

Parental Attitudes Toward Children's Use of Antidepressants and Psychotherapy

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Abstract

Objective: We assessed parental perceptions of benefits and risks of pediatric antidepressant use relative to another common treatment option, psychotherapy. We also explored sociodemographic and treatment variables that might influence these perceptions.

Method: A total of 501 caregivers of children presenting to community mental health centers completed a questionnaire assessing demographic characteristics, treatment history, and attitudes toward psychotherapy and antidepressant medications.

Results: Counseling was perceived as beneficial and having few risks, whereas antidepressant medications were perceived as both beneficial and risky. Fifty two percent of parents believed "somewhat" to "strongly" that antidepressants could make children want to harm themselves. African-American parents had less favorable views of antidepressants relative to parents of other ethnicities. Parental perceptions of benefits and risks of antidepressants predicted future medication visits, but only benefits predicted when controlling for other variables. A slight majority of all parents expected their children to see the physician at least every few weeks if prescribed an antidepressant.

Conclusions: When educating parents about medication, prescribers should be aware that African American parents may hold more negative perceptions than other parents, and that many caregivers may expect a higher level of physician monitoring of pediatric antidepressant use than is available in most communities.

Introduction

PATIENT-CENTERED CARE seeks to engage patients as decision makers about their own care. Achieving patient-centered care requires health-care providers to understand how patients and families understand the treatment alternatives they are offered. In some cases, patient and family misunderstanding and false beliefs about treatment choices need to be recognized and corrected, but we have insufficient information about what parents think.

These limitations in what we know about treatment beliefs and preferences are particularly acute for child mental health, because attitudinal surveys have focused almost exclusively on adult mental health services. Van Schaik and colleagues (2004) reviewed nine articles on patient preferences for primary care treatment of adult depression and concluded that psychotherapy was the preferred treatment option and that antidepressants were often incorrectly considered addictive.

Brown et al. (2005) similarly found that adult patients frequently expressed concerns about the addictiveness and long-term effects of antidepressants.

Patients' perceptions about the risks and benefits of medications may affect their decisions about taking these drugs. Port and her colleagues (2001) found that few women used tamoxifen to reduce the chance of breast cancer, in part because some perceived that there was a high risk that tamoxifen could cause endometrial cancer. Similarly, Neame and Hammond (2005) found that a high level of concern about medications for arthritis predicted nonadherence to medication orders. Perkins (1999) applied the Health Belief Model to psychiatric patients' adherence to medication orders and argued that adherence to treatment is determined in part by the patient's assessment of the perceived benefits and perceived risks of medications.

Unfortunately, there have been few efforts to measure parents' perceptions of the risks and benefits of medications

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taken by their children. We chose to look at antidepressants because possible adverse effects of these medications have been highlighted recently in both scientific and lay circles, even though these medications are efficacious for children and adolescents (Bridge et al. 2006). Most notably, the Food and Drug Administration's (FDA) analysis of 24 randomized controlled trials of antidepressants in children and adolescents indicated a heightened risk of suicidal ideation in these medication recipients (Leslie et al. 2005). This finding led to a "black box" warning being placed on labeling for selective serotonin reuptake inhibitors (SSRIs) in 2004. Considering these controversies, parents may hold ambivalent or even skeptical attitudes toward their use. Furthermore, the perception that pharmaceutical companies may be unduly influencing care providers through advertisements may contribute to growing suspicion among potential consumers of care. A clear understanding of common parental attitudes is essential for child and adolescent psychiatrists and other health-care providers who are interacting with these key health-care decision makers for patients less than 18 years of age.

