PROMOTING PARENT-PROVIDER INTERACTION DURING YOUNG CHILDREN'S HEALTH-SUPERVISION VISITS

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We prompted parents to increase their interactions with health-care providers during their children's health-supervision visits. Before scheduled appointments we asked parents of 32 infants and young children if they had specific child health questions or concerns. Sixteen parents randomly assigned to the prompted group were then prompted to initiate discussions of their concerns. Sixteen control parents discussed unrelated topics before their appointments. Prompted parents initiated significantly more interactions with health-care providers and more health and behavioral topics were discussed during their appointments. Both parent groups reported satisfaction with health-care services. Further research is needed to determine the clinical significance of outcomes associated with enhanced parent-provider interaction during children's health-supervision visits. These visits are ideal settings for behavioral research on improving health care for children and their families.

DESCRIPTORS: behavioral pediatrics, parent-professional interaction, pediatrics, child health supervision, health care

During a primary health-care visit, a typical patient or parent rarely asks a question, offers only information specifically requested, and is likely to forget the prescribed medical regimen (Brody, 1980; Korsch & Negrete, 1972). The limitations of this typical patient-provider relationship may restrict

the benefits of health-care visits, and more effective and complete health care may be achieved if patients (or their parents) were to take a more active role in visits (Greenfield, Kaplan, & Ware, 1985; Roter, 1977).

Perhaps no medical arena is better suited for patient-provider interaction than the child health-supervision visit (also referred to as the well-child visit). The purposes of primary health supervision include monitoring the child's general health, enhancing the development of the child and the parents, and identifying problems early (American Academy of Pediatrics, 1985). One objective of the visits is to provide anticipatory guidance, advice intended to prevent or minimize problems by informing parents of common developmental and behavioral issues. *Guidelines for Health Super-*

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vision, a recent publication of the American Academy of Pediatrics (1985), provides an outline of the biomedical, developmental, and psychosocial areas recommended for discussion during health-supervision visits. The guidelines focus the health-care provider on routine but important concerns for children, with recommended anticipatory guidance topics organized by age (see Table 1). The guidelines are intended to be flexible, with topics to be discussed determined by the provider's preferences, the child's age, the family's circumstances, and the parent's concerns.

Unfortunately, many parents do not express their concerns to their pediatric providers. In fact, one fourth of mothers do not tell their practitioner their greatest concerns (Korsch & Negrete, 1972), perhaps because they believe that the issues are not appropriate for professional discussion despite their importance to the parent or the family (Liptak, Hulka, & Cassel, 1977; MacPhee, 1984). Previous research suggests that behavioral strategies may be useful in enhancing parent-initiated communications. Videotaped or live modeling, behavioral rehearsal and role playing, performance feedback, and positive practice have been used in combination to teach young parents to identify and report their children's illness symptoms (Delgado & Lutzker, 1988) and to teach parents of developmentally delayed children more effective communication with professionals (Kohr, Parrish, Neef, Driessen, & Hallinan, 1988). These strategies, although effective, have involved considerable training time. At the other extreme, when written instructions encouraging question asking were given while patients waited for their appointments, patients' question asking was not changed during the appointment (Tabak, 1988).

For our initial attempt at enhancing parent participation during child health supervision, we selected a simple, brief prompting strategy. The prompting strategy was provided before a regularly scheduled child health-supervision appointment for young children between the ages of 1 and 22 months. Parents were prompted to ask questions that were of interest to them and that also coincided with the recommended age-relevant anticipatory

guidance content and procedures for the health-supervision visit (American Academy of Pediatrics, 1985). We hoped to facilitate an increase in discussion of health-supervision topics deemed appropriate for the child's age. In addition to parent participation and content of appointments, we also obtained a measure of parent satisfaction with health care.

METHOD

Thirty-two mother-child pairs were recruited from a community health center serving a predominantly lower socioeconomic population in Baltimore, Maryland. The pairs were selected unsystematically from those mothers who had previously scheduled visits with their regular health-care providers, either a female pediatric nurse practitioner (27 patients) or a male pediatrician (5 patients). Nurse practitioners provided mostly well-child care at the center, whereas pediatricians provided well-child, acute, and chronic care.

After the parent registered and the child received the initial screening (temperature, weight, chief complaint, etc.) by a nursing assistant, an investigator gave each parent a brief description of the study and its requirements (e.g., answering questions for a few minutes before the visit, allowing the child's health-supervision visit to be recorded on audiotape, and completing a satisfaction questionnaire after the visit) and invited the parent to participate. Only one parent declined the invitation.

