

Background

Emotional and behavioral disorders (EBD) are one of the most common chronic conditions in children (Pastor, Reuben, & Duran, 2012). These problems can have disabling effects in children, such as poorer education outcomes compared to their non-affected counterparts (Nelson, et al., 2004). Poor health in childhood can also have lasting effects on health and productivity over the life course (Currie, 2009). These outcomes not only affect individual children and their families, but they affect the population generally as these children age through loss of productivity. Like many other health conditions, the prevalence of such problems is not likely to be evenly distributed in the population. However, little is known about demographic correlates of these problems. There are also demographic differences in patterns of health care utilization, but there is little research about how these children are affected. Children with long-term disabilities generally are often "excluded from health services research on people with disabilities" (Perrin, 2002, p.303). In order to address this gap, we describe variation in the prevalence of the disorders and look at access to care for children with EBD.

Objectives

1. Identify how rates of EBD vary by race/ethnicity, gender, age, socioeconomic status, and region for school-aged children. And, determine significant demographic predictors of having an emotional/behavioral problem.
2. Investigate whether having an emotional/behavioral problem affects access to care.
3. Access what demographic predictors contribute to differences in accessing care for children with and without EBD.

Methods

Sample: Data are from the Integrated Health Interview Series (IHIS), which was created from National Health Interview Survey (NHIS) data to facilitate analysis of the health of the U.S. population (Minnesota Population Center and State Health Access Data Assistance Center, 2012). The pooled sample includes children age 4-17, whose parents were surveyed between 2001 and 2009. Respondents with missing information on EBD were dropped from analysis, resulting in a total sample size of 77,492. Survey weights are employed to provide nationally representative estimates. Analyses are conducted using survey commands in Stata (12.0) to account for the complex sampling design of the NHIS (unequal probabilities of selection and the stratified sampling).

Analysis: Bivariate analyses with chi-squared tests of significance are used to test for significant differences between children with EBD and those without. Nested multivariate logistic regression models are used to identify correlates of having an emotional or behavioral problem and of having difficulties accessing care.

Dependent Variables: Emotional/behavioral problem is assessed by parent report. The measure comes from the 33-question Strengths and Difficulties Questionnaire Extended (SDQ-EX) developed by Dr. Robert Goodman of the Institute of Psychiatry in London, England. Parents were asked, "Overall, do you think that [your child] has difficulties in any of the following areas: emotions, concentration, behavior, or being able to get along with other people?" Response choices included "No," "Yes, minor difficulties," "Yes, definite difficulties," and "Yes, severe difficulties." A dichotomous measure was created, with EBD=1 if the parent answered yes to definite or severe difficulties. *Access to care variables* included delayed care in the past 12 months because of cost or difficulty getting a timely appointment (measured by parent report).

Independent Variables: Demographic characteristics include age, sex, race/ethnicity, mother's education attainment, father's educational attainment, poverty status, family size, insurance status, and participation in the Children's Health Insurance Program (CHIP). Analyses also include whether children have a usual place of care and the number of office visits to a health care provider in the past twelve months.

Results

5.14% of children in this sample have EBD. In bivariate analyses, children with EBD are significantly more likely to be older, male, African American, Native American, and in poverty than children without EBD. And, children with EBD were significantly less likely to have had either parent earn a college degree. Conversely, they were significantly less likely to be Asian or Hispanic than children without EBD. Children with EBD were significantly less likely to be uninsured (8.1% vs. 10.0%, $p=0.001$) than children without behavioral problems. Children did not differ significantly on enrollment in CHIP or in whether or not they have a usual place of care. Children with EBD, however, were significantly more likely than those without EBD to have delayed care due to cost (9.6% vs. 4.3%, $p<0.001$) and due to difficulty making an appointment (11.2% vs. 4.3%, $p<0.001$).

Table 1 lists odds ratios for the nested logistic regression models assessing delayed care due to cost. Having an emotional/behavioral problem remains a significantly associated with delayed care due to cost in each model, even after controlling for insurance status and number of office visits.

Table 1: Odds ratio of having delayed care due to cost				
	Model 1	Model 2	Model 3	Model 4
Emotional/behavioral disorder	2.56***	2.43***	2.81***	2.01***
Age		1.03***	1.03**	1.03***
Female		1.05	1.04	1.02
Race/ethnicity (Reference category=White)				
Hispanic		1.11	0.80*	0.83

Black	0.93	0.96	1.03
Native American	1.44	1.08	1.08
Asian	0.67*	0.56**	0.61*
Multiple races	1.32	1.47	1.46
Poor	1.50***	1.36**	1.35*
Family size	1.01	0.98	0.99
Mother's education	1.01	1.12*	1.10*
Father's education	0.78***	0.88**	0.87**
Region (Reference category=Northeast)			
North Central/Midwest	1.51**	1.41**	1.44**
South	1.50***	1.20	1.23
West	1.52**	1.33*	1.40*
Uninsured		8.85***	10.23***
In CHIP		2.06***	2.04***
Number of office visits			1.15***
<i>*p<0.05, **p<0.01, ***p<0.001</i>			

Being older, poor, living in the North Central/Midwest and South, being uninsured, in CHIP, and having more office visits all demonstrate a statistically significant association with delayed care due to cost. Higher father education is significantly associated with less delayed care due to cost.

Table 2 presents the odds ratios for the nested logistic regression models assessing delayed care due to difficulty making an appointment. Again, having an emotional/behavioral problem is significantly associated with delayed care across the models. Being female, Hispanic, poor, and living in the North Central/Midwest, South, or West, and having more office visits are also all strongly associated with delayed care due to difficulty making an appointment.

Table 2: Odds ratio of having delayed care due to difficulty making an appointment				
	Model 1	Model 2	Model 3	Model 4
Emotional/behavioral disorder	3.08***	2.88***	2.88***	1.94***
Age		0.99	0.99	0.99
Female		1.29***	1.29***	1.28***
Race/ethnicity (Reference category=White)				
Hispanic		1.25**	1.23*	1.31**
Black		0.99	0.98	1.10
Native American		1.98**	1.98**	2.01**
Asian		0.91	0.91	1.01
Multiple races		0.97	0.99	0.99
Poor		1.48***	1.47***	1.44***
Family size		1.00	1.00	1.01
Mother's education		0.95	0.95	0.94

Father's education	1.01	1.02	1.01
Region (Reference category=Northeast)			
North Central/Midwest	1.69***	1.70***	1.74***
South	1.47***	1.48***	1.51***
West	1.74***	1.74***	1.88***
Uninsured		1.04	1.22
In CHIP		1.41*	1.37*
Number of office visits			1.18***
<i>*p<0.05, **p<0.01, ***p<0.001</i>			

Discussion

Children with EBD account for more than 5% of the study population, which is consistent with other research on EBD. While this population is less likely to be uninsured than children without EBD, they are more likely to experience difficulty in accessing care. This remains true even after controlling for service use (frequency of visits). This finding may signal that, while these children are better insured, they are still falling through the cracks when it comes to getting necessary care. And, delayed care in this population may lead to increased costs, for individuals and families, as well as for society generally, later on. Policies and programs must pay attention to this vulnerable population and addressing issues of access must move beyond health insurance alone.

References

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