In a rare study of parental attitudes toward intervention options for children at risk for depression, Post and colleagues (2002) reported that most parents thought medications were acceptable to treat or prevent severe depressive symptoms. However, parents preferred counseling for lower levels of symptomatology. Similarly, psychotherapy was the preferred treatment option in an effectiveness trial for depressed adolescents that allowed for patient and family choice, which is particularly striking given that the study was conducted in primary care where psychotherapy is rarely delivered (Asarnow et al. 2005). Because these investigators surveyed parents prior to the black box warning about child and adolescent use of antidepressants, and assessed global perceptions as opposed to specific attitudes about antidepressants and psychotherapy, further work on parental perceptions is sorely needed. For example, the 20% decline in antidepressant pediatric prescriptions since the 2004 black box warning (Rosack 2004) may indicate that caregivers may have become concerned about the safety profile of these medications. Although a causal relationship cannot be inferred, the temporal association of a decline in antidepressant treatment among depressed youths and the recently observed increase in the U.S. youth suicide rate is sobering (Bridge et al. 2008) and highlights the potential importance of patient, family, and provider perceptions of these problems of great public health significance.

Ethnicity appears to play a role in beliefs and attitudes about health care in general and mental health services specifically. Compared with Caucasian Americans, individuals within minority groups reported poorer relationships with their primary care physician (Stevens and Shi 2002). Some prior research suggests that African Americans are less likely to agree with the prescription of psychiatric medication (Schnittker 2003). The impact of such attitudes can be seen in an effectiveness trial for the treatment of adolescent depression in primary care, where African American youths were significantly more likely than other participants to prefer counseling to medication (Jaycox et al. 2006).

The major purpose of the present study was the assessment of parental perceptions of specific benefits (e.g., symptom improvement) and risks (e.g., suicidality) of pediatric antide-

pressant use, especially relative to another common treatment option—psychotherapy. The study's second major purpose was the identification of sociodemographic and treatment variables that might influence these perceptions, including parental level of education, race, child's age, child's insurance status, and diagnostic status. The final purposes were testing if treatment perceptions influenced future service utilization and examining parent expectations regarding physician monitoring of pediatric antidepressant use.

Method

Sample

A research assistant approached 537 consecutive parents, and our study's 93% participation rate resulted in a final sample size of 501. Table 1 presents the demographic and clinical characteristics of the sample. These data reflect considerable heterogeneity for the sample in terms of the children's gender, age, race, insurance status, diagnostic status, place of residence, and psychiatric treatment history.

Procedure

During the spring of 2006, data were collected in the waiting rooms of two urban community mental health centers owned and operated by a large pediatric teaching hospital. Each center provided medication management and psychotherapeutic services. Over the course of several half-days, a research assistant approached adults with children in the waiting room. We refer to these adults as parents, even though in a few cases they were other biological relatives caring for these children.

After obtaining informed written consent, parents were asked to complete a 7- to 10-minute self-report questionnaire entitled "What Parents Think About Behavioral Health Care for Kids." (A copy of this questionnaire is available from the corresponding author.) This questionnaire was based upon a survey of attitudes toward psychotherapy developed by Nock and Kazdin (2001) and assessed demographic characteristics, treatment history, and attitudes toward psychotherapy (labeled "counseling" in the questionnaire) and antidepressant medications. All questions about the benefits and risks of psychotherapy and antidepressant medications were answered using 5-point Likert scales. The questions' terms (e.g., "risks," "side effects") were not defined explicitly in our survey but instead were left for parents to interpret.

All parents were instructed to answer questions about demographic characteristics, treatment history, and attitudes toward psychotherapy. However, parents were instructed to complete the last section—attitudes about antidepressants—only if they were concerned that their child was depressed and/or if their child was taking an antidepressant ($n = 287$; we refer to these children as the "depression subgroup"). We did not ask the remaining parents to answer questions about antidepressants due to the limited relevance of these items to parents outside of the depression subgroup.

