

# Parents' Worries About Children Compared to Actual Risks

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To investigate the concerns of parents, questionnaires were given to the "first 100" parents waiting for their child's pediatric appointment in four different medical settings. They were asked to rate whether they worry "frequently," "occasionally," or "not at all" about 17 physical health issues, 16 psychosocial problems, 7 possible injuries, 4 instances of victimization, and 4 questions about parents' ability to provide discipline, affection, values and financial support. The response rate was 94%; 89% were completed adequately for analysis. Parental concerns were compared to data from the National Center for Health Statistics about the statistical likelihood of the risks occurring. Ear infections (65%) were the most common health concern, followed by reaction to immunization (57%), common colds (51%), and cancer (50%). The greatest psychosocial concern was about children watching too much television (53%), followed by concerns about the quality of day care (50%). Three-quarters of parents worry about car accidents and 72% worry about abduction of their children. Parents worry significantly about their own contribution to their child's welfare: appropriate discipline (73%), affection (56%), values and being a role model (55%), and financial support (66%). Parents who had not completed high school worried more than parents who had more than a high school education ( $P < 0.03$ ).

Clinical observations by the authors indicated that parents worry excessively about potential child-rearing problems that are sensationalized in the public media. For example, it is not uncommon for mothers to report that fears about abduction inhibit their ability to foster independence and self-reliance in their children. In beginning to design this study, mothers at a school meeting in a middle-class suburban city were asked about their greatest worry for their children; each mother responded "kidnapping." One woman described an incident in which her niece would not ride in her car because the aunt, who lived out of

state, did not know the "secret code word" assigned by the child's mother to identify "safe" adults. Fingerprinting kits and video identification tapes in case of an abduction contribute to the atmosphere in which children are now being raised. Regarding another sensationalized topic, a report in *The New York Times* stated that fears about Lyme disease led half of the parents of first-graders in East Brunswick, NJ, to refuse to allow their children to attend a field trip to the town park.

Despite the plethora of books on parenting, relatively few investigators have systematically asked parents to identify their concerns regarding their children and their own roles as caregivers. Some research focused on maternal anxiety around a specific health risk<sup>1,2</sup> and the concept of the "vulnerable child" has been developed around real or perceived health problems.<sup>3</sup> Earlier research<sup>4</sup> defined parental concerns in terms of problems that were presented to pediatricians or problems that pediatricians referred to mental health professionals. These studies did not necessar-

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ily reflect the concerns of parents in the general population. Other investigators<sup>5-8</sup> asked parents to identify problems they experienced and their specific concerns at routine health maintenance visits. This method, however, relies on parental memory and a parental willingness to bring up these issues. Most parents in these studies reported concerns about psychosocial issues such as temper tantrums, discipline, crying or whining, negative effects of divorce, or parents' spending too much time at work.

Another line of research<sup>9,10</sup> used the interview format with open-ended rather than global questions and small, nonrandom populations. "In-depth biographical interview forms" generated results that were reported anecdotally and descriptively; although providing great detail about maternal feelings, these responses were not representative of a random sample of mothers.

This investigation was an attempt to identify simply and clearly the concerns of parents in contrast to the medical and social risks as determined by the National Center for Health Statistics, U.S. Department of Health and Human Services.

### Methods

The questionnaire was developed by the authors and reviewed by the Research Team in the Department of Ambu-

latory Pediatrics at Rhode Island Hospital as well as by individual pediatricians at the Mayo Clinic. It was pretested with 20 parents at the Mayo Clinic and 10 parents in Rhode Island for ease in understanding and completing the questionnaire. All criticisms were considered in the development of the final form. No specific racial selection was attempted, but receptionists were asked to distribute questionnaires to the "next 100" parents so as to avoid a selection bias.

In order to have a broad range of parents respond, 100 questionnaires were distributed in each of three private practices in Ukiah and Santa Ana, CA, and in Rochester, MN. Parents were predominantly white middle-class and less than 5% were Oriental. In a diverse setting, a sufficient number of questionnaires to collect 100 completed protocols were given to parents seeking medical care for a child in the Ambulatory Pediatric Clinic at Rhode Island Hospital in Providence. The population served by the Ambulatory Clinic was 40% white, 40% black, and 20% Hispanic; 80% qualified for welfare or Medicare. Reason for pediatric visit, parents' education, marital status, age, and work outside the home are summarized by site in Table 1.

The questionnaire began with items relating to biographic data about the child and family; parents were then asked to rate whether they worry "a lot, frequently," "a little," or "not at all" about various child-rearing issues.

