Primary Care Role in the Management of Childhood Depression: A Comparison ofPediatricians and Family Physicians

Jerry L. Rushton, MD, MPH; Sarah J. Clark, MPH; and Gary L. Freed, MD, MPH

Abstract. Objective. To provide a self-described assessment of pediatricians’ and family physicians’ management of childhood depression.

Design. Mail survey of 593 general pediatricians and 557 family physicians in North Carolina.

Results. The response rate was 66%. Most primary care physicians used referral (65%) and counseling (61%) for management of childhood depression. Family physicians used medications more commonly (18% vs 9%), and pediatricians referred patients more commonly (77% vs 48%). In logistic regression analysis, physicians comfortable with management of depression (odds ratio [OR], 4.8: 2.7–8.4), physicians who believed that antidepressants are more effective than counseling (OR, 2.6: 1.4–4.8), and family physicians (OR, 2.2: 1.9–4.1) were more likely to have used medications for childhood depression.

Conclusions. Most primary care physicians refer pediatric patients with depression; however, practice patterns vary by specialty and other factors. Future studies must consider the role of primary care and evaluate how interspecialty variations affect costs and outcomes of childhood depression. Pediatrics 2000;105:957–962; depression, antidepressants, counseling, referral, pediatricians, family physicians, practice variations.

ABBREVIATIONS. Ped, general pediatricians; FP, family physicians; SSRI, selective serotonin reuptake inhibitors.

In the 1970s, the term “new morbidity” recognized a group of behavioral disorders that emerged as an important component of the primary care of children.1 Since then, the role of primary care has changed with the introduction of managed care, gatekeeping arrangements, and new psychopharmacologicals.2–5 Despite these changes, it is still not clear who should treat the new morbidity or if depression and psychiatric disorders fall within the scope of primary care.6–8 Depressive symptoms are common in ambulatory practice, yet underrecognition of depression in primary care has been well-documented.9–11 Family physicians and other providers have been encouraged to increase treatment of depressed adult patients within primary care12–14; however, no similar position has been widely adopted by physicians who care for children.15–16

Previous studies of prescription practices have demonstrated differences among pediatricians, family physicians, and other providers in the use of psychotropic medications and treatment strategies for mental disorders.19–22 In addition to specialty, physician training and opinions regarding mental health issues may also contribute to variations in practice.23–25 The evolving role of pediatricians and family physicians in the management of childhood depression has important implications for training, primary care/specialist workforce needs, expenditures and reimbursement, organization of mental health services, and outcomes.

The goals of this study were to 1) provide a self-described assessment of current management of childhood depression in primary care, 2) identify specialty differences between pediatricians and family physicians, and 3) explore potential influences on practice variations.

METHODS

Study Population

The sample was drawn from the North Carolina health professions licensure file and included 1152 physicians: all general pediatricians (Ped) younger than 65 years old in active primary care practice (n = 595) and a similar number (n = 557) of randomly selected family physicians (FP) younger than 65 years old. The 557 family physicians represented approximately one third of all family physicians in North Carolina. Adolescent medicine specialists, behavioral pediatricians, and medicalediatrics physicians were excluded.

Survey

The survey instrument consisted of a 4-page questionnaire. The pediatrician and family physician survey instruments were identical, and all questions were specifically focused on patients 18 years old and younger to minimize family physician reports on adult patients. Items queried physician demographics, practice characteristics, general management approaches to depression in children, volume of pediatric patients with depressive symptoms, prescription of selective serotonin reuptake inhibitors (SSRIs) for depression, and opinions on the management of depression. There were multiple response formats in the survey: the demographic and practice items were multiple-choice categorical answers and fill-in the blanks, and the opinion questions about management of depression were based on 5-point Likert scales of agreement.

The main outcomes of interest were the patterns of use of 4 general management strategies for childhood depression: medication, referral, counseling, and watchful waiting. Our focus was on the most common approaches to childhood depression; thus, respondents who reported using each method often were compared with respondents who used the general approach never, rarely, or sometimes. Quantitative information on the number of pediatric patients with depression seen in their practice in the
last 6 months and the number of antidepressant prescriptions to pediatric patients was collected by physician self-report.

Data Collection

Of the initial sample, we excluded 136 physicians (90 Ped, 46 FP) who were identified as subspecialists, administrators, emergency department or inpatient-based physicians, and physicians with primary practice out of the state. Questionnaires were sent to the remaining 1016 physicians (505 Ped, 511 FP). Surveys were sent by first-class mail accompanied by a personalized cover letter signed by the principal investigator. Two follow-up questionnaires were mailed to nonrespondents at 4-week intervals.