One year after surveys were completed, we accessed the clinics' computerized database to determine: (1) the child's primary Axis I diagnosis on the date the survey was completed, (2) if the child had any prior history of psychotherapy and/or medication management appointments for the year preceding the survey completion date, and (3) if the child had

TABLE 1. DEMOGRAPHIC AND CLINICAL CHARACTERISTICS^a

	<i>Full sample frequency (%)</i>	<i>Antidepressant subsample frequency (%)</i>	<i>p^b</i>
Child's gender			
Male	295 (59%)	154 (54%)	0.0058
Female	205 (41%)	133 (46%)	
Child's age			
<11 years	232 (46%)	107 (37%)	<0.0001
≥11 years	269 (54%)	180 (63%)	
Child's race			
Black/African American	125 (25%)	65 (23%)	0.1749
White/Caucasian American	320 (65%)	188 (65%)	
Other	51 (10%)	34 (12%)	
Child's primary insurance			
Public insurance	279 (56%)	157 (55%)	0.3957
Private insurance	143 (29%)	81 (28%)	
Other	74 (15%)	48 (17%)	
Child's residence			
Both mom and dad	177 (36%)	92 (32%)	0.0161
Mother only	208 (42%)	130 (45%)	
Father only	34 (7%)	19 (7%)	
Grandparent	57 (11%)	39 (14%)	
Live in foster care	21 (4%)	7 (2%)	
Parental level of education			
≤11 th grade	218 (44%)	133 (46%)	0.1459
≥High school graduate	283 (56%)	154 (54%)	
Child's primary Axis I disorder			
Internalizing disorder	120 (25%)	87 (31%)	0.0018
Externalizing disorder	229 (47%)	124 (44%)	
Mixed internalizing and externalizing	68 (14%)	35 (13%)	
Other	69 (14%)	34 (12%)	
Child medicated for ADHD			
No	232 (45%)	137 (48%)	0.7277
Yes	215 (44%)	122 (43%)	
Not now, but in past	47 (10%)	25 (9%)	
Child taking antidepressant			
No	351 (72%)	160 (57%)	<0.0001
Yes	107 (22%)	107 (38%)	
Not now, but in past	30 (6%)	14 (5%)	
Child taking antipsychotic			
No	382 (78%)	220 (79%)	0.9732
Yes	95 (19%)	54 (19%)	
Not now, but in past	11 (2%)	6 (2%)	
Child receiving counseling			
No	21 (4%)	7 (2%)	0.0420
Yes	457 (93%)	271 (95%)	
Not now, but in past	15 (3%)	7 (2%)	
Child with past counseling Visit			
No	140 (29%)	80 (28%)	0.93
Yes	351 (71%)	202 (72%)	
Child with past medication visit			
No	154 (31%)	88 (31%)	0.93
Yes	337 (69%)	194 (69%)	
Child with counseling visit: Next 6 months			
No	310 (63%)	184 (65%)	0.26
Yes	181 (37%)	98 (35%)	
Child with medication visit: Last 6 months			
No	288 (59%)	160 (57%)	0.32
Yes	203 (41%)	122 (43%)	

^aFrequencies do not sum to 501 due to missing data.

^b*p* values by using chi-squared test, or the Fisher exact test if there are only two categories.

Abbreviations: ADHD = attention-deficit/hyperactivity disorder.

any future psychotherapy and/or medication management appointments for the year after the survey completion date. Diagnoses were given based largely on unstructured clinical interviews conducted by a wide variety of mental health providers (e.g., psychiatrists, social workers). We categorized the diagnoses into one of four groups: externalizing, internalizing, mixed externalizing/internalizing, and other. We categorized externalizing disorders as disruptive disorders (e.g., attention-deficit/hyperactivity disorder [ADHD], conduct disorder) and internalizing disorders as emotional disorders (e.g., anxiety, depression). We categorized mixed externalizing/internalizing disorders as disorders with mixed features (e.g., adjustment disorder with disturbance of emotion and conduct) and other disorders as disorders not fitting within the three preceding categories (e.g., autism). All study procedures were approved by the Nationwide Children's Hospital Institutional Review Board.

