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Parents' Goals for ADHD Care in a Clinical Pediatric Sample

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Abstract

Objective—This report describes goals parents have for their children with attention-deficit/hyperactivity disorder when coming for a pediatric visit.

Method—Data was collected from 441 parents of children presenting to either a primary care pediatric practice or a developmental behavioral pediatric practice. Parents were asked to report their top one or two goals for improvement for their children, and responses were coded into 17 categories. These categories were further grouped into seven goal composites and examined in relation to demographic characteristics of the families, office type, and symptomology.

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Results—Goals related to reducing symptoms of inattention were most common, but goals were heterogeneous in nature. Goals were meaningfully, but modestly, related to symptomology. In several instances, symptoms of comorbid conditions interacted with symptoms of ADHD in relation to specific goals being reported.

Conclusions—Parents' goals extended beyond ADHD symptoms. Pediatricians need an array of resources to address parents' goals.

Keywords

ADHD; collaborative care; parental goals; comorbidity

INTRODUCTION

Consistent with diagnostic requirements, assessment of attention-deficit/hyperactivity disorder (ADHD) focuses on the presence of symptoms and associated impairment.[1,2] Although symptom severity is informative for clinicians when establishing a diagnosis, a sole focus on symptoms may lead to a gap between confirmation of a diagnosis and generating goals for change for shared decision making. In pediatrics, shared decision-making includes integrating parents' goals and concerns about their children with medical evidence to achieve a family-centered medical decision process.[3] Although shared decision-making leads to better health outcomes,[4] some studies suggest that there is a low-level of shared decision-making in routine pediatric ADHD care. [5]

The American Academy of Pediatrics (AAP) recommends use of shared decision-making in its practice guidelines for ADHD, with a focus on identifying goals for ADHD. Specifically, the AAP calls for "addressing individualized and specific behavioral, academic, and social target goals" (p. #SI11).[6] The AAP also states that, "The goals should be realistic, attainable, and measurable," (p. 1037).[7] The AAP ADHD Toolkit includes a written care-management plan template that includes goal setting as part of a chronic care model.[8] Although the AAP recommends assessing goals, it is unclear if this has been widely adopted in pediatric ADHD care. For instance, compliance with identifying parents' goals has not been noted in surveys of primary care practice patterns and does not appear as an item in the tool used in that research.[9,10] Two known ADHD quality improvement studies addressed creation of a written care management plan,[11,12] which included goal setting. These studies found documentation of care management plans ranging from 0–39%, with one study showing improvement with intervention.[12] Neither of these investigations gave information about the specific goals reported by parents of children with ADHD.

Overall, information on the types of goals families identify as important is sparse. The AAP[4] suggests that goals will be in areas of functioning most affected by ADHD including academics, peer relationships, the parent-child relationship, sibling relationships, and safety in the community, but these have not been empirically evaluated. It is also unclear what characteristics influence the goals parents report for their children. Finally, there is inadequate guidance regarding how clinicians should translate goals into measurable targets and interventions.

Need for Measurement of Goals

Despite the potential benefits of stimulant therapy for ADHD, poor adherence may lead to suboptimal symptom management.[13] In an era of public skepticism about ADHD,[14] focusing management on personal goals, rather than only symptoms, may improve adherence to treatment even if families are ambivalent. Once ADHD symptoms improve, other areas of concern may become more of a focus for parents, providing clues to co-morbid conditions. Moreover, levels of symptoms and impairment give clinicians general information, but are not informative for planning targeted interventions. Asking about goals, on the other hand, provides the clinician with detailed information to customize a plan specific to parents' and children's needs. Well-formed goals are also measurable targets towards which to work, providing a sense of accomplishment. Without a reliable and valid instrument to determine and measure goals, however, it is challenging for clinicians and families to track progress over time. In contrast, tools to rate symptoms are readily available,[15] potentially leading to an emphasis on symptom reduction over goals in pediatric ADHD care.