The 32 mother-child pairs were randomly assigned (using a predetermined sequence) to the prompted or control group. The prompted group had 10 female and 6 male children whose average age was 9.3 months (range, 1–22). The control group had 9 female and 7 male children with an average age of 10.8 months (range, 1–22). Parents in the prompted group had an average age of 22.3 years (range, 16–35) compared to 23.2 years (range, 19–33) for the control group. The prompted group accounted for 14 visits with the nurse practitioner and two with the pediatrician; the control group included 13 visits to the nurse practitioner and three with the pediatrician. Although socioeconomic sta-

Table 1

Anticipatory Guidance Topics Recommended for Child Health Supervision Visits for Children Ages 2 to 24 Months

Age	Topics
2	Nutrition, accident prevention, sleep, parent-infant interaction, day care
4	Nutrition, sleep, parent-infant interaction, thumb sucking, accident prevention
6	Nutrition, accident prevention, sleep, parent-infant interaction, stranger anxiety, thumb sucking and masturbation, teething, shoes, day care
9	Nutrition, accident prevention, sleep, favorite toys, parent-infant interaction, vocalization and imitation, social games, limit setting and discipline, shoes, day care
12	Nutrition, accident prevention, sleep/separation problems, speech development, parent-child interaction, limit setting and discipline
15	Nutrition, accident prevention, toilet training at 18-24 months, discipline, pacifiers, parent-infant interaction, day care
18	Nutrition, accident prevention, sleep, toilet training, play activities and favorite toys, discipline, thumb sucking and masturbation
24	Accident prevention, play, nutrition, sleep, toilet training, speech development and imitation, curiosity about body parts

Note. Adapted from *Guidelines for Health Supervision* (American Academy of Pediatrics, 1985). Based on the child's age at the visit, parents were prompted to ask questions about each of the topic areas.

tus was not measured precisely, the families were predominantly of low socioeconomic status.

During a preappointment interview, which took about 5 min, the investigator asked each mother if she had any questions about her child that she wished to ask the provider during the appointment. All questions mentioned by parents were recorded and constituted the baseline number of questions. If the parent was assigned to the prompted group, the investigator then discussed the list of anticipatory guidance topics recommended for the visit at the child's particular age (see Table 1). The prompts were aimed at reminding parents of concerns that they may have about the range of recommended health-supervision topics. After these prompts, parents were then asked if they had additional questions for the provider. Additional prompted questions, those mentioned during this review of topics, were also recorded by the investigator. The investigator then repeated each question that the parent had identified and encouraged her to ask the provider these and any other questions that she thought of during the health-supervision visit.

To control for the time spent with parents in the prompted group, the investigator talked with each control group parent for a few minutes, but there was no further discussion of the parent's questions.

To minimize providers' selective reactivity to audiotaping, microphones were placed in the room for all appointments (but only subjects' appointments were recorded) and providers were not informed about which parents were in the study. After each parent-child pair had completed the health-supervision visit with the provider, the parent completed a satisfaction questionnaire.

Measures

A trained observer who was naive about the study's purpose and group assignments scored the rates of parent behavior and the number of topics discussed during each audiotaped visit. *Parent-initiated communication* was defined as questions or bids for information. A *question* was scored as a new topic of inquiry initiated by the parent and phrased in the standard grammatical-linguistic form of a question, or a follow-up question that occurred after the parent or provider had initiated a topic. A *bid for information* was defined as a new topic initiated by the parent and phrased in a statement (nonquestion) format. For questions and bids for information, a new topic was one that had not been discussed previously during this visit or one that was previously discussed but was reintroduced by the parent after discussion of another topic. These definitions are consistent with direct and indirect

questions, which have been studied in adult patient–physician communication studies (cf. Roter, 1977).

The number of *topics* discussed during each appointment was scored using a checklist. Five general categories of topics (accidents/injuries, behavior problems, elimination/toileting, growth/development, and health/illness) were used to score all topics discussed. Multiple examples were given for each category. Observers noted the first occurrence of provider- or parent-initiated discussion of each topic. Thus, the total number of topics discussed during the visit and the number of topics within each category were obtained.

A second independent observer who was also uninformed as to the purposes of the study scored 44% of the audiotapes. Exact agreement between the two observers' data was calculated by dividing the number of agreements by the number of agreements plus disagreements and multiplying by 100. Average interobserver agreement was, for questions, 76% (range, 57%–100%); bids for information, 70% (0%–100%); and topics discussed, 88% (60%–100%). Although interobserver agreement was not high, these percentages are comparable to those of other studies that have involved coding naturally occurring language samples (e.g., Hart & Risley, 1980). We attributed the low agreement to the poor sound quality of audiotapes and regional accents of patients, which were idiosyncratically understood by the observers.