Statistical analyses

Exploratory factor analyses (EFAs) were conducted to determine which attitudinal items should be placed on particular subscales. The EFAs were performed on polychoric correlations using an ordinary least squares (OLS) discrepancy function and an oblique quartimax rotation, using Comprehensive Exploratory Factor Analysis (CEFA) (Browne et al. 2004). Confirmatory analyses were performed using LISREL

8.8. (SSI, Inc., Lincolnwood, Illinois). Next, logistic regressions were conducted to see if parent perceptions predicted future service utilization. Finally, Fisher exact and chi-squared tests were conducted to examine subgroup differences in expected physician monitoring of pediatric antidepressant use.

Results

Scales measuring perceived risks and benefits of clinic-based counseling

Exploratory factor analyses of the nine counseling items in Table 2 suggested two factors and overextraction failed to yield interpretable additional factors. A confirmatory analysis was run with the five questions in the top section of Table 2 loading on a "Counseling Benefits" factor and the four items in the bottom section loading on a "Counseling Risks" factor. All Counseling Benefits items loaded on that factor with coefficients >0.8 and all coefficients for Counseling Risks were ≥ 0.55 . The root mean square error of approximation (RMSEA) = 0.044, indicating a close model fit (Browne and Cudeck 1993). Therefore, we formed scales that were calculated as the sum of the items that loaded on each factor divided by the number of items, so that the scale scores ranged from 0 to 4. The Counseling Benefits subscale (coefficient $\alpha = 0.93$) had items reflecting expectations for overall improvement and better adjustment at home and school as well as views on the value, reasonableness, and worth of

TABLE 2. ITEMS AND SCALES FOR PARENTAL ATTITUDES TOWARD PSYCHOTHERAPY

Questions	Answers	n	Mean	SD
Counseling: Benefits				
I believe that counseling would be valuable in treating my child's problems.	0 = "Do not believe" to 4 = "Strongly believe"	495	3.2	0.8
I believe that counseling would be reasonable in treating my child's problems.	0 = "Do not believe" to 4 = "Strongly believe"	491	3.1	0.8
If my child received counseling, I believe that my child's problems would improve.	0 = "Do not believe" to 4 = "Strongly believe"	491	3.0	0.9
To what extent do you think counseling would be worthwhile?	0 = "Not worthwhile" to 4 = "Very worthwhile"	493	3.2	0.9
I believe that counseling would improve my child's adjustment at home or at school.	0 = "Do not believe" to 4 = "Strongly believe"	492	3.1	0.8
Scale: Counseling Benefits		497 ^a	3.1	0.8
Counseling: Risks				
How would counseling at this clinic compare in effectiveness with having the child talk over the problem with a counselor at school?	0 = "Clinic much better than school" to 4 = "Clinic much worse than school" ^b	482	0.5	0.9
I believe that counseling can be dangerous for children.	0 = "Do not believe" to 4 = "Strongly believe"	492	0.5	0.9
How would counseling compare in effectiveness with your own attempts at dealing with the problem?	0 = "Much better than talking" to 4 = "Much worse than talking" ^b	483	0.7	0.9
I believe that counseling would make my child's problems worse.	0 = "Do not believe" to 4 = "Strongly believe"	483	0.4	0.8
Scale: Counseling Risks		497 ^a	0.5	0.7

^aThere are no missing data on the scale, because the scale was calculated as the sum of the items that the patient answered, divided by the number of such items for that patient.

^bItem was reverse coded for analysis.

Abbreviations: SD = standard deviation.

counseling. The Counseling Risks subscale ($\alpha = 0.75$) had items reflecting expectations that symptoms would worsen, concerns that school counseling and self-help would be more beneficial than clinic-based counseling, and fears that counseling could be dangerous. Table 2 shows that parents viewed counseling as having benefits with few risks. There was a significant negative correlation ($r = -0.32, p < 0.0001$) between the Counseling Benefits and Risks subscales, indicating that greater perceived benefits were associated with lower perceived risks.