**Table 1.** Demographic data by site.

	Santa Ana	Ukiah	Rochester	Providence
<b>Reason for child's visit</b>				
Acute illness, %	56	42	37	53
Routine visit, %	44	52	29	29
Chronic illness, %	0	4	34	18
<b>Parent's age, mean yr</b>	35.5	31.9	33.4	28.0
<b>Mother's education</b>				
Less than high school, %	1	14	7	48
High school, %	32	52	37	27
2-Year college, %	35	13	23	19
4-Year college, %	19	13	23	4
Graduate school, %	13	3	6	1
No information, %	0	4	4	1
<b>Marital status</b>				
Single, %	8	21	3	31
Married, %	88	60	88	54
Divorced, %	3	18	9	14
No information, %	1	1	0	2
<b>Mother works, %</b>	93	30	80	22
<b>Hours at work, mean</b>	32.9	31.3	27.3	32.2

There were 17 questions about physical health, 7 questions about injuries, 16 questions about cognitive and psychosocial problems, 4 about victimization of child (physical or sexual abuse, murder, abduction), and 4 about the parent's ability to provide appropriate discipline, love and affection, values and role-modeling, and financial support. After rating these issues, the parent was asked to list the things that they worry about most and what they think the child's other parent worries about most often. Chi-square analyses were used to determine statistical significance.

## Results

A total of 376 questionnaires were returned, for a response rate of 94%. Of these, 19 were not completed or the questions were all answered at the same level and were excluded. This allowed analysis of 357 questionnaires (89%). Of these, 93% were completed by the child's mother and 7% were completed by the father. Because there was not a sufficient representation of fathers, we did not attempt to define differences between mothers and fathers and refer to subjects as "parents."

Of parents expressing concern about an item, on the average, one-third worried frequently about the items listed in the questionnaire, whereas two-thirds mentioned their concern as "a little or occasionally." Notable exceptions were the concerns about respiratory allergy and abduction, with 50% of the whole group mentioning frequent concerns. In ranking the number of concerns, the order was essentially the same for occasional and frequent concerns. Percentages are reported in terms of "frequent" and "occasional" concerns (Table 2). Ear infections were the most common health concern (65%), followed by concern about reactions to immunizations (57%), common colds (51%), cancer (50%), sudden infant death syndrome (SIDS) (47%), and Lyme disease (44%). Anxiety about whether children were eating the right food was mentioned by 61% of the responders, and worries about children not eating enough, by 46%. Choking (43%) and food allergies (38%) were also significant concerns.

In the concerns about social development, watching too much television (53%) led the list, followed by the concern over adequate day care (50%). Surprisingly, concern about drugs (38%) was no more frequently mentioned than the worry that children did not get enough sleep (38%). The emphasis on good parenting was shown by the large number of parents worried about providing their children with appropriate discipline (73%), affection (56%), and good values and morals (55%). Two-thirds of parents have

concerns about providing sufficient financial support for their families.

Three-quarters of parents were concerned that their children would be hurt in a car accident. The overall fear that their children could be kidnapped was 72%. One-third of parents worried "frequently" about the possibility of their child being abducted; this represented the highest percentage of frequent worries among the parents who filled out the questionnaire. A toxic environment or poisons in food were a concern of 69% of the parents.

Parental concerns were analyzed according to the following age groups of children brought to the pediatric visit: 1 year and younger, 1 to 6 years, 6 to 12 years, and 12 to 16 years. Parents of children younger than 1 year were more concerned than parents of children older than 12 years about ear infections ( $P < 0.001$ ), reactions to immunizations ( $P < 0.001$ ), SIDS ( $P < 0.001$ ), colds ( $P < 0.002$ ), birth defects ( $P < 0.02$ ), impurities in food ( $P < 0.001$ ), food allergy ( $P < 0.01$ ), not eating enough ( $P < 0.08$ ), day care ( $P < 0.001$ ), abduction ( $P < 0.04$ ), and head injury ( $P < 0.005$ ). Parents of children 1 to 6 years old were more concerned than mothers of infants 1 year or younger about environmental poisons ( $P < 0.02$ ), bicycle accidents ( $P < 0.001$ ), and homicide ( $P < 0.02$ ). In contrast, parents of adolescents older than 12 years were more concerned about their children eating the right things ( $P < 0.02$ ), being too fat ( $P < 0.02$ ), watching too much television ( $P < 0.049$ ), performing poorly in school ( $P < 0.15$ ), and facing possible depression ( $P < 0.04$ ). All other concerns were not statistically different.

