physician, and urgent care. If, however, the parent was unable to meet criterion after these five sessions, one additional training session was conducted.

Eighty families completed health training which was delivered in different training modes: graduate student training; caseworker (from DCFS); video training; and, in one case, training by a nurse. Caseworkers from DCFS were selected and trained by Project SafeCare staff to deliver services. The videos consisted of the same training procedures as was used in vivo. Parents were requested to pause during the videos to practice the techniques that were being shown.

Of the 80 families, 59 families received training by graduate assistants, 5 families were trained by a caseworker from DCFS, 3 families received training from a caseworker (which was subsequently supplemented by a graduate student), and 13 families received video plus graduate student training.

Following training, a social validation questionnaire was provided to determine the parents' opinions of the training and to measure their self-confidence in managing their child's health care needs.

Home Safety

This component was designed to teach parents to identify accessible hazards in their home, and secure them in such a fashion that they were inaccessible to their children.

Before beginning this component, parents were asked to sign a consent form that specified which areas of the home would be inspected. By using this form, parents were able to restrict access to certain areas of their homes. The research assistants searched through every section of the family's home in which the parents had consented and recorded the number of accessible hazards in each room. Accessibility was defined by the height that the tallest child, 5 years old or younger, in the home could reach when standing on the floor and reaching upwards. In addition, surfaces onto which the child could pull up upon were included.

The Home Accident Prevention Inventory-Revised (HAPI-R; Mandel *et al.*, 1998) was used to assess and record the number of hazards present in the home. This inventory is a revalidated version of the Home Accident Prevention Inventory (Tertinger *et al.*, 1984, 1988). The checklist divides hazards into categories such as small objects, sharp objects, ingestible objects that might cause suffocation, fire and electrical hazards, firearms, falling hazards (balconies), drowning hazards, and poisonous solids and liquids.

Baseline measures for safety were begun while the parent was nearing the end of health training. Baseline measures were conducted in four rooms in the home: the bathroom, kitchen, living room, and child's bedroom. All four rooms were observed during each in-home

session, unless the parents had restricted access to any particular room(s). Once three baseline measures of all four rooms were collected, the first of four training sessions began.

Training was begun in whichever room contained the most hazards. Training involved instruction, staff modeling, parent practice, and feedback. In addition, the parents were provided with cabinet latches and instructed to place the childproof latches on cabinets and drawers that contained poisonous and hazardous items. Electrical outlet covers were provided to secure any electrical outlet that was exposed. Subsequent training sessions began with feedback on the improvement in the room (and any remaining hazards) in which the parent was trained the previous session.

Some families received video training in four sessions that demonstrated home safety and accident prevention in the living room, kitchen, bedroom, and bathroom of a home. The videos provided examples of hazards in each room in the home, as well as demonstrations of the identification of these hazards and how to make them inaccessible. During each training session, the counselor asked parents to watch one video. The parent was provided with a written supplement describing hazards that are common to each room and how to make them inaccessible to children. Parents were required to pause the video at different stages and perform the task requested. Some families received training by video only; some families received video training, which was then supplemented by graduate assistant training. Following training and during a 6-month follow-up, observations were made of the rooms. In addition, parents completed a social validation questionnaire that assessed the parents' opinions of the training and their self-confidence in maintaining the safety of their homes.

Nine at-risk families and 43 maltreating families completed safety training. Seven of the at-risk families received training by graduate assistants; two families were trained using videos. Graduate assistants trained 37 of the maltreating families, and 6 families were trained using videos.

Parenting Skills

This component focused on improving positive interactions between parent and child. Parents received either parent–infant interactions training (PII) if the infant was younger than 9 months, or parent–child interactions (PCI) training if the child was between the ages of 9 months and 5 years, as well as Planned Activities Training (PAT; Lutzker *et al.*, 1998; Sanders & Dadds, 1982).