Scales measuring perceived benefits and risks of antidepressants

Similarly, we used exploratory and confirmatory factor analysis procedures to identify dimensions underlying the 10 items about antidepressants in Table 3. Again, exploratory analyses revealed evidence of two dimensions. In a confirmatory analysis, the six items in the top section of Table 3 loaded exclusively on an "Antidepressant Benefits" factor and the four items in the lower section loaded exclusively on an "Antidepressant Risks" factor. The benefits items had loading coefficients >0.65 , the risk items had loading >0.7 , and the

RMSEA = 0.054, indicating a reasonable to close model fit (Browne and Cudeck 1993). We again formed scales based on summing the items. The Antidepressant Benefits subscale ($\alpha = 0.89$) had six items reflecting expectations that antidepressants would improve symptoms, would not exacerbate symptoms, would be worthwhile, and would be more effective than school-based counseling, clinic-based counseling, and self-help. The Antidepressant Risk subscale ($\alpha = 0.87$) had four items reflecting concerns about these medications' generic risks, side effects, long-term impact, and potential addictiveness. Table 3 shows that parents viewed antidepressants as moderately beneficial, but, unlike counseling, as moderately risky. Sixty eight percent of parents worried "somewhat" to a "great deal" that antidepressants were addictive, a concern not generally shared by mental health professionals. There was a significant negative correlation ($r = -0.50, p < 0.0001$) between the Antidepressant Benefits and Risks subscales, indicating that greater perceived benefits were associated with lower perceived risks.

Given the recent scientific and media attention regarding concerns of antidepressants exacerbating suicidal thinking, we analyzed the question "I believe that antidepressant medications can make children want to hurt themselves" as a

TABLE 3. ITEMS AND SCALES FOR PARENTAL ATTITUDES TOWARD ANTIDEPRESSANTS

Questions	Answers	n	Mean	SD
Antidepressants: Benefits				
To what extent do you think an antidepressant medication would be worthwhile?	0 = "Not worthwhile" to 4 = "Very worthwhile"	263	2.5	1.2
How would an antidepressant medication compare in effectiveness with your own attempts at dealing with the problem?	0 = "much worse than own attempts" to 4 = "much better than own attempts"	252	3.0	1.0
If my child took antidepressant medications, I believe that my child's problems would improve.	0 = "Do not believe" to 4 = "Strongly believe"	264	2.5	0.9
I believe that an antidepressant medication would make my child's problems worse.	0 = "Strongly believe" to 4 = "Do not believe" ^a	263	3.0	0.9
How would an antidepressant medication compare in effectiveness with counseling at this clinic for your child's problem?	0 = "Much worse than counseling" to 4 = "Much better than counseling"	250	2.2	1.0
How would an antidepressant medication compare in effectiveness with having the child talk over the problem with a counselor at school?	0 = "Much worse than counseling" to 4 = "Much better than counseling"	249	2.8	1.1
Scale: Antidepressant Benefits		267 ^b	2.6	0.8
Antidepressants: Risks				
If my child took an antidepressant medication, I would worry about the long term effects of the drug.	0 = "Not worry at all" to 4 = "Worry a great deal"	264	2.7	1.1
Even though an antidepressant medication may help my child, I believe that the medication also has risks.	0 = "Do not believe" to 4 = "Strongly believe"	265	2.8	0.9
If my child took an antidepressant medication, I would worry about the side effects of the drug.	0 = "Not worry at all" to 4 = "Worry a great deal"	266	2.7	1.0
If my child took an antidepressant medication, I would worry that he or she would become dependent on or addicted to the drug.	0 = "Not worry at all" to 4 = "Worry a great deal"	265	2.2	1.2
Scale: Antidepressant Risks		267 ^b	2.6	0.9

^aItem was reverse coded for analysis.

^bThere are no missing data on the scale, because the scale was calculated as the sum of the items that the patient answered, divided by the number of such items for that patient.

Abbreviations: SD = standard deviation.

separate item. Fifty two percent of parents believed “somewhat” to “strongly” that antidepressants could make children want to harm themselves.

