Ronald J. Angel, PhD
Jacqueline L. Angel, PhD

Both authors are with the University of Texas at Austin. Dr. Ronald Angel is a Professor in the Department of Sociology, and Dr. Jacqueline Angel is an Assistant Professor in the Lyndon Baines Johnson School of Public Affairs.

Tearsheet requests to Ronald Angel, 380 Burdine Hall, University of Texas at Austin, Austin, TX 78712; tel. 512-471-1122; fax 512-471-1748; e-mail <rangel@jeeves.la.utexas.edu>.

Physical Comorbidity and Medical Care Use in Children with Emotional Problems

SYNOPSIS

AS FAMILY DISRUPTION, violence, and the decline of community become more common, an ever-growing number of children are exposed to psychological and social stressors that can lead to serious emotional problems. For many children emotional problems can interfere with normal psychological and social development and can have serious long-term effects. In this study data from a large national survey are used to examine patterns of emotional and physical comorbidity and the uses of general medical and mental health services by children ages 4 to 11. Results indicate that emotional problems are common among children with physical illnesses and that emotional problems increase general medical care use. Emotional problems are clearly exacerbated by factors associated with poverty. The data also show that a larger proportion of children in single-parent than in two-parent families experience emotional problems and use mental health services. We discuss the implications of these findings for general pediatric practice.

Children, like adults, often feel blue and withdraw into themselves. They frequently express and act on strong emotions, and they can be defiant and argue until they tax their parents' patience. Yet for most children the emotional turmoil that accompanies childhood and adolescence is part of growing up and becoming an adult. We are beginning to realize, though, that for an increasing number of young people, childhood is a very difficult time of life. Because of increasing family disruption and higher rates of violence and social disorganization in even traditionally stable communities, an ever-growing number of children experience emotional problems that are serious enough to interfere with normal development.[1–11] The data also show that such problems are more common among those subjected to the stressors associated with poverty and single motherhood.[12,13]

Emotional problems including excessive fear and anxiety, feelings of worthlessness, sullenness and irritability, the inability to concentrate, and the behaviors that they give rise to—such as associating with individuals who get into trouble, secretiveness, destructiveness, losing one's temper easily, bullying, and the inability to get along with other children or with teachers—can indicate serious problems, which may have long-term negative consequences. Yet most

children in need of services never see a mental health professional, and most of the children who receive care for mental health problems are seen exclusively by general practitioners, primarily pediatricians.[14–17] Perhaps as few as one in five children with mental disorders receive treatment from mental health professionals.[18]

Given the high work load of most general medical providers, it is unclear whether they are able to recognize, let alone handle, serious emotional problems. But in light of the increasing family disruption and emotional turmoil that children endure in the modern world, the role of the primary care provider in recognizing emotional problems and their consequences is critical. In what follows we present evidence that emotional and physical problems often occur together and that many children who are seen in the doctor's office for physical problems experience emotional problems as well. The data we present also show that factors identified with poverty and family disruption are associated with increased risk for emotional problems.

Family disruption takes a toll on children's mental health.[19–23] In addition to emotional problems, children experience major physical health problems as a consequence of divorce,[24–26] and they frequently experience somatic symptoms even before the divorce, especially in cases in which there has been marital abuse or domestic violence.[27]

Our previous research, and that of many others, makes it clear that race and Hispanic ethnicity, in conjunction with single motherhood, are major risk factors for both physical and emotional illness in children.[13,28,29] Blacks and Hispanics are more likely than non-Hispanic whites to be poor and to be exposed to the health risks associated with poverty. To make matters worse, poor children often do not receive health care of the same quality as that received by middle-class children.[30]

Methods

To look at whether emotional problems manifest themselves as physical illnesses, we asked whether there is a greater tendency for children with emotional problems to experience physical symptoms. We also asked whether the use of both mental health and general medical care is greater among children with emotional problems. To answer these questions we used the 1988 child health supplement to the National Health Interview Survey (NHIS), which provides emotional and physical health information on a large nationally representative sample of children under 17 years of age.[12] From this survey we selected a sample of 6,287 black, Hispanic, and non-Hispanic white children ages 4 to 11. We also analyzed data on children ages 12 to 17, but since the results for the older children were similar to those for younger children we only present those for the younger sample. Of the Hispanic children, 390, or 58.9%, were Mexican American. Because of the small number of Puerto Ricans and "Other" Hispanics in our sample, our findings concerning these groups are only tentative. However, because of the lack of literature on the health of these children, we retain them in the multivariate analyses that follow.