This training was designed to improve the quality of the parent–child interactions. Parents were taught how to interact with their children using appropriate parenting skills, such as positive voice tones, gentle touching, and frequent eye contact. Parents were also provided with activity cards illustrating different types of activities in which they could engage their children. Research assistants modeled these activities for the parents and the parents practiced using positive and appropriate parenting skills during these activities. In addition, parents were given assignments during each training session that involved using PAT, practicing positive interaction skills, and using the activity cards. Planned Activities Training was used to teach the parent to plan activities in advance, to explain the rules and consequences of the activity to their children, to effectively engage them in the activity, to incorporate incidental teaching procedures into the activity, and to provide feedback and rewards at the end of the activity. This type of activity planning is aimed at engaging the children and preventing challenging behaviors.

Parent–Child Interactions

Parent–child interactions were assessed using a partial-interval time-sampling procedure (10-s observe, 5-s record). The observed parent behaviors consisted of eye-to-eye leveling, attending to the child, touching, verbalizations, giving instructions, and incidental teaching. The observed child behaviors were verbalizations, affect, aggression, and following instructions. Eleven child development specialists (comprised of teachers, child-care directors, clinicians, and researchers) validated these 10 behaviors as being important when measuring parent–child interactions. Composite scores of appropriate and inappropriate behaviors were calculated from these observations.

A checklist was also used to evaluate the parent's use of the 10 steps of PAT. These behaviors were preparing for an activity in advance, explaining the rules and consequences to the child, giving the child choices, using incidental teaching, keeping the child engaged in the activity, and providing appropriate consequences and effective feedback.

Baseline and training measures of parental and child behaviors were assessed using both the checklist and the data sheet. Five baseline sessions were conducted. These sessions consisted of two observations of play and three observations of activities of daily living, such as mealtimes, dressing, and bathing.

Training was conducted over five home-visit sessions. During training, the counselor discussed the steps involved in PAT with the parent, provided the rationale supporting the use of PAT, and modeled the steps. The parents practiced the steps and were given feedback by the

counselor. In addition, the counselor demonstrated filling out the PAT checklist specific to the current activity. Training took place during activities of play, and two of the three baseline activities of daily living. The third daily living activity served as the generalization setting; no training was provided during that activity.

Parent–Infant Interactions

Parent–infant interactions training was provided to parents with infants from the time of birth to 9 months of age. This involved teaching parents to plan play activities that would stimulate and engage their infants. Observations were made on behaviors that were validated by 11 child behavior specialists as being important in parent–infant interactions. The observation system was the same as with parent–child interactions, except the behaviors varied slightly. Observed parent behaviors were looking, smiling, playing, verbalizing, touching, and imitating their infant's facial expressions or sounds. The infant behaviors observed were looking, smiling, verbalizations, touch, play, imitation, and crying. Composite percentage scores for appropriate and inappropriate behaviors were compiled from these observations.

Five baseline sessions were recorded in play, feeding, bathing, and diapering activities. Baseline data collection typically required more than five sessions because the babies often fell asleep during the sessions. Training sessions consisted of modeling appropriate and positive physical and verbal interactions, and PAT. The counselor provided the rationale for these types of interactions and the parent practiced the skills with her child. Feedback was provided and any additional training was conducted. These parents also received a set of activity cards that detailed various activities in which they could engage their infants. The activities were also modeled and practiced, and feedback was provided.

Forty-one families completed parent–child/parent–infant interactions training (34 families completed PCI training; 7 completed PII training). Training was conducted either by graduate assistants or through the video education format. Families who completed all three components (excluding follow-up data collection) were given a $25 grocery voucher.

Reliability of Direct Observation Measures

For all direct observation data collection procedures (during training of all three components), reliability was defined in terms of the percent agreement between two independent observers for all types of data collected. Specifically, the number of agreements was divided by the total number of agreements plus disagreements and multiplied by 100. Reliability data were collected a minimum of 30% of all observations in all conditions in each family; however, in some components, reliability observations were conducted in as many as 70% of the conditions. All reliability observers were Project SafeCare research assistants. The overall reliability for the three training components was 89%.

Design

A repeated measures design was used in these analyses (Hays, 1994), using the statistical computer package SPSS 8.0. The dependent variables for health training were the change in parents' scores on the role-play scenarios and quizzes. The dependent variables for the safety and parenting components were the parents' scores on the HAPI and the parent–child/parent–infant interaction measures, respectively.