Perceived comparative effectiveness of counseling and antidepressants

Parents who said their child was depressed or was taking antidepressants were asked, “How would an antidepressant medication compare in effectiveness with counseling?” Twenty four percent of parents perceived that the effectiveness of antidepressants to be less than counseling, 36% perceived the effectiveness to be similar, and 40% perceived antidepressants to be better. However, parents who said their child was depressed or was taking an antidepressant reported higher perceived benefits for counseling ($\bar{X}_{couns} = 3.19$ vs. $\bar{X}_{anti} = 2.63$) and lower perceived risks ($\bar{X}_{couns} = 0.50$ vs. $\bar{X}_{anti} = 2.59$). The apparent conflict vanishes, however, when we recall that there is no reason to assume that parents’ scores on, for example, the benefits of counseling and the benefits of antidepressants are expressed in similar units that would permit direct comparisons of means.

Demographic and clinical variables associated with perceptions of counseling and antidepressants

We analyzed differences on the Counseling Benefits, Counseling Risks, Antidepressant Benefits, and Antidepressant Risks subscales by four demographic variables: child’s age (<11, ≥11), gender, race (Caucasian American, African American, other), and insurance status (Medicaid, private insurance, no insurance, other). Only two differences emerged. First, African American parents perceived antidepressants as less beneficial relative to other minority parents and Caucasian American parents, $p < 0.01$. Second, African American parents perceived antidepressants as more risky relative ($\bar{X} = 2.98$) to other minority parents ($\bar{X} = 2.48$, $p = 0.023$ for contrast with African American parents) and Caucasian American parents ($\bar{X} = 2.50$, $p = 0.001$).

We analyzed differences on the subscales by diagnostic group (externalizing disorder, internalizing disorder, mixed externalizing/internalizing disorder, other). There were no differences, except for parents’ perceptions of the benefits of antidepressants ($p < 0.007$), in which parents of children with internalizing disorders perceived antidepressants as more beneficial.

Next, we asked whether parents’ perceptions of the risks and benefits of counseling or antidepressants varied depending on the child’s use of either treatment. Whether the child had had a counseling visit in the past year was not associated with the perceived risk ($p = 0.46$) or benefit ($p = 0.06$, two-tailed) of counseling. However, parents of children with a prior medication visit perceived more benefit in antidepressants ($\bar{X}_{visit} = 2.93$ vs. $\bar{X}_{no-visit} = 2.44$, $p < 0.0001$) and less risk than other parents ($\bar{X}_{visit} = 2.42$ vs. $\bar{X}_{no-visit} = 2.71$, $p = 0.005$). These differences persisted in analyses including a dummy variable for African American race.

Do perceived risks and benefits of treatments predict future service utilization?

In logistic regressions, the perceived risks of counseling did not predict whether a child had a counseling visit in the next

year ($p = 0.87$), but perceiving a higher benefit was associated with a greater likelihood of a visit ($b = 0.54$, $p < 0.001$). The latter difference persisted even when we controlled for whether the child had had a prior counseling visit in the past year ($b = 0.51$, $p < 0.001$). When parents perceived higher risks in antidepressants, children were less likely to have a medication visit in the next year ($b = -0.49$, $p = 0.001$); conversely, when parents perceived more benefit, children were more likely to have a visit ($b = 1.12$, $p < 0.001$). We then ran an analysis in which having a medication visit in the next year was regressed on perceived benefits of antidepressants, perceived risks, a dummy variable for race, and whether the child had had a medication visit in the past year. Perceived risks of antidepressants ($p = 0.59$) and African American race ($p = 0.52$) no longer predicted future medication visits, but perceived benefits did ($b = 0.87$, $p = 0.001$).