Information on the child's health was provided by the mother or another household member. This person provided information on the physical health of the child, the child's use of medical and mental health services, and economic and demographic information, including the child's ethnicity. The respondent also indicated whether the child had experienced each of 28 emotional problems.[31] This list included such behavioral problems as defiance, having trouble getting along with others, misbehaving, acting without thinking, clinging to adults, crying too much, and demanding attention; we refer to these as emotional problems since emotional problems often manifest themselves behaviorally in childhood.

Results

Table 1 compares health care use and physical illnesses of children who manifest at least one emotional problem "often" and those who only "sometimes" or "never" manifest such problems. We have combined the "sometimes" and "never" categories since those children who manifest serious emotional problems frequently are at highest risk of long-term maladjustment, and it is these children that we focus on.

This table suggests that emotional and physical comorbidity may be quite common. Non-Hispanic white children who "often" manifest at least one emotional problem are more likely than those who do not to have seen a general medical care provider in the last year. Although the patterns are basically similar for black children, the difference is not statistically significant, and for Mexican Americans there is no difference at all. These results may be the result of smaller sample sizes, or it may be that among these groups emotional problems are not associated with the use of the medical care system to the same degree that they are among non-Hispanic whites. Other social class and access factors may override the effect of emotional problems for minority children.

What is particularly intriguing in these data are the patterns revealed in the association between physical illnesses and serious emotional problems. The table clearly shows that children who often manifest at least one emotional problem are more likely than those who only sometimes or never manifest such problems to experience physical illnesses. The data also show that the physical problems that children with emotional problems experience tend to be those with a potential psychogenic etiology. Among non-Hispanic white children, for example, those with serious emotional problems are more likely than those without such problems to experience asthma, food allergies, respiratory allergies, headaches, and enuresis. Among blacks, although there is a tendency for those children with emotional problems to have more physical illnesses, fewer of the differences are statistically significant. Among Mexican Americans the only statistically significant difference is for enuresis, again perhaps because of our small sample. For all groups, though,

Table 1. Physical and emotional comorbidity in children with emotional problems

	Non-Hispanic White		Black		Mexican American	
	Often[1]	Sometimes/Never[2]	Often[1]	Sometimes/Never[2]	Often[1]	Sometimes/Never[2]
Past 12 Months						
Doctor Visit	83.8[3]	77.4	73.5	67.0	66.6	66.4
Asthma	9.5[4]	5.6	9.1	6.9	8.0	5.0
Ear Infections	36.8[4]	29.8	28.1[4]	12.6	31.4[3]	19.7
Food Allergy	9.3[4]	6.9	5.1	2.6	4.6	3.5
Respiratory Allergy	16.1[3]	13.1	9.0	6.1	5.4	5.0
Pneumonia	9.7	7.8	8.2[3]	4.5	5.1	4.4
Headaches	7.3[4]	3.7	8.3[4]	3.0	3.4	2.5
Enuresis	11.2[4]	6.4	11.3[4]	3.6	12.3[3]	6.6
Unweighted N	(1,255)	(2,857)	(322)	(589)	(128)	(208)

[1]Adult respondent reports at least one behavioral problem occurs often.

[2]Adult respondent reports at least one behavioral problem sometimes or never.

[3] $p \leq .05$

[4] $p \leq .01$

a higher proportion of children with emotional problems have had ear infections, a common diagnosis in pediatric practice. The significance of this finding is that ear infections are among those conditions that are likely to get a child a visit to the doctor.