Data Analysis

χ² tests compared outcomes of pediatricians and family physicians, practice settings, physician demographics, and other factors. Multivariate logistic regression was used to control for differences in demographics, specialties, and opinions among physicians and analyze factors that were associated with more common use of medication, counseling, referral, watchful waiting, and prescriptions often before referral. For the logistic regression analysis, an initial model using all independent variables was constructed and compared with a final model eliminating variables that did not significantly contribute to the model using likelihood-ratio tests for statistical comparison.

All statistics were analyzed with STATA 6.0 software (Stata Corporation, College Station, TX).

RESULTS

We received 591 completed surveys from eligible respondents (349 Ped, 242 FP) and 114 surveys (47 Ped, 67 FP) from physicians who were retired or were not providing primary care for children (ineligible respondents). Thus, the overall response rate was 66% for the 902 eligible physicians (76% Ped, 55% FP). Physician demographics and practice characteristics are shown in Table 1. The demographics of respondents were similar to nonrespondents and other national samples of primary care physicians conducted previously by the investigators.

<table>
<thead>
<tr>
<th>Table 1. Primary Care Physician Characteristics</th>
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<tbody>
<tr>
<td>Physician Characteristic</td>
</tr>
<tr>
<td>Family Physicians, %</td>
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<tr>
<td>Physicians, %</td>
</tr>
<tr>
<td>(n = 242)</td>
</tr>
<tr>
<td>(n = 349)</td>
</tr>
<tr>
<td>Age ≥40 y old</td>
</tr>
<tr>
<td>Male gender</td>
</tr>
<tr>
<td>Residency completed in 1990 or after</td>
</tr>
<tr>
<td>Pediatric patients in managed care (mean)</td>
</tr>
<tr>
<td>Pediatric patients in Medicaid (mean)</td>
</tr>
<tr>
<td>Practice type</td>
</tr>
<tr>
<td>Solo</td>
</tr>
<tr>
<td>Small group</td>
</tr>
<tr>
<td>Large group</td>
</tr>
<tr>
<td>Health maintenance organization</td>
</tr>
<tr>
<td>Academic</td>
</tr>
<tr>
<td>Practice setting</td>
</tr>
<tr>
<td>Rural</td>
</tr>
<tr>
<td>Suburban</td>
</tr>
<tr>
<td>Urban</td>
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</tbody>
</table>

*Difference between pediatrician and family physician responses significant at P < .05.

General Management of Childhood Depression

Figure 1 displays how frequently physicians cited using each of 4 basic approaches to the general management of childhood depression often. Overall, family physicians were more likely to report use of medications often (18% vs 9%; P = .001) and pediatricians were more likely to report referral often (27% vs 48%; P < .001). Family physicians and pediatricians did not differ in their use of watchful waiting or counseling.

Physicians were also compared by use of management strategies (without regard to specialty) to determine the influence of management style on other approaches to care. Physicians who reported the use of medications often were also more likely to report use of counseling often (74% vs 58%; P = .013). There was no significant difference in the use of referrals between physicians who did or did not use medications often (61% vs 65%; P = .560).

Medications in Childhood Depression

The most common timing for prescription of antidepressant medications was after referral to a specialist (38%). Fifteen percent of the physicians used medications early in the course of treatment, before consultation or referral to a specialist. This group of prescribers differed markedly by specialty; only 6% of pediatricians used this approach compared with 28% of the family physicians (P < .001). Pediatricians were more likely than family physicians to report they never prescribed medications for depression (29% vs 6%; P < .001) or only refilled prescriptions for antidepressants initiated by another physician (35% vs 19%; P < .001).

In the last 6 months, 42% of family physicians and 25% of pediatricians had recently prescribed an antidepressant for >1 depressed adolescent (P < .001). Recent prescriptions for depressed children <12 years old did not vary by specialty (7% Ped vs 6% FP; P = .660).

SSRIs were the antidepressants of choice by most pediatricians and family physicians who prescribed medications for childhood depression. SSRIs comprised 53% of antidepressant prescriptions written by pediatricians and 75% of all antidepressant prescriptions by family physicians (P < .001).

Counseling and Referral for Childhood Depression

We also studied the nature of counseling to determine how this component of management was integrated into primary care. Although many respondents stated they used counseling as a general management approach to childhood depression, the majority of physicians reported referral to a counselor or specialist for this intervention. Pediatricians referred patients for counseling more commonly than family physicians (86% vs 63%; P < .001). Family physicians were more likely to report that they provided counseling within the medical visit (44% vs 27%; P < .001). Very few physicians conducted dedicated counseling sessions in their office (6% Ped vs 7% FP; P = .482). Physicians used many referral options including psychologists.
(90% Ped vs 82% FP; \(P = .005\)), child psychiatrists (96% Ped vs 79% FP; \(P < .001\)), school counselors (29% Ped vs 29% FP; \(P = .990\)), and general psychiatrists (22% Ped vs 37% FP; \(P < .001\)).