When parents less than age 25 years were compared to parents older than 30 years, the younger parents had more worries about deafness ( $P < 0.049$ ), dehydration ( $P < 0.04$ ), child not eating enough ( $P < 0.04$ ), choking ( $P < 0.001$ ), child being too thin ( $P < 0.002$ ), and abduction ( $P < 0.02$ ). The older parents had more concerns about cancer, chemicals in food, too much television, proper values and morals, and exposure to environmental poisons. Parents of boys, as opposed to mothers of girls, were more concerned about SIDS ( $P < 0.005$ ) and homicide ( $P < 0.004$ ). When the profiles of parents with a total of fewer than 10 areas of concern were compared to parents with more than 30 concerns, we found the only significant difference was that the greater "worriers" had not completed a high school education ( $P < 0.03$ ).

Among the responders, 37 mothers met our definition of having higher external stress: younger ( $21.8 \text{ yr} \pm 5.1$ ), single, no high school diploma, and living in an urban area. Their concerns were compared to older ( $34.3 \text{ yr} \pm 6.3$ ), married mothers, with more than high school education,

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**Table 2.** Summary of responses by parents.

Question	Response, %		Total
	A little, occasionally	A lot, frequently	
<b>Health</b>			
Ear infections	38	27	65
Reaction to immunization	46	10	56
Common colds	34	17	51
Cancer	36	14	50
Sudden infant death	33	14	47
Lyme disease	34	10	44
Birth defects	26	10	36
AIDS	27	7	34
Respiratory allergy	17	17	34
Reye syndrome	26	7	33
Deafness	21	8	29
Dehydration	24	5	29
<b>Nutrition</b>			
Eating right	45	17	61
Not eating	32	14	46
Choking	25	18	43
Food allergy	27	11	38
Too thin	20	10	31
Too fat	17	9	26
<b>Cognitive &amp; social development</b>			
Too much television	36	17	53
Negative effect of day care	30	20	50
Poor school performance	29	19	48
Too little sleep	28	10	38
Chemical dependency	27	11	38
Lack of friends	26	11	37
Hyperactivity	26	7	32
Depression	24	8	32
Mental retardation	21	9	30
Sexual promiscuity	21	8	30
Unwanted pregnancy	20	7	27
Religious cult	20	7	27
Delinquency	17	5	22
Running away	17	4	22
<b>Ability to provide</b>			
Appropriate discipline	42	32	73
Finances	38	28	66
Affection	31	25	56
Values, morals	33	22	55
<b>Injuries</b>			
Car accidents	52	25	76
Abduction	37	35	72
Environmental poisons	55	14	69
Head injury	42	19	61
Sexual abuse	27	29	56
Bicycle accidents	36	14	50
Child abuse	27	20	47
Homicide	25	18	43
Sports injury	33	8	41
Suicide	14	6	20

and living in a rural or suburban environment whom we defined as having lower external stress. These mothers all had children younger than five years and the number of firstborn children was the same in each group (20 of 37). As expected, compared with lower external stress mothers, a greater proportion of the higher external stress mothers worried frequently about chemical dependency ( $P < 0.05$ ), depression ( $P < 0.05$ ), suicide ( $P < 0.05$ ), sexual promiscuity ( $P < 0.01$ ), unwanted pregnancy ( $P < 0.01$ ), delinquency ( $P < 0.05$ ), homicide ( $P < 0.02$ ), finances ( $P < 0.01$ ), and child abuse ( $P < 0.04$ ) (Fig 1). Lower external stress mothers worried just as much as higher external stress mothers about their ability to provide appropriate discipline, affection, and values (Fig 2). There was no difference in the concern of mothers about health issues or the risk of accidents.

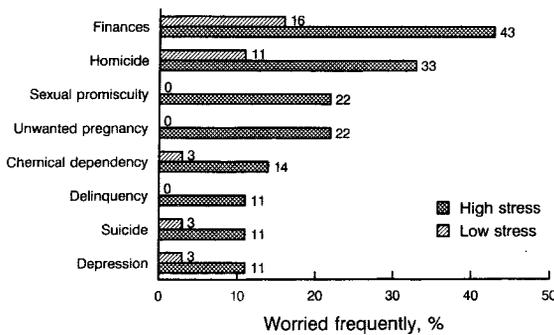


Figure 1

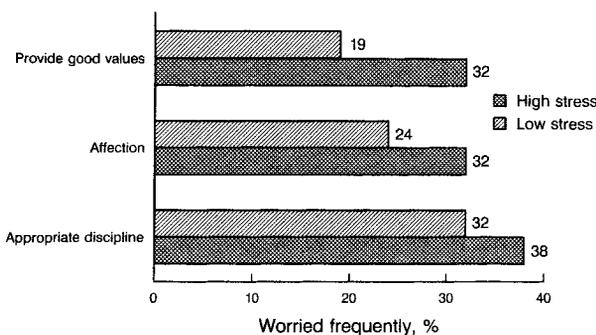


Figure 2

**Discussion**

Although our sample is not necessarily representative of the general population and is limited geographically, the results clearly indicate some trends regarding the concerns of these parents toward their children. The fact that the parents filled out the questionnaire in medical facilities may have focused their concerns on