RESULTS

Behavior Change

The criterion for health training was 100% correct performance across three consecutive role-play scenarios within one session. For maltreating families, 91% of those trained by graduate students, 100% of those trained by caseworkers, 33% of those trained by a combination of caseworker and graduate assistant, and 67% of those trained by video and graduate assistant met the training criterion. For at-risk families, 100% of those trained by graduate students and 100% of those trained by a combination of video and graduate students met the training criterion. Table II shows the number and percentage of families who met criterion for health training within each training mode.

Table III shows the change in scores from baseline to posttraining for families who met the training criterion in health training. The scores are divided into the different

Table II. Number and Percentage of Families Who Met Criterion for Health Training Across Training Mode

	Maltreating		At-risk		
Training mode	Number	Percentage	Number	Percentage	*N*
Graduate (GA)	39	91[a]	16	100	55
Caseworker (CSW)	4	100	N/A	N/A	4
CSW/GA	1	33	N/A	N/A	1
Video/GA	6	67	4	100	10
Total					70

[a] Percentage of families in that training mode that met criterion.

Table III. Mean Baseline and Posttraining Scores on Health Training for Families Who Met Training Criterion

	Self-treat/call doctor		Emergency room	
Training mode	Baseline	Posttraining	Baseline	Posttraining
Graduate (GA)	33%	100%	52%	100%
Caseworker (CSW)	24%	100%	63%	100%
CSW/GA[a]	45%	100%	100%	100%
Video/GA	39%	100%	96%	100%

Note. CSW/GA and VIDEO/GA refers to families who were assigned to caseworker or video training modes that were supplemented or completed by graduate assistants. The percentage under each heading refers to the percent correct performance for the final training session of that training mode.
[a] $N = 1$.

types of scenarios (self-treat/call-doctor and emergency room visits) and across training mode. All of these families scored 100% correct responses across three consecutive role-play scenarios in the final training session for health.

Table IV shows the mean baseline and posttraining scores for families who completed health training, but failed to meet the training criterion. The scores are divided into the different types of scenarios (self-treat/ call-doctor and emergency room visits) and across training mode. Families trained by graduate assistants scored 23% for self-treat/call doctor scenarios and 68% for emergency room scenarios at baseline. After training, the families scored 75 and 81% correct responses respectively. The family trained by caseworker only, scored 54 and 85% at baseline for self-treat/call doctor and emergency room scenarios. After training these scores increased to 100% for all scenarios. Families trained by caseworkers or videos who needed supplemental training by graduate assistants, scored a mean of 26 and 24% correct performance at baseline for self-treat/call doctor scenarios, and 49 and 55% for emergency room scenarios. After training, families scored 75% correct for self-treat/call doctor scenarios, and 100% correct responses for emergency room scenarios. No at-risk families were in these groups.

Table IV. Mean Baseline and Posttraining Scores on Health Training for Families Who Did Not Meet Training Criterion

	Baseline		Posttraining		*N*	
Training mode	ST/CD[a]	ER[b]	ST/CD	ER	Maltreating	At-risk
Graduate (GA)	23%	68%	75%	81%	4	0
Caseworker (CSW)	54%	85%	100%	100%	1	0
CSW/GA	24%	49%	75%	100%	2	0
Video/GA	26%	55%	N/A	N/A	3	0
Total						10

Note. CSW/GA and VIDEO/GA refers to families who were assigned to caseworker or video training modes that were supplemented or completed by graduate assistants.
[a] ST/CD refers to self-treat/call doctor scenarios.
[b] ER refers to emergency room scenarios.

Table V shows the baseline and posttraining scores for families who completed safety training, as well as the number of families who met the training criterion of 85% reduction in hazards posttraining. In the maltreating group, there was a 78% mean percent reduction in the overall number of hazards in the homes. Fifty-five percent of the maltreating families met our training criterion of 85% reduction in hazards posttraining. In the at-risk group, there was a 70% mean percent reduction in the overall number of hazards in the homes. Thirty percent of the maltreating families met our training criterion of 85% reduction in hazards posttraining.