Satisfaction. Sixteen items from the Medical Interview Satisfaction Scale (MISS), a reliable and valid satisfaction scale developed for health services research (Wolf, Putnam, James, & Stiles, 1978), were modified to reflect satisfaction or dissatisfaction with the child's health care. The other 10 items from the MISS, which referred to illness, sickness, and prescribed medicine, were considered to be irrelevant for well-child visits. We added four similarly worded items that pertained directly to question asking and answering. Sample items included "The doctor gave my child a good check-up," "The doctor let me ask all of my questions," "I really felt understood by the doctor," and "I feel the doctor did not spend enough time with me." Each

parent rated each item from 1 (strongly disagree) to 5 (strongly agree). Several items were worded negatively to control for tendencies to respond in an all positive or negative manner. Scores were reversed for negative items and then summed for a satisfaction measure ranging from 20 (indicating dissatisfaction) to 100 (indicating satisfaction).

RESULTS

Parent-initiated communications and the number of child health topics addressed during health-supervision visits were significantly higher for parents in the prompted group. Increased parent participation was not associated with differences in parent satisfaction ratings.

Parent-initiated communications for the prompted and control groups are shown in Table 2. Mann-Whitney *U* tests were used for comparisons because the data were not normally distributed. Prompted parents initiated interactions significantly more often during their health-care visits. Additional comparisons for questions and bids for information showed that only bids for information were made significantly more often for the prompted group, and the greater number of questions asked was not significant ($z = 1.26, p < .10$).

Parents in both groups identified similar numbers of initial questions during the preappointment interview, with prompted parents identifying 1.3 ($SD = 1.3$) questions and control parents 1.8 ($SD = 1.5$) questions. During the appointment, however, the prompted parents initiated 90% (18/20) of their initial questions, compared to the control parents who initiated only 66% (19/29) of their initial questions. Prompted parents also benefited from a greater percentage of initial questions being discussed during the visits. When parent and provider initiations were combined, 100% (20/20) of the initial questions of the prompted parents were discussed during the appointment, whereas 83% (24/29) of control parents' initial questions were discussed.

After prompted parents reviewed the age-relevant topics during the preappointment interview, an average of 2.4 questions ($SD = 1.4$; total num-

ber of prompted questions for the group = 38) were identified in addition to their initial questions. Ninety-two percent of these additional prompted questions (35/38) were subsequently discussed during their appointments, with parents initiating 71% (27/38) and providers initiating 21% (8/38) of the additional questions. Thus, parents who received the prompting intervention were also successful in discussing a very high percentage of these additional preappointment concerns.

Table 2 also shows the average number of topics discussed during visits for the two groups. Visits with prompted parents resulted in an average of 19.5 topics discussed, which was significantly higher than the average of 16.1 topics during visits with control parents. Descriptively, the means (and standard deviations) for the five categories of topics were, for accidents/injuries, control group = 1.9 (1.5), prompted group = 1.1 (1.2); for behavior problems, control group = 3.0 (1.6), prompted group = 3.9 (1.8); for elimination/toileting, control group = 1.4 (0.8), prompted group = 1.9 (1.1); for growth/development, control group = 3.1 (1.2), prompted group = 3.4 (1.4); and for health/illness, control group = 6.7 (2.0), prompted group = 9.2 (2.4). The greater number of topics discussed during the prompted group's visits was distributed across four of the five topic areas, the exception being accidents/injuries. Thus, increased parent-initiated interactions by the prompted group corresponded with an increased number of topics discussed during health-supervision visits.

Both prompted and control parents indicated high satisfaction ratings on the satisfaction survey, with prompted parents reporting an average satisfaction rating of 95.7 ($SD = 5.6$, range, 80–100) and control parents reporting an average of 90 ($SD = 9.0$, range, 71–100) ($z = 1.58$, $p < .10$).

DISCUSSION

Parent-initiated communications can be increased during child health-supervision visits using preappointment behavioral prompting. Parents were successfully prompted to initiate discussions about

Table 2
Parent-initiated Communication and Content of Child Health-Supervision Visits

Measure	Group	
	Control <i>M (SD)</i>	Prompted <i>M (SD)</i>
Parent-initiated communication		
Questions	4.1 (4.7)	7.6 (8.8)
Bids for information	4.4 (4.4)	5.6* (3.0)
Total parent initiations	8.4 (7.2)	13.1** (9.9)
Content of visits		
Total topics discussed	16.1 (4.0)	19.5*** (5.1)

* $z = 1.87$, $p < .05$.