Recognizing gaps in the assessment of ADHD, the Impairment Rating Scale (IRS) was developed by Fabiano and colleagues to better detect impairment across settings associated with ADHD using a brief parent measure.[16] Results from the work of Fabiano and colleagues[16] show that areas of impairment often extend into multiple parts of a child's life. Assuming that goals relate to impairment, their work informs the assessment of goals. Fiks and colleagues[17] developed a promising questionnaire for ADHD care aimed at identifying both patient care preferences and parents' goals. The tool was developed through semi-structured interviews of sixty parents and thirty clinicians and items from the Life Participation Scale for ADHD,[18] an instrument assessing treatment-related improvements. Recently, Fiks and colleagues reported that parents' selection of specific goals when ADHD treatment is initiated is related to treatment preference (i.e., medication or behavioral therapy).[19] Additionally, the type of treatment children received related to changes in goals over time; suggesting certain treatments help accomplish specific goals. One possible limitation to the instrument developed by Fiks and colleagues is that items relate to only three goal areas—academic achievement, behavioral compliance, and interpersonal relations.[17, 19] Given the dearth of research in this area, a more open-ended approach to gathering data on the breadth of parents' goals for ADHD care could be beneficial.

Our Approach

We investigated specific goals of parents of children with ADHD in the context of a visit for ADHD care. We think it is important for clinicians to know what to expect when newly incorporating goal setting into their ADHD care. Furthermore, we see it as essential to establish whether parents' goals are focused almost exclusively on reducing the symptoms of ADHD, in line with symptom tracking, or whether they extend beyond symptoms. Clinicians using symptom ratings to guide clinical care will want to know whether parents' goals are tied to ADHD symptoms alone or whether goals also extend into areas of ADHD comorbidity. Understanding factors influencing parents' goals may also aid clinicians in anticipating intervention needs for specific families and help in negotiating well-formed, realistic goals.

Parents are likely telling their clinician about their goals in their own words. Therefore, we started there and asked parents to state their goals in their own words. To better describe and organize the kinds of goals parents set as well as for purposes of analysis, we attempted to find a reliable way to categorize these goals. We also collected demographic information and symptom ratings to determine the relation between these constructs and parents' goals to better understand processes that shape goal selection and examine if measuring goals is informative beyond measuring symptoms.

METHOD

Participants

Data were collected routinely online from 441 parents of children preparing for a visit to either a primary care pediatric (PCP) practice (n = 291) or a developmental behavioral pediatric (DBP) practice (n = 147). Office type was missing for three children. Each participant visiting a PCP practice was identified for this study because their child's doctor listed ADHD on the problems list in their electronic medical record. For participants visiting a DBP practice, clinicians identified families receiving care for ADHD management in their practice. The primary care practices were located in southern Mississippi and included both Medicaid focused practices and some more private practice oriented practices including 14 pediatricians. The DBP practices consisted of a convenience sample of online questionnaire users located Maryland, North Carolina and Arizona including 7 developmental and behavioral pediatrician with practices focusing on consultation to primary care pediatrics. Neither the PCP nor DBP practices had unusual resources or special intervention programs available and could be considered typical.

Children ranged in age from 4 to 17 years, with an average of 9.50 years old (SD = 3.18), and were 66% male and 34% female (gender was missing for two participants). Race data was missing for 50 children. Of those reporting, 82.1% of children were White, 13.0% Black, and 4.9% other. Parent race was not reported by 151 parents. Of those reporting, 83.6% of parents were White, 12.6% Black, and 3.8% Other. A total of 391 (88.7% of the sample) reported on their Medicaid status and, of those, 33.2% were on Medicaid. Parent was defined as any adult in the primary caregiver role, which included aunts, grandparents, and other legal guardians. The majority (85.5%) of the parents were mothers, with only 5.2% being fathers and 9.3% being another type of caregiver or not reporting caregiver type.

Measures

Vanderbilt AD/HD Diagnostic Parent Rating Scale (VADPRS)—The VADPRS consists of 43 items including a comprehensive list of the 18 diagnostic symptoms of ADHD measured on a 4-point Likert scale,[15] which yields scores for inattention, hyperactivity/impulsivity, and total ADHD symptoms. The initial version of the VADPRS contains identical ADHD symptom items but also measures symptoms of oppositional defiant disorder (ODD), conduct disorder (CD), anxiety, and depression as well as impairment in academics, classroom behavior, and relationships. The VADPRS demonstrates good psychometric properties, including in community samples, and is recommended and distributed by the AAP for the assessment of ADHD and associated comorbidities.[15] The

VADPRS was available for 323 of the 441 participants with some parents completing the initial version and some completing the follow-up version.