Potential Influences on Management Strategies for Childhood Depression

Table 2 displays physician opinions regarding depression, antidepressants, counseling, and other factors that may influence management of childhood depression. Most physicians reported inadequate training and comfort in the management of childhood depression. Few appear convinced of the benefits of antidepressants over counseling or use of SSRIs in children and adolescents, although more than half believe the SSRIs are safer than other antidepressants. Some specialty differences were apparent: family physicians were more likely than pediatricians to report comfort with treatment of childhood depression, belief in the safety of SSRIs, and lack of referral availability. Pediatricians were more likely to report that depression was too time-consuming for their office schedule.

Logistic regression was used to describe physician specialty, demographics, and opinions associated with more common use of medication (Table 3). Family physicians were more likely to prescribe medications after adjusting for differences in physician demographics, practice setting, physician opinions, and other potential influences. Physician age, year completed residency, practice setting, managed care and Medicaid patient population, and perceived quality of residency training in childhood depression were not significantly associated with differences in management. Other factors such as perceived parental pressures for medications and managed care pressures were not associated with differences in management.

Finally, we examined the subset of 85 physicians who used medications often before consultation with a specialist or referral (Table 4). In logistic regression analysis, these respondents were more likely to be family physicians, comfortable with care of childhood depression, limited in referral availability, and believe in the effectiveness of SSRIs. Physicians who reported that they did not

**TABLE 2.** Percent of Physicians Who Agreed With the Following Statements

<table>
<thead>
<tr>
<th>Physician training and comfort</th>
<th>% Family Physicians Who Agreed</th>
<th>% Pediatrician Who Agreed</th>
</tr>
</thead>
<tbody>
<tr>
<td>I received adequate training the management of childhood depression.</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>I am comfortable with treatment of childhood depression.</td>
<td>22</td>
<td>11*</td>
</tr>
<tr>
<td>View of antidepressants and SSRIs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antidepressants are more effective than counseling.</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Most childhood depression is mild, transient, and does not warrant medication.</td>
<td>16</td>
<td>19</td>
</tr>
<tr>
<td>SSRIs are safer than other antidepressants in children and adolescents.</td>
<td>63</td>
<td>48*</td>
</tr>
<tr>
<td>SSRIs are the most effective treatment for depression.</td>
<td>40</td>
<td>32</td>
</tr>
<tr>
<td>Practice pressures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managed care has pressured me to manage depression without referral.</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>Lack of available referral resources leads me to treat depression on my own.</td>
<td>20</td>
<td>12*</td>
</tr>
<tr>
<td>Parents expect medications to be used in treatment of childhood depression.</td>
<td>16</td>
<td>17</td>
</tr>
<tr>
<td>Managing depression is too time-consuming for my office schedule.</td>
<td>32</td>
<td>52*</td>
</tr>
</tbody>
</table>

*Difference between pediatrician and family physician responses significant at \(P < .01\).
have adequate time to manage childhood depression in their office were less likely to prescribe antidepressants early in the course of treatment before consultation or referral.

**DISCUSSION**

Pediatricians and family physicians differed in their approach to the management of childhood depression. Family physicians used medications in management of childhood depression, prescribed medications before referral to a specialist, and prescribed SSRIs more commonly than pediatricians. In contrast, most pediatricians had never prescribed antidepressants or only refilled prescriptions initiated by another physician or specialist. In addition to differences in the use of medications, there were differences in the nature of counseling and use of referrals. Family physicians were more likely than pediatricians to conduct brief counseling within the medical visit, and pediatricians were more likely to refer patients for counseling and management.

A large part of the specialty differences appear to center on the management of depressed adolescents. Family physicians prescribed antidepressants for adolescents more commonly than pediatricians, but there was no difference for children <12 years old. Some of the specialty differences are likely attributable to differing beliefs and opinions. Although family physicians did not report more adequate training in childhood depression, they did report greater comfort in the management of depressed pediatric patients. Furthermore, family physicians were more confident in the safety and effectiveness of SSRIs. Pediatricians, on the other hand, reported more limited office visit time to manage depression in primary care and better availability and access to referral specialists. These factors help to explain in part why family physicians reported use of medications more often and pediatricians reported use of referral more often.

Even after controlling for differences in physician demographics, training, and practice setting by logistic regression analysis, there are some intrinsic specialty differences that are not fully explained by the specialty-specific opinions measured in our survey. Family physicians reported prescription of medications more often for childhood depression. Our findings are consistent with other studies of psychotropic use and comparable to other prescription practices such as higher rates of antibiotic prescriptions by family physicians for children with sinusitis and upper respiratory illnesses. It is important to note that our data do not indicate that one specialty is more appropriate in the approach to childhood depression. However, the clinical and economic implications of specialty differences must be considered and examined in future studies.