** $z = 1.71$, $p < .05$.

*** $z = 1.72$, $p < .05$.

their children's health concerns; these initiations were associated with an increased discussion of child health topics during the health-supervision visits. Increased parent-initiated communication was accounted for by one form of communication, the bid for information, in which the parent initiates a new topic indirectly with a statement rather than a question (Roter, 1977). Asking for information in an indirect way (and one perhaps considered less challenging by parents) may be easier for parents who are not comfortable with their more active roles in the health-care system. Additional study of the variety of ways parents can express their concerns may result in even more effective communication interventions.

These findings with pediatric patients are similar to previous patient-provider communication studies in which adult patients were encouraged to be more active participants during their health-care appointments (Greenfield et al., 1985; Roter, 1977). Our results, however, are not as robust as other behavioral studies of communication change (Delgado & Lutzker, 1988; Kohr et al., 1988). At least two differences should be noted. First, the prompting intervention took considerably less time than modeling and rehearsal techniques. Second, the prompting intervention was evaluated in a field setting, whereas other studies have conducted train-

ing and assessment in simulated settings. One or both of these differences may account for the smaller effects of the prompting strategy. Thus, although prompts may result in an increase in the performance of a group of patients, the effects of the strategy are highly variable across parents. Some parents show limited or no response to prompting and may require more intensive strategies to facilitate their active participation.

Determining parents' concerns is basic to the pediatrician's role. Greater physician awareness of maternal concerns has been shown to be conducive to better parent satisfaction with health care (Liptak *et al.*, 1977). Providers may attempt to determine parents' concerns by asking the right questions, making observations, or deducing from a family's situation the likely problems being experienced. However, reliance on the provider to determine parents' concerns may be less efficient than arranging for parents to express their concerns directly. Active parent participation during child health supervision transfers some responsibility from the health-care provider to the parent and can lead to a more informed health-care consumer.

Increased parent participation did not appear to disrupt the health-supervision visits. The two providers who participated expressed continued enthusiasm throughout the study and never indicated that parent question asking was problematic. Experienced providers generally adopt a set sequence of events for well-child exams, with physical exam maneuvers performed in the same pattern each time and discussions with parents going on throughout all maneuvers except, for example, listening to the heart and lungs. If the providers had found the prompted parents to be disruptive, we undoubtedly would have been asked to stop the study. Despite anecdotal evidence that the prompting intervention was acceptable to the clinic providers, the procedures were not adopted by the health center. Changes in staff members and in the physical location of the center, as well as our departure from the setting before systems for maintaining the prompting strategy were implemented, were more likely to account for the lack of maintenance of preappointment

prompting than were dissatisfaction with or unacceptability of the intervention.

Preappointment prompting by an office nurse, registration desk clerk, or nursing assistant may be necessary to produce changes in parents' question asking in a clinic practice. Tabak (1988) provided written instructions encouraging more active participation and found no change in patient behavior. Therefore, personal prompting before appointments may be necessary to result in initial changes in parent behavior. Having staff members prompt parents to discuss their most important concerns may be a beneficial use of typical waiting-room time. Prompting provides additional information to the parent about the range of topics deemed appropriate for child health supervision.

However, several limitations of our study suggest the need for further study before changing policies and procedures in the health-care system. A post-test-only control group (Campbell & Stanley, 1963) would provide data about reactivity of the pretest measure; the high rate of question asking in the control group may have been due to prompting of question asking by the initial assessment of questions. Other methodological improvements of larger sample sizes, subjects from older age groups or from different socioeconomic groups to test the generality of findings, and improved interobserver agreement will improve future studies and increase confidence in the value of the prompting intervention.

Many pediatric health, behavioral, and developmental concerns have been targeted for child health-supervision visits (American Academy of Pediatrics, 1985). Within this health-care framework, behavioral scientists can provide important answers about methods for enhancing patient-provider communication. For example, will more intensive behavioral strategies, such as prompting with feedback, modeling, role playing, or positive practice (Delgado & Lutzker, 1988), enhance parent participation? Can providers elicit and reinforce more active parent communication? Will enhanced parent participation be maintained across visits?

There is great need to document any health-

related outcomes that result from enhancing parent participation in health supervision. A limitation of the present study was the lack of data on health outcomes associated with the improved communication. The clinical significance of improving parent-provider communication has yet to be determined. For example, what level of participation by parents is needed to produce changes in other parent, child, and provider behaviors? Will parents who are encouraged to take an active role in their children's health-care visits be more motivated to adhere to the providers' specific recommendations? Can generalized adherence be established through changing parent-provider interactions? Do providers dispense effective, problem-solving advice for the range of common parental concerns? These questions provide directions for the study of communication, intervention, and adherence in child health supervision, and their answers will provide many ways of improving health care for children and their families.

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