It is always possible, of course, that these bivariate associations between physical and emotional problems are accounted for by some other factor. In Table 2 we examine the data in a multivariate framework in order to determine whether the other demographic, economic, and access factors listed in the table account for the higher rates of physical illness among children with emotional problems as well as their higher use of general medical care services. Each column in Table two addresses a different question. Column one presents the results of a logistic regression that examines the probability that a child has ever experienced an emotional problem that lasted three months or more. This question was asked separately from the questions in the emotional problem index and assesses past as well as current behavior. A positive coefficient indicates a higher probability of having experienced such a problem. Column two presents the results of an ordinary least squares regression that shows the impact of the background factors and physical illness on the emotional problem index. This index consists of the sum of the 28 emotional problems, each weighted by the reported frequency of its occurrence: never = 0, sometimes = 1, and often = 2. The index has a possible range of 0 to 56 but is truncated at the 90th percentile, producing an effective range of 0 to 18 to eliminate the effect of extreme cases. A higher score on the index indicates more serious emotional problems during the previous three months.

The final two columns address the predictors of general medical and specialty mental health care use. Column three presents the results of an ordinary least squares regression predicting the number of general medical care visits during the last year. Column four presents the results of a logistic regression predicting the probability that a child has ever made a specialty mental health visit. Physical health conditions as well as emotional problems are variables introduced in the appropriate models as controls to determine their effect on four outcomes: having ever had any past emotional problem, the emotional problem index, the number of doctor visits, and ever having had a mental health visit.

Columns one and two reveal that children in single-parent households have a significantly higher probability of ever having experienced an emotional problem and have higher scores on the emotional problem index. In addition, the data in column one shows that black respondents are less likely than non-Hispanic white respondents to report that their children have experienced emotional problems in the past. Columns one and two reveal that the association between physical health conditions and emotional problems persists after the other factors are controlled. Asthma, food allergies, headaches, ear infections, and enuresis are all positively associated with both past emotional problems as well as the emotional problem index. This confirms previous research findings based on anecdotal and clinical evidence.

Columns three and four, which examine use of general medical and specialty mental health services, show that the children of single mothers are more likely than children who live with both parents to have had a specialty mental health visit at some time in the past. These data also show that black children are less likely than non-Hispanic white children to have either general medical or specialty mental health visits. Mexican American children are less likely than non-Hispanic white children to have seen a general medical care provider.

What is of particular interest, though, is that emotional problems are highly significant predictors of medical and mental health care visits even after all other factors are taken into account. The relationship is statistically significant at $p<=.01$. The various physical conditions, however, do not independently predict specialty mental health care visits. It

Table 2. Regression coefficients reflecting the association among emotional problems, physical illnesses, and use of medical and mental health services

	Past Emotional	Emotional Problem	Doctor Visit	Mental Health Visit
Single mother	.84[3]	1.10[3]	.04	.58[3]
Age	.11[3]	−.14[3]	−.15[3]	.22[3]
Black[1]	−.85[3]	.08	−.42[3]	−.95[3]
Puerto Rican[1]	−.46	.31	.05	−.05
Mexican American[1]	−.19	−.19	−.31[3]	−.10
Other Hispanic[1]	.24	−.45	.03	−.64
Family size	−.07	.15	−.10[3]	−.07
Birth order	−.01	−.20[2]	−.05[2]	−.02
Mother's education	−.03	−.25[3]	.06[3]	.12[3]
Mother employed	−.17	.20	−.18[3]	.21
Low income	−.01	.80[2]	−.03	−.06
Middle income	.13	.61[3]	−.12	.00
Missing income data	−.42	−1.64[3]	.03	−.12
Health insurance	−.18	−.71[2]	.12	−.37
Asthma	.58[3]	.75[2]	.76[3]	.18
Food allergy	.41[2]	.70[2]	.30[3]	.20
Other respiratory allergy	.23	.22	.52[3]	.19
Headaches	.61[3]	2.28[3]	.52[3]	−.13
Ear infections	.42[3]	1.31[3]	.69[3]	.17
Enuresis	1.35[3]	2.75[3]	.14	.45
Pneumonia	.01	.34	.01	−.12
Emotional problem index	—	—	.03[3]	.10[3]
Sample size	(6,287)	(4,995)	(4,995)	(4,334)
R-square	N/A	.076	.159	N/A