Expectations about physician monitoring of pediatric antidepressant use

Parents with children in the depressed/antidepressant group were asked, “If my child was taking antidepressant medications, I would expect my child to see the doctor ...” (answers: “every week” through “once a year”). Fifty three percent expected to see the doctor “every” or “every other” week, and an additional 41% expected to see the doctor once a month. Ordinal logistic regressions showed that parents who perceived less benefit in antidepressants expected to see the doctor more frequently ($p < 0.001$), and parents who perceived more perceived risk also expected more frequent visits ($p < 0.023$). Parents were also asked, “Do you think that frequent contact with the doctor or a nurse about how my child was doing on an antidepressant medication would be worthwhile?” (answers “not worthwhile” to “very worthwhile”). Over 94% of parents thought that frequent contact would be “moderately” to “very” worthwhile. Ordinal logistic regressions showed that parents perceiving higher benefit in antidepressants were likely to see frequent contact as more worthwhile ($p < 0.001$; there was no association with perceived risk, $p = 0.08$).

Discussion

Despite the efficacy, widespread use, safety concerns, and media attention regarding pediatric antidepressant use, surprisingly little research has been conducted on parental attitudes about this treatment option. The present study adds significantly to the literature by (1) employing a large clinical sample with substantial heterogeneity in demographic and clinical characteristics, (2) assessing parental perceptions of specific antidepressant benefits and risks using subscales with high internal consistency, and (3) comparing these attitudes to parental perceptions of psychotherapy, another common treatment modality.

Four major findings emerged from the current investigation. First, among a group of parents seeking mental health care for their children, counseling was perceived as beneficial and having few risks, whereas antidepressant medications were perceived as both beneficial and risky. We caution readers, however, not to assume that parents’ scores Counseling and Antidepressant Benefits and Risks scales are expressed in similar units that would permit direct comparisons. For example, Counseling Benefits and Antidepressant

Benefits have similar means, which may suggest that parents believe them to be similarly effective. However, when asked to compare the effectiveness of counseling to antidepressant medication, parents perceived antidepressants to be more effective than counseling. This later perception is consistent with one of the major findings of the Treatment for Adolescents with Depression Study (2004), which found antidepressants to be more efficacious than psychotherapy for adolescent depression.

Interestingly, greater perceived benefits of these medications predicted future medication management appointments. Perceived treatment benefits appear to play a significant role in determining whether future psychiatric care will occur, regardless of whether that care is pharmacologic or psychotherapeutic. Providing sound education to patients and families about the benefits of antidepressant and/or psychotherapeutic treatment may improve engagement in treatment and empower families to seek more effective treatments. The relative unimportance of perceived risks of antidepressants in predicting future medication visits was surprising and merits further research.

The present study's second major finding was that African American parents often had less favorable views of antidepressants relative to parents of other ethnicities. They viewed these medications as both less beneficial and more risky. These attitudes existed even though race has not been found to moderate pediatric antidepressant response (Curry et al. 2006). These perceptions may be a contributing factor to the less frequent use of antidepressants (Zito and Safer 2001) and psychotropic medications in general (Leslie et al. 2003) by African American youths. However, we did not find evidence of other sociodemographic disparities regarding perceptions of antidepressants and counseling. Taken together, our findings suggest that an important step in reducing disparities in pediatric mental health care would be better addressing African American parents concerns regarding antidepressants, perhaps by better understanding and responding to culturally specific attitudes and concerns.

The study's third major finding was that a substantial portion of parents reported concerns regarding the safety of antidepressants. To begin with, many parents perceived antidepressants as precipitating suicidal ideation. The empirical literature is not entirely consistent on whether antidepressants do increase suicidal thoughts. A recent meta-analysis by Bridge and colleagues (2006) indicated that antidepressants have a favorable benefit-to-risk profile and are associated with a small but not statistically significant increase in suicidal ideation. Recently, Markowitz and Cuellar (2007) found no evidence that antidepressants increase pediatric suicide risk when using state level data. Parents may be understandably perplexed by the current state of knowledge and existing uncertainties, not only about the short-term safety of antidepressants, but also their long-term safety, and thus inclined to decide against pediatric antidepressant use. The current state of knowledge thus makes it difficult for providers to offer simple explanations about whether antidepressants are "safe" or "not safe" with any credibility, and some patients and families may have trouble understanding how antidepressant treatment might contribute to the health of depressed youth as a group, yet at the same time putting selected individuals at risk. In addition, this study identified common parental concerns with little clinical and empirical support—specifically

that antidepressants were addictive in children. Accordingly, to create truly informed consumers of care, clinicians must engage in a thoughtful dialogue with patients and families about the current state of scientific knowledge and common misconceptions. Specifically, on the basis of our findings, prescribing clinicians might productively emphasize the nonaddictive nature of antidepressants when discussing this treatment option.