Table VI shows the changes in parenting scores (parent–child interactions and parent–infant interactions scores and PAT scores) from baseline to posttraining. Data for PAT (Planned Activities Training) scores and the following of parental instruction by the child were only collected for families participating in parent–child interaction training ($N = 34$) as the infants were too young to respond to instructions. Measures of positive parental behaviors were collected for all participants ($N = 41$). There were statistically significant increases in parents' use of Planned Activities Training techniques and positive parent behaviors posttraining. No at-risk families were included in this analysis as the data for the at-risk group were incomplete.

DISCUSSION

We evaluated Project SafeCare's three intervention components and found that each intervention was highly effective in improving parenting skills, child health-care skills, and the safety of the homes for the children of the maltreating families who completed the components. Social validation data indicated parents' satisfaction with these services (Taban & Lutzker, 2001). Despite these encouraging results, however, there are issues that warrant attention and discussion.

The families referred to Project SafeCare exhibited significantly high rates of attrition, which is a common problem in child maltreatment research (Hansen *et al.*, 1998). Maltreating and high-risk families appear not to welcome participation in intervention programs, and are considered even less likely to participate in research-based programs (Lutzker *et al.*, 2001). Thus, involving families in interventions designed to prevent and intervene in child maltreatment presents a major difficulty for service

Table V. Reduction in Hazards Posttraining

	Maltreating ($N = 42$)		At-risk ($N = 10$)	
	Baseline	Posttraining	Baseline	Posttraining
Number of hazards	158	30	248	65
Mean percent reduction (baseline to postraining)	78%[a]		70%[a]	
Number of families that met criterion of 85% reduction in hazards	23 (55%)		3 (30%)	

[a] $t = 8.55$, $df = 51$, $p < .0001$.

providers and such programs typically experience failure to enroll these families. Factors that contribute to this lack of participation include the presence of multiple stressors and limited resources, the sometimes coercive nature of the referral; the possibility that participation in intervention programs may be involuntary (court mandated); the need for multifaceted interventions to provide effective and durable change, inadequate instructions and rationale, lack of skills or motivation to perform the assignment, and competing contingencies that may punish adherence (Hansen & Warner, 1992; Wolfe, 1988). Many of the families referred to Project SafeCare rejected services after the initial referral when the first telephone contact was made, or they participated in some baseline measures, but did not begin any aspect of intervention.

Suggestions on ways to increase attendance at sessions have included praise, tangible reinforcers, reminders, and discussions about nonadherence to attendance (Hansen *et al.*, 1998; Hansen & Warner, 1994). Even though Project SafeCare provided families who completed the program with a grocery voucher, it is possible that this compensation was too delayed to be an effective incentive. Despite the high attrition from Project SafeCare, the data reflect that socially significant changes were made in the parenting skills and abilities of the families that participated in, and completed training components of this program. Nonetheless, the problem of attrition highlights the necessity for consideration of issues such as retention and enrollment of families in services, as well as taking into account cultural diversity, and the needs and preferences of the population when planning an intervention program (Dore & Lee, 1999).

Given that the abuse and neglect of children is viewed by many as the result of deficits in effective parenting and caregiving skills, maladaptive parent–child interactions, and inadequate parenting knowledge, parent training in specific areas of child care is critical to the amelioration and the prevention of child maltreatment (Hansen *et al.*, 1998). Project SafeCare targeted three critical areas of parenting: treating illnesses effectively and maintaining good health; creating and maintaining a safe home environment; and increasing the frequency and quality of positive parent–child interactions. The focus on these specific skill areas, as well as the intervention approach utilized resulted in significant changes in observable parenting skills.

There are aspects of the intervention procedures used on Project SafeCare that are noteworthy. For example, questionnaires were sent to local professionals to validate the content of the intervention packages. Simplified checklists were provided to parents to assist them in remembering the specific behaviors they were required to complete, for example, when treating their child for an illness or giving baths. In addition, all research assistants were trained to criterion performance of the skills they were teaching parents, as well as their ability to model, train, and provide feedback. These techniques preserved