[1] Reference category = Non-Hispanic White
[2] $p \leq .05$
[3] $p \leq .01$

appears, therefore, that emotional problems increase the probability that a child will be seen by a general medical care provider but that a given physical condition does not independently increase the probability of a mental health visit. The general medical care setting, therefore, appears to be an appropriate arena for identifying potentially serious emotional problems. Once again, we find that because children with emotional problems are not getting mental health care, medical providers are the practitioners most likely to see them.

Discussion

Several decades ago Dr. Michael Balint reported the results of a study that demonstrated the importance for general medical practice of recognizing the psychological component of illness.[32] By sensitively examining the medical encounter, Balint showed that physical symptoms can often serve as the locus around which a patient structures problems that have their origin in some other area of his or her life or are the reflection of some deeper psychiatric disorder. Such patients often negotiate a diagnosis with the physician, who then treats the physical symptoms only to find that the patient benefits only briefly or not at all since the real problem has gone undetected. Balint also showed that in many cases a child's presenting problem can actually be the focus of a mother's emotional problems.

Balint's work, and much that has been done since, provides a framework for understanding the implications of our findings and helps us understand what they mean for the identification and treatment of emotional problems in children. The literature we reviewed suggests that, as is the case for adults, the general medical care provider is likely to be the first, and is often the only, contact that a child with emotional problems has with the medical care system. As a consequence, it is important that front-line physicians be aware of the emotional comorbidity that is likely to be masked among their patients who present with strictly medical problems, especially as family disruption with its accompanying emotional turmoil increases in our society.

It is probably unreasonable to expect that the primary care physician, overwhelmed as he or she is in a basic practice, deal with both the psychosocial and physical problems of children. Yet, a greater sensitivity among primary care providers to the existence of emotional problems might make it possible to refer a child to an appropriate profes-

sional, hopefully averting the potential long-term consequences of the child's distress. At a more formal level, a community-oriented primary care model of service delivery might represent a useful means for helping practitioners improve their ability to recognize and refer to specialty mental health providers.[33] Such an approach would pair physicians with social workers and others who would be able to assess a child's overall situation. The growth in managed care, especially as it applies to the Medicaid population, with its emphasis on prevention and wellness, provides a unique opportunity for experimenting with such approaches.

What is of particular importance in our findings is the suggestion that factors associated with poverty and the strains of marital disruption place children at greater risk of emotional problems and affect their medical care use. Many of these problems might be usefully assessed by either a physician or another practitioner as part of an initial comprehensive workup, and an appropriate referral made. Clearly, the general medical environment need not be the only place in which such emotional problems are identified, but since a large fraction of children with such problems see a doctor during the course of a year, the doctor's office provides a ready opportunity for intervention. By now we know that early intervention is the best hope for keeping childhood problems from interfering with normal psychosocial development and causing lifelong problems.[34,35]

As the American family changes, a growing number of children are exposed to the psychological stresses and strains of poverty and family disruption. Although growing up with only one parent need not have a negative impact on a child's emotional health or social development, a very large fraction of single mothers and their children are poor, and many are unable to escape the negative aspects of disorganized social environments such as crime, violence, and physically deteriorated neighborhoods.[13,29]

We end by noting that these data support the findings of a growing body of research documenting the fact that high rates of poverty[13] and family disruption can have significant emotional consequences. Our data also show that emotional problems are often part of a package that includes substantial physical comorbidity. The rigors of poverty, then, may well result in lower vitality and poorer overall health for those who can least afford it. We hope that our findings will stimulate research into the ways in which the physical and mental health problems that children experience can be identified and corrected so that the life chances of children and adolescents of all backgrounds can be maximized.

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