health issues. The high level of concern about ear infections, reactions to immunizations, and SIDS may reflect the age of the children whose parents responded to the questionnaire.

Of course parents are going to worry, and this was particularly true for conditions such as cancer and abduction. Although there is no way to assess the impact of television, newspapers, and magazines, there is much to suggest that the coverage of issues like Lyme disease, abduction, food, and environmental toxins has increased public fear about issues that have little chance of occurring. The study of risks has become an important scientific discipline: Risk assessment is presented as a way of examining risks so that they may be better avoided, reduced, or otherwise managed.<sup>11</sup> It is important for providers of medical care to children to use an understanding of risks in helping parents deal with their concerns realistically and effectively.

In this study, 72% of parents worried about their child being abducted, yet according to the U.S. Department of Justice National Incidence Study,<sup>12</sup> there are 200 to 300 long-term kidnappings by a non-family member per year and another 3,500 to 4,500 short-term abductions per year (Table 3). With 63 million children younger than age 18

**Table 3.** Parental worry vs. statistical risk.

Concern	Parents worry	Risk
Abduction	72/100	1/200,000
Cancer (death)	50/100	4/100,000
Bicycle accident (death)	50/000	0.7/100,000
Ear infection	65/100	57/100
Common cold	51/100	<5 yr of age
		77.5/100
		<5 yr of age

years living in the U.S., the incidence of classic kidnapping by a non-family member is 1 per 200,000 to 300,000 and of short-term abduction is 1 per 15,000 to 20,000. Of children who have been kidnapped in the classic sense, only half have been found, and of these, only half have been found alive. Although every child abduction is tragic and frightening, most children whose pictures are on milk cartons have been abducted by a noncustodial divorced parent (approximately 350,000). As in other violent crimes

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such as rape, physical abuse, and sexual abuse, a child is more likely to be abducted by someone known to the victim than by a stranger. Anticipatory guidance in these areas needs to be aimed more at interpersonal relationships than at "stranger danger."

Among parents who responded to this questionnaire, 50% worried that their child would get cancer. According to the National Center for Health Statistics, U.S. Department of Health and Human Services,<sup>13</sup> death from leukemia or malignant tumors is 4 per 100,000 for each year from 1980 to 1985 (Table 4). Although 76% of respon-

**Table 4.** Mortality rates for children dying from external causes.

Cause of death	Age, yr	Death/100,000
Motor vehicle accident	under 14	6-7
	15-19	34
Bicycle accident	under 14	0.7
Suicide	10-14	1
	15-19	9
Homicide	1-4	1
	5-14	1
	5-19	8.5
Drowning	1-4	4
Fire and flame	1-4	4.4
	5-9	1.8

dents worried about car accidents, the National Center for Health Statistics showed that 6 to 7 per 100,000 children less than 14 years of age die in car accidents each year. Among 15- to 19-year-olds, the rate of death in car accidents increases to 34 per 100,000. Fifty percent of responders worried about bicycle accidents; 0.7 per 100,000 children less than 14 years of age die in bicycle accidents each year (Table 4).

Sixty-five percent of parents worried about ear infections; data from the National Health Interview Survey<sup>14</sup> indicated that 57 per 100 children less than 5 years of age and 11 per 100 age 5 to 17 years have acute ear infections in a year. More than half (51%) of the parents questioned worried about colds; National Health Interview Survey

statistics show that 77.5 per 100 children less than 5 years of age and 34.4 per 100 children 5 to 17 years of age have a common cold during the year (Table 5).

Comparing the mothers with low and high external

**Table 5.** Incidence of some common illnesses.

Illness	Incidence, per 100/yr	
	<5 yr of age	5-17 yr of age
Common cold	77.5	34.4
Acute ear infections	56.6	10.9
	Incidence, per 1,000/yr	
	<18 yr of age	
Asthma	52.5	
Hayfever or allergic rhinitis	64.0	

stress, we expected to find significant differences in their level of concern about concrete life stressors (e.g., chemical dependency, finances, delinquency, and unwanted pregnancy). The fact that mothers with higher external stress were equally concerned about abstract parenting values (discipline, affection, and morals) suggests that they may be more willing to accept this type of guidance from health care professionals than was previously thought.