Primary care physicians also shared some commonalities. Overall, the majority of pediatricians and family physicians still rely on referral and counseling for management of childhood depression. Given the lack of clear benefit of tricyclic antidepressants in children and adolescents and only recent preliminary reports and clinical trials on the benefits of SSRIs in pediatric patients, it is not surprising that most primary care physicians have taken this approach. In addition, most respondents reported inadequate training and a lack of comfort with management of childhood depression. Thus, despite changes in mental health care, most physicians do not routinely use medications and instead rely on referral.

If primary care physicians do not or can not routinely provide definitive treatment for depressed patients, they should, at a minimum, maintain a high level of diagnostic suspicion and actively identify patients in need. If the main role of most primary care physicians is going to be in recognition, diagnosis, and referral of depressed children, we need to address the well-documented problem of underrecognition. Research and guidelines must foster the identification, dissemination, and ongoing evaluation of diagnostic tools relevant to primary care like the *Diagnostic and Statistical Manual for Primary Care*. Although diagnostic instruments can aid diagnosis, physicians also require assistance identifying subpopulations of depressed pediatric patients who can benefit from management without referral. Even after proper recognition of mental disorders, many patients struggle through barriers of insurance, stigmatization, and other complex forces after diagnosis and referral. Future research must examine the overall organization and coordination of services to ensure that pediatric patients referred from primary care are able to traverse the system and receive optimal treatment. If patients are not referred, treatment within primary care practices must be investigated.

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**TABLE 3. Factors Associated With Prescribing Medications Often for Management of Childhood Depression**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Odds Ratio</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comfortable treating childhood depression</td>
<td>4.8</td>
<td>2.7–8.4</td>
</tr>
<tr>
<td>Believe antidepressants are more effective than counseling</td>
<td>2.6</td>
<td>1.4–4.8</td>
</tr>
<tr>
<td>Family physicians versus pediatricians</td>
<td>2.2</td>
<td>1.9–4.1</td>
</tr>
</tbody>
</table>

*Adjusted for physician demographics, practice setting, and opinions.

**TABLE 4. Factors Associated With Prescription of Medication Early in the Course of Treatment Before Referral**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Odds Ratio</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family physicians versus pediatricians</td>
<td>4.9</td>
<td>2.8–8.7</td>
</tr>
<tr>
<td>Physicians comfortable with treatment of childhood depression</td>
<td>3.0</td>
<td>1.7–5.4</td>
</tr>
<tr>
<td>Lack of referral availability</td>
<td>2.1</td>
<td>1.1–3.9</td>
</tr>
<tr>
<td>Believe antidepressants are more effective than counseling</td>
<td>2.0</td>
<td>1.1–3.5</td>
</tr>
<tr>
<td>Believe childhood depression too time-consuming to manage</td>
<td>0.4</td>
<td>0.2–0.8</td>
</tr>
</tbody>
</table>

*Adjusted for physician demographics, practice setting, and opinions.
to determine the quality of counseling, dosage and duration of pharmacological treatments, follow-up received, and comparisons with outcomes in specialty care or community services.

Limitations

First, this physician sample was obtained in a single state. Managed care pressures, referral availability, and other potential influences may differ in other areas. Second, unique individual patient characteristics such as age, comorbidity, and different severity of depression may limit comparisons of patients whom physicians are treating for depression. Referral, counseling, medication, and watchful waiting may all be important options for individual patients with different severity of depression, comorbidity, and other factors. Third, underrecognition of depressive symptoms and varied diagnostic criteria may greatly affect the denominator of patients physicians view as depressed and subsequently manage for depression. Fourth, our data were obtained by survey; actual physician practice may differ from the reported opinions and recall of treatment of patients in the last 6 months. Finally, without clear practice standards and evidence-based guidelines for management of childhood depression in primary care, it is not known how these general processes of care translate into specific outcomes for individual children and adolescents with depression. This study does not make judgments of treatment appropriateness or determine an optimal standard of care for childhood depression.

CONCLUSIONS

In summary, most primary care physicians manage childhood depression by counseling and referral. For these physicians, it is important to support their role in the identification of depressive symptoms and facilitation of treatment in community and specialty settings. For other providers, especially family physicians, management of depressed children and adolescents also involves treatment within primary care. Efforts must be made to provide primary care physicians with greater training and guidance for their role in the provision of mental health services. Initiatives to increase the role of primary care in mental health cannot ignore the challenges of limited office visit time, insurance and reimbursement issues, and referral distribution and access. Additional studies and discussions should consider the effects of an expanded role of primary care in depression and other mental disorders to assess whether or not this approach should be recommended and developed. Ultimately, the role of pediatricians and family physicians in childhood depression must be guided by evaluations to determine if different processes of care translate into different costs and outcomes.

ACKNOWLEDGMENT

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REFERENCES

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