Parents' Goals for ADHD Care—Parents completed an online questionnaire which asked, "What are the top one or two goals for improvement for your child?" Parents typed their responses into two open-ended response fields. All 441 parents reported at least one goal in the first open-ended response field, and 339 parents reported a second goal. However, parents sometimes typed multiple goals in one response field—either the first or the second—including some parents reporting more than one goal in the first response field and not using the second response field. Regardless of where the goals were recorded, each goal reported by parents was coded. Following data collection, two trained staff members coded the open-ended responses into 17 goal categories. Development of the categories and the method used for coding are further described in the Procedures section.

Procedures

Prior to a visit with their child's clinician, parents completed the VADPRS, provided basic demographic information, and answered the question about their top one or two goals for their child's improvement. Practices participating in this project assigned these questionnaires as part of routine for ADHD visits. Data was collected online during routine pre-visit use of the Child Health and Development Interactive System (CHADIS; www.CHADIS.com). If parents did not have access to a computer, a member of the research staff asked parents the questions over the phone and input the answers into CHADIS.

After all open-ended responses were collected, the goals were coded for further analysis. A child clinical psychologist specializing in ADHD took a first pass at identifying categories of parents' goals based on like content, which resulted in 68 categories. This initial attempt gave a picture of some of the themes emerging from the open-ended goals data. Based on that information, as well as guided by the literature,[16–19] 17 goal categories codes were developed. First, goal categories related to the three domains of ADHD (i.e., inattention, hyperactivity, and impulsivity/impatience/inconsistency) were included to determine goals directly related to ADHD symptom reduction. Next, because impairment is required for a diagnosis and because the IRS[16] demonstrates high levels of reliability and validity in detecting impairment related to ADHD, eight goal categories related to the scales established by the IRS were included to determine goals directly related to reducing impairment. These eight goal categories included relationship with peers, relationship with siblings, relationship with parents, academics, self-esteem, family functioning, relationship with teachers, and influence on the classroom. Finally, the remaining six goal categories, which did not correspond to either the IRS impairment scale or to symptoms, were grouped according to their content based on expert consensus. These goals included time management/organization, emotional problems (e.g., anxiety, depression, emotion dysregulation), switching from one task to another, conduct problems, physical problems, and medication problems (e.g., medication to last longer, reduce side effects). Finally, an "other" category was established to code any goals that were not otherwise classified as well as any responses too vague to be classified (e.g., "improve behavior" or "change attitude"). This "other" category was not considered in the subsequent analyses. It was noted that a

majority of the goals coded as “other” were vague, further underscoring the need for a measure to help parents communicate more specific goals to their clinicians.

Once the 17 goal categories were agreed upon by a group of experts (two developmental behavioral pediatricians and a child clinical psychologist, ADHD expert, different from the initial coder), a coding manual was prepared that provided the name of each goal category, along with descriptions of the types of content that belonged in each category and instructions for consideration of alternative categories. Two coders independently rated each of the parents’ goals by assigning each open-ended response to one or more categories based on this coding scheme. Coders were provided the written document and were trained by a clinical psychologist on how to determine the codes. They were instructed to consider, “What would have to change for this goal to be met?” (a consideration which provided guidance about the outcome desired and the setting in which the goal should occur) to determine how to categorize a goal.