The results of this study should help pediatricians focus on issues of concern to parents that can be stressed in preventive health care, with special emphasis on some issues often causing disproportionate anxiety. For example, increasing awareness of risks like poor bicycle safety and not wearing car seat belts is more valuable than increasing fears about choking. Helping parents to discuss attitudes toward psychosocial challenges, how to make good judgements about relationships with strangers and acquaintances, and how to handle difficult choices (like whether to get in the car of a friend who has been drinking) may be more useful than exacerbating fears about deer ticks and Lyme disease.

Parents do worry about their children and need education as well as support at pediatric visits. More than half of parents worry about their children watching too much television. We would challenge parents to remember that they are role models for their children; children quickly see the hypocrisy in "Do as I say, not as I do." Parents should help their children select specific shows and watch them together; this is a good opportunity to discuss why various

characters did, said, or felt a certain way and how television endings may be different from real-life consequences.

Although more than three-fourths of parents are concerned about discipline, we cannot evaluate from this questionnaire whether they are thinking of appropriate limit setting, time-out procedures, their own fears of being verbally or physically abusive, or the constant verbal reminders that contribute to socialization in our culture. Pediatricians should be familiar with local parenting courses and support groups—such as those offered in adult education at colleges and public schools, YMCA, and church or synagogue programs—hospital “warm lines,” and even cable television shows on child development. It can be helpful to recommend one or two popular books on parenting to a parent. Pediatricians should recognize the help that psychiatrists, psychologists, and social workers can offer parents who are struggling with developmental transitions (toddlerhood, entering school, adolescence, divorcing parents).

This study clearly identifies parental concerns as an area of importance for pediatricians and other health care professionals dealing with children. Further studies should look at a greater cross section of the population to identify the fears and concerns that may be more specific to certain areas or populations. Additionally, it will be helpful to further evaluate these concerns to see whether they have an actual impact on the day-to-day living experiences of families (i.e., do the parents actually alter their lifestyle based on their worries or do they just worry about these areas) and how much children absorb parental concerns.

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### References

1. Consolvo CA. Relieving parental anxiety in the care-by-parent unit. *J Obstet Gynecol Neonatal Nurs* 1986 (Mar-Apr); 15:154-9.
2. Gennaro S. Anxiety and problem-solving ability in mothers of premature infants. *J Obstet Gynecol Neonatal Nurs* 1986 (Mar-Apr); 15:160-4.
3. Levy JC. Vulnerable children: parents' perspectives and the use of medical care. *Pediatr* 1980; 65:956-63.
4. Chamberlin RW. Management of preschool behavior problems. *Pediatr Clin North Am* 1974 (Feb); 21:33-47.
5. Mesibov GB, Schroeder CS, Wesson L. Parental concerns about their children. *J Pediatr Psychol* 1977; 2:13-7.
6. Reim KF, Adams RE. Assessment of mothers' concerns about infants, toddlers and preschoolers. *Infant Ment Health J* 1980; 1:56-66.
7. Hickson GB, Altemeier WA, O'Connor S. Concerns of mothers seeking care in private pediatric offices: opportunities for expanding services. *Pediatr* 1983; 72:619-24.
8. Triggs EG, Perrin EC. Listening carefully: improving communication about behavior and development. *Clin Pediatr* 1989; 28:185-92.
9. Galinsky E. *The six stages of parenthood*. Reading, Massachusetts: Addison-Wesley, 1987.
10. Genevie L, Margolies E. *The motherhood report; how mothers feel about being mothers*. New York: MacMillan, 1987.
11. Wilson R, Crouch EAC. Risk assessment and comparisons: an introduction. *Science* 1987; 236:267-70.
12. Finkelhor D, Hotelling G, Sedlak A. "Missing, Abducted, Runway and Thrownaway Children in America; First Report—Numbers & Characteristics National Incidence Studies." Washington, D.C.: U.S. Department of Justice, Office Justice Programs & Office of Juvenile Justice & Delinquency Prevention, May 1990.
13. U.S. Department of Health and Human Services. Trends and current status in childhood mortality: United States, 1900-85. *Vital Health Stat* [3] 1989; no. 26:20.
14. U.S. Department of Health and Human Services. Current estimates from the national health interview survey: United States, 1987. *Vital Health Stat* [10] 1988; no. 166:15.85.