Table VI. Change in Parent–Child Interaction Scores Posttraining

	Maltreating families					
	PAT[a] ($N = 34$)		POS. PARENT[b] ($N = 41$)		FIC[c] ($N = 34$)	
	Baseline	Posttraining	Baseline	Posttraining	Baseline	Posttraining
Mean score	50	92	64	74	69	85
Paired samples	$t(33) = -11.7$		$t(40) = -6.71$		$t(33) = -1.7$	
t test (baseline to posttest)	$p < .01$		$p < .01$		$p < .89$	

[a] PAT reflects the percentage score for *Planned Activities Training*.
[b] *Positive Parent Behaviors:* This is the percentage score for positive parent behaviors.
[c] *Following of Instructions by Child:* This is the percentage score for following of parental instructions by the child.

the integrity of the independent variable (Greene & Kilili, 1998; Lutzker, 1998; Wolfe & Wekerle, 1993). The data collection methods used by Project SafeCare focused on parent and child behaviors to enhance the quality of family interactions and parental competence.

Research into child maltreatment has provided researchers with a list of specific risk factors that contribute to child maltreatment. These include poverty, limited education, the presence of emotional disorders, such as depression and anxiety, single-parent homes, large families, social isolation, and substance abuse (Azar, 1989; Dore & Lee, 1999). Given the complexity of this phenomenon, it would be expected that parents would experience problems adhering to intervention programs. Some of the research has demonstrated that the degree of benefit from a training program depends on the parents and the type of problems they are experiencing. For example, Wolfson *et al.* (1992) demonstrated that first-time parents and their infants benefited from a cognitive–behavioral intervention. However, families who are poverty-stricken and experiencing multiple stressors experience problems adhering to the training program as well as participating in the sessions (Dore & Lee, 1999). These families require a more comprehensive approach to parent training (Azar, 1989).

The literature shows, however, that for such families, in-home, family-based, multifaceted services are effective in producing behavior change in maltreating parents in rural and urban settings (Kolko, 1998; Lutzker *et al.*, 2001; Lutzker & Rice, 1984). The strengths of this intervention approach include the reliance on behavioral definitions and direct observation of behavior, as well as the broad focus that addresses the needs, problems, and complex histories of these families (Dore & Lee, 1999). The use of these and other strategies enhance the quality of child maltreatment research (Ammerman, 1998).

Child maltreatment is clearly a significant social problem that warrants attention. Despite all the research on child maltreatment interventions, there is a paucity of research on the outcomes of these programs for the participating families (Ammerman, 1998). As a result, many of the interventions have not been subjected to empirical research methods. Clearly, there is a strong need for intervention-outcome evaluations to improve the quality and nature of services to maltreating families.

Future research should focus on ameliorating the systemic and methodological weaknesses that plague research in this field. Standardized definitions of child maltreatment, and agreements between researchers regarding adequate versus inadequate parenting skills, are necessary—and unlikely (Greene & Kilili, 1998). Sample sizes should be designed in order to account for the reality of program attrition (Dore & Lee, 1999). Standardized procedures for gathering, analyzing, and reporting data would greatly enhance the consistency of research across studies and the applicability of research findings to greater populations (Ammerman, 1998). Improvements in the use and application of empirical research designs, assessment strategies, sampling strategies, measurement, and outcome studies are necessary (Kolko, 1998). Most importantly, programs need to be multifaceted, and address not only parent training, but also problem-solving strategies and stress-management techniques (Dore & Lee, 1999). These improvements could not only lend more confidence to the results of future research, but would also improve the outcomes for victims of child maltreatment, and the potential for changing their parents' behavior.

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REFERENCES

Ammerman, R. T. (1998). Methodological issues in child maltreatment research. In Lutzker, J. R. (ed.), *Handbook of Child Abuse Research and Treatment*, Plenum, New York, pp. 117–132.

Azar, S. T. (1989). Training parents of abused children. In Schaefer, C. E., and Briesmeister, J. M. (eds.), *Handbook of Parent Training*, Wiley, New York, pp. 414–441.

Azar, S. T., Povilaitis, Y., Lauretti, A. F., and Pouquette, C. L. (1998). The current status of etiological theories in intrafamilial child mal treatment. In Lutzker, J. R. (ed.), *Handbook of Child Abuse Research and Treatment*, Wiley, New York, pp. 3–30.