Our fourth and final major finding was that many parents expected a higher level of physician monitoring of pediatric antidepressant use than is offered and available in most communities. Specifically, a slight majority of parents expected their children to see the physician at least every few weeks if prescribed an antidepressant. Although these parental expectations are consistent with FDA guidelines regarding monitoring antidepressant use, the hesitancy of many primary care providers to manage pediatric antidepressant treatment, a shortage of child psychiatrists (Thomas and Holzer 2006), and barriers related to cost, time, and transportation make this level of monitoring untenable for many patients. Alternative approaches to monitoring treatment response by telephone, including novel approaches using automated telephone technology, may be necessary to supplement routine care in most communities in order to approximate this desired level of service.

Limitations and Future Directions for Research

Several limitations of the present study deserve mention. To begin with, although we reported categories of clinical diagnoses that were largely based upon unstructured clinical interviews, we were not able to confirm diagnoses with a valid standardized assessment. In addition, we reported on previous and future counseling and medication management appointments only within our hospital's behavioral health system and therefore did not capture mental health services that may have been provided elsewhere (e.g., primary care offices, private practices). Furthermore, our resources did not permit us to explore differences in antidepressant attitudes by type of antidepressant (e.g., tricyclics versus SSRIs versus serotonin-norepinephrine reuptake inhibitors [SNRIs]). Pharmacy claims files and electronic pill caps would have been useful to determine which specific medications were filled and actually taken. Finally, while we employed a large and diverse clinic-based sample, the generalizability of our findings may be limited to parents of children receiving specialty mental health care, and we are unable to address how parent health beliefs might contribute to our understanding of why the majority of youths with mental disorders receive no treatment whatsoever. Future work should use other target groups, such as primary care or general population samples, to identify perceptions of pediatric mental health care options.

Clinical Implications

In conclusion, we suggest that a more sophisticated understanding of patient and family health beliefs regarding mental health treatments may help efforts to engage youths suffering from mental disorders and their parents in effective treatments. Concerns also exist about disparities in care between specific demographic and cultural groups, but more data are needed because the degree to which such disparities

are due to systemic barriers to care and health beliefs common to particular ethnic groups remain largely a matter of speculation. Understanding the beliefs about mental health treatment that are prevalent within underserved groups can aid providers in tailoring patient and family educational efforts and help direct deployment of treatment resources. Although there is no substitute for clinician time in discussing the risks and benefits of specific treatments for specific disorders, such efforts may also be augmented by the use of high-quality informational materials, including those that leverage novel communication technologies, and these standardized efforts can be tailored and adapted to the population in need.

A better appreciation of patient and parental beliefs about mental health treatments can improve patient care in two ways: By helping to create truly informed consumers of pediatric mental health care and by helping to direct limited treatment resources in the most effective manner. Accordingly, it is not simply a matter of persuading individuals and groups about the importance of particular treatment modalities, but also of developing realistic public health-oriented approaches to care delivery. For example, clinicians could respond to the more negative perceptions among African American parents about antidepressant medications not only by providing valid, unbiased information about antidepressant medication potentially to modify existing biases against pharmacologic treatment, but also by making psychotherapeutic treatment resources relatively more available to African American youths. This is particularly important in areas where quality psychotherapeutic resources are scarce or nonexistent.

Disclosures

Dr. Stevens is a shareholder in Wyeth. The remaining authors have no financial ties or conflicts of interest to disclose.

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