Coders were permitted to use up to four goal categories codes for one stated goal. Specifically, if the goal fit well in two goal categories (e.g., relating to relationship with both siblings and parents), it was to be coded in both. Specifically, for parents’ goal(s) typed in the first response field, 95 participants had two goal categories, 16 had three goal categories, and 6 had four goal categories. For parents’ goal(s) typed in the second response field, 75 participants had two goal categories, 5 had three goal categories, and 0 had four goal categories. Across the responses from the 441 parents, coder 1 recorded 533 codes for parents’ responses in the first response field and 385 codes for parents’ responses in the second response field. Similarly, across the responses from the 441 parents, coder 2 recorded 570 codes from the first response field and 405 codes for the second response field. Reliability was determined by computing the percent of time coders recorded the same code for each written response. Reliability was good with coders in agreement 70% of the time. Finally, discrepancies between coders were noted and reviewed by a clinically focused developmental psychologist, who determined the final assigned code.

RESULTS

Data Analysis

First, frequencies of the 17 goal categories were examined. In a data reduction effort, the 17 goal categories were collapsed into 7 goal composites, and frequencies of these 7 goal composites were examined. Next, the relations among goals and participant demographic information were considered. Relations among goals and office type (PCP clinician vs. DBP clinician) were also considered. Then, associations among goals and VADPRS scale scores were examined. To reduce the number of analyses computed, only the three most prevalent individual goals and the 7 goal composites were included in these analyses. Because the conduct problems goal did not map onto any of the goal composites, it was examined independently in these analyses as it was felt to be clinically important. Finally, these analyses informed the use of specific binary logistic regression to subsequently examine if total ADHD scale scores on the VADPRS moderated the impact of comorbid conditions (i.e., ODD/CD and anxiety/depression) on the probability of parents reporting goals

included in specific goal composites. Statistically significant interactions were followed up with post hoc analyses.

Frequencies of Parent Reported Goals

Frequencies of the 17 goals categories are presented in Figure 1. The most prevalent goals reported by parents included goals in the areas of inattention (reported by 163 parents), academics (reported by 153 parents) and emotional problems (reported by 91 parents). Additionally, 57 parents reported goals that did not fit into one of the 17 goals categories (coded as "other"). The 7 goal composites included goals about ADHD symptoms, executive functioning, emotion-esteem, school, family well-being, relationships, and medical. See Figure 2 for further information about the goal composites and their frequencies. The most frequent goal composite was related to ADHD symptoms with 204 parents reporting goals included in this goal composite.

Examining Associations between Goals and Participant Demographics

Associations between parents' goals and participant demographics were examined with Pearson Chi Square analyses or point biserial correlation analyses, when appropriate. Analyses revealed only a few statistically significant results. Children's age was significantly and negatively associated with parents reporting a goal included in the family well-being goal composite ($r = -.13$, $p = .01$). In addition, respondents on Medicaid were less likely to report an emotional problems goal, and by extension a goal associated with the emotion-esteem goal composite, than respondents not on Medicaid (X^2 [1, N = 391] = 6.32, $p = .01$; 16 respondents on Medicaid reported an emotional problems goal vs. 60 not on Medicaid).

Examining Group Differences by Clinician Office Type for Parents'

Goals Group differences by clinician office type (PCP or DBP) for parents' goals were examined with Pearson Chi Square analyses. Results are presented in Table 1. Seven statistically significant differences emerged. For individual goals, group differences emerged for reporting goals related to inattention, academics, and conduct problems. For composite goals, group differences emerged for ADHD symptoms, executive functioning, emotion-esteem and school.

Correlations among Goals and VADPRS Scores

Given the binary nature of the goals variables (0 = not endorsing a goal, 1 = endorsing a goal), point biserial correlation coefficients were computed to examine the associations between goals and VADPRS scores. Results of these analyses are presented in Table 2. In general, the pattern of correlations fit with what would be expected: the inattention scale score on the VADPRS was statistically and significantly related to reporting an inattention goal; the academic scale score statistically and significantly related to reporting a goal included in the school goal composite. Interestingly, although the anxiety/depression scale score was statistically and significantly related to reporting a goal included in the emotion-esteem goal composite, and the ODD/CD scale score was statistically and significantly

related to the relationships goal composite, none of the ADHD symptoms scale scores were related to parents reporting goals included in either of these composites (see Table 2).