Belsky, J. (1984). The determinants of parenting: A process model. *Child Dev.* 55: 83–96.

Bigelow, K. M., and Lutzker, J. R. (2000). Training parents reported for or at risk for child abuse and neglect to identify and treat their children's illnesses. *J. Fam. Violence* 15: 311–330.

Blythe, B. J., Patterson, Salley, M., and Jayaratne, S. (1994). A review of intensive family preservation services research. *Soc. Work Res.* 18: 213–224.

Campbell, R. V., O'Brein, S., Bickett, A. D., and Lutzker, J. R. (1983). In-home parent training, treatment of migraine headaches, and marital counseling as an ecobehavioral approach to prevent child abuse. *J. Behav. Ther. Exp. Psychiatry* 14: 147–154.

Cohn, A. H., and Daro, D. (1987). Is treatment too late: What ten years of evaluative research tell us. *Child Abuse Negl.* 11: 433–442.

Delgado, L. E., and Lutzker, J. R. (1988). Training young parents to identify and report their children's illnesses. *J. Appl. Behav. Anal.* 21: 311–319.

Dore, M. M., and Lee, J. M. (1999). The role of parent training with abusive and neglectful families. *Fam. Relat.; Interdiscip. J. Appl. Fam. Stud.* 48: 313–325.

Greene, B. F., and Kilili, S. (1998). How good does a parent have to be? In Lutzker, J. R. (ed.), *Handbook of Child Abuse Research and Treatment*, Plenum, New York, pp. 53–72.

Hansen, D. J., and Warner, J. E. (1992). Child physical abuse and neglect. In Ammerman, R. T., and Hersen, M. (eds.), *Assessment of Family Violence: A Clinical and Legal Sourcebook*, Wiley, New York, pp. 123–147 .

Hansen, D. J., and Warner, J. E. (1994). Treatment adherence of maltreating families: A survey of professionals regarding prevalence and enhancement strategies. *J. Fam. Violence* 9: 1–19.

Hansen, D. J., Warner-Rogers, J. E., and Hecht, D. B. (1998). Implementing and evaluating an individualized behavioral intervention program for maltreating families: Clinical and research issues. In Lutzker, J. R. (ed.), *Handbook of child abuse research and treatment*, Plenum, New York, pp. 133–158.

Hays, W. L. (1994). *Statistics*, 5th edn., Harcourt Brace, New York.

Henggeler, S. W., Melton, G. B., and Smith, L. A. (1992). Family preservation using multisystemic therapy: An effective alternative to incarcerating serious juvenile offenders. *J. Consult. Clin. Psychol.* 60: 953–961.

Kolko, D. J. (1996). Individual cognitive behavioral treatment and family therapy for physically abused children and their offending parents: A comparison of clinical outcomes. *Child Maltreat.* 1: 322–342.

Kolko, D. J. (1998). Treatment and intervention for child victims of violence. In Trickett, P. K., & Schellenback, C. J. (eds.), *Violence Against Children in the Family and the Community*, American Psychological Association, Washington, DC, pp. 213–250.

Lutzker, J. R. (1984). Project 12-Ways: Treating child abuse and neglect from an ecobehavioral perspective. In Dangel, R. F., and Polster, R. A. (eds.), *Parent Training: Foundations of Research and Practice*, Guilford, New York, pp. 260–291.

Lutzker, J. R. (1994). Project 12-Ways: Treating child abuse and neglect from an ecobehavioral perspective. In Dangel, R. F., & Polster, R. A. (eds.), *Parent Training: Foundations of Research and Practice*, Guilford, New York, pp. 260–297.

Lutzker, J. R. (ed.), (1998). *Handbook of Child Abuse Research and Treatment*, Plenum, New York.

Lutzker, J. R., Huynen, K. B., and Bigelow, K. M. (1998). Parent training. In Van Hasselt, V. B., and Hersen, M. (eds.), *Handbook of Psychological Treatment Protocols for Children and Adolescents*, Erlbaum, Mahwah, NJ.

Lutzker, J. R., and Rice, J. M. (1984). Project 12-Ways: Measuring outcome of a large-scale in-home service for the treatment and prevention of child abuse and neglect. *Child Abuse Negl.* 8: 519–524.

Lutzker, J. R., and Rice, J. M. (1987). Using recidivism data to evaluate Project 12-Ways: An ecobehavioral approach to the treatment and prevention of child abuse and neglect. *J. Fam. Violence* 2: 283–290.

Lutzker, J. R., Tymchuk, A. J., and Bigelow, K. M. (2001). Applied research in child maltreatment: Practicalities and pitfalls. *Child. Serv.: Soc. Policy, Res. Pract.*, 4: 141–156.

Lutzker, J. R., Van Hasselt, V. B., Bigelow, K. M., Greene, B. F., and Kessler, M. L. (1998). Child abuse and neglect: Behavioral research, treatment, and theory. *Aggression Violent Behav.* 3: 181–196.

Lutzker, J. R., Wesch, D., and Rice, J. M. (1984). A review of Project 12-Ways: An ecobehavioral approach to the treatment and prevention of child abuse and neglect. *Adv. Behav. Res. Ther.* 6: 63–73. Indexed in the *Inventory of Marriage and Family Literature*, Vol. XI, Family Resource Center, 1985.

Mandel, U., Bigelow, K. M., and Lutzker, J. R. (1998). Using video to reduce home safety hazards with parents reported for child abuse and neglect. *J. Fam. Violence*, 13: 147–162.

Sanders, M. R., and Dadds, M. R. (1982). The effects of planned activities and child management procedures in parent training: An analysis of setting generality. *Behav. Ther.* 13: 452–461.

Sarber, R. E., Halasz, M. M., Messmer, M. C., Bickett, A. D., & Lutzker, J. R. (1983). Teaching menu planning and grocery shopping skills to a mentally retarded mother. *Ment. Retard.* 21: 101–106.

Schellenbach, C. J. (1998). Child maltreatment: A critical review of research on treatment for physically abusive parents. In Trickett, P. K., and Schellenback, C. J. (eds.), *Violence Against Children in the Family and the Community*, American Psychological Association, Washington, DC, pp. 252–268.

Sedlack, A. J., and Broadhurst, D. D. (1996). The Third National Incidence Study: Final report. U.S. Government Printing Office, Washington, DC.

Starr, R. H., Jr. (1990). The need for child maltreatment research and program evaluation. *J. Fam. Violence* 5: 311–319.

Taban, N., and Lutzker, J. R. (2001). Consumer evaluation of an ecobehavioral program for prevention and intervention of child maltreatment. *J. Fam. Violence.*, 16: 323–330.

Tertinger, D. A., Greene, B. F., and Lutzker, J. R. (1984). Home safety: Development and validation of one component of an ecobehavioral treatment program for abused and neglected children. *J. Appl. Behav. Anal.* 17: 159–174.

Tertinger, D. A., Greene, B. F., and Lutzker, J. R. (1988). Home accident prevention inventory. In Hersen, M., and Bellack, A. S. (eds.), *Dictionary of Behavioral Assessment Techniques*, Pergamon, New York, pp. 246–248.

U. S. Department of Health and Human Services, Administration on Children, Youth, and Families (1999). *Child Maltreatment 1997: Reports from the states to the National Child Abuse and Neglect Data System.* U.S. Government Printing Office, Washington, DC.

Wolfe, D. A. (1988). Child abuse and neglect. In Mash, E. J., and Terdal, L. G. (eds.), *Behavioral Assessment of Childhood Disorders*, 2nd edn., Guilford, New York, pp. 627–669.

Wolfe, D. A. (1992). The role of intervention and treatment services in the prevention of child abuse and neglect. Background paper for the U.S. Advisory Board on *Child Abuse and Neglect*, U. S. Department of Health and Human Services, July 30, 1992.

Wolfe, D. A., and Wekerle, C. (1993). Treatment strategies for child physical abuse and neglect: A critical progress report. *Clin. Psychol. Rev.* 13: 473–500.

Wolfson, A., Lacks, P., and Futterman, A. (1992). Effects of parent training on infant sleeping patterns, parents' stress, and perceived parental competence. *J. Consult. Clin. Psychol.* 60: 41–48.