Binary Logistic Regression Analyses

Interactive effects between comorbid conditions (i.e., ODD/CD and anxiety/depression scale scores) and the total ADHD symptoms scale score reported on the VADPRS in relation to parents' probability of reporting goals were examined using binary logistic regression. Outcomes examined in these analyses included the 7 goal composites. First, ODD/CD, anxiety/depression, and total ADHD scores were centered. Next, two interaction terms were created by calculating ODD/CD x total ADHD scores and anxiety/depression x total ADHD scores. Separate analyses examined the moderating impact of total ADHD symptoms on ODD/CD and the moderating impact of total ADHD symptoms on anxiety/depression in relation to each of the 7 outcomes. In binary logistic regression, the centered predictor variable (i.e., either ODD/CD or anxiety/depression) and the centered moderator (i.e., total ADHD) were entered in block 1 and the interaction term was entered in block 2. Results revealed that in 3 of the 14 analyses, the interaction term was statically significant. Only these statistically significant results are reported. Using the statistical tool PROCESS,[20] these statistically significant interactions were decomposed by calculating the simple slope of association between the predictor variable (i.e., ODD/CD, anxiety/depression) and the specific outcome at high and low levels of the moderator (i.e., total ADHD). Additionally, these statistically significant interactions were plotted to further examine the pattern of findings (see Figure 3).

In block 1 of the first regression, only ODD/CD was statistically and significantly related to the relationships goal composite. In Block 2, a statistically significant ODD/CD x Total ADHD interaction emerged in relation to parents' probability of reporting a goal included in the relationships goal composite. These results are presented in Table 3. Figure 3(a) visually depicts this interaction. Post hoc analyses revealed that at low levels of total ADHD (1 SD below the mean), the simple slope between ODD/CD and the relationships goal composite was statistically significant (B = .10, $z = 3.62$, $p < .001$; CI = .05–.15). At high levels of total ADHD (1 standard deviation above the mean), the simple slope between ODD/CD and the relationships goal composite was not statistically significant (B = .02, $z = .87$ $p = .39$; CI = −.02–.06). These results, as well as an examination of the plotted interaction, indicate that parents who were most likely to report a goal included in the relationships goal composite reported that their children exhibit high levels of ODD/CD and low total ADHD symptoms.

In block 1 of the second binary logistic regression, neither anxiety/depression nor total ADHD were related to the relationships goal composite. In block 2, a statistically significant anxiety/depression x Total ADHD interaction emerged in relation to parents' probability of reporting a goal included in the relationships goal composite. Results are presented in Table 3. This interaction is visually depicted in Figure 3(b). The simple slope between ODD/CD and the relationships goal composite was statistically significant at low levels of total ADHD (B = .15, $z = 3.14$, $p < .001$, CI = .06–.25). At high levels of total ADHD, the simple slope between ODD/CD and the relationships goal composite was not statistically significant (B = −.06, $z = -1.39$, $p = .17$, CI = −.14–.02). The pattern of results was similar

to results of the ODD/CD x total ADHD interaction reported above, as high anxiety/depression scale scores and low total ADHD scale scores were associated with the highest probability of parents reporting a goal included in the relationships goal composite. Moreover, when total ADHD scale scores were at a high level, the association between anxiety/depression and the relationships goal composite was not statistically significant.

Finally, in block 1 of the third regression, neither ODD/CD nor total ADHD were significantly related to the emotion-esteem goal composite. In block 2, a statistically significant ODD/CD x Total ADHD interaction emerged in relation to parents' probability of reporting a goal included in the emotion-esteem goal composite. These results are presented in Table 3. Figure 3(c) visually depicts this interaction. At low levels of total ADHD, the simple slope between ODD/CD and the emotion-esteem goal composite was statistically significant (B = .05, z = 1.96, p = .0495, CI = .00–.10). When total ADHD scale scores were high, however, the simple slope between ODD/CD and the emotion-esteem goal composite was not statistically significant (B = −.03, z = −1.22, p = .22, CI = −.07–.02). High ODD/CD scale scores and low total ADHD scores were associated with the highest probability of endorsing a goal included in the emotion-esteem goal composite, but when total ADHD scores were high there was no association between ODD/CD and the emotion-esteem goal composite. Overall, the pattern of findings was similar across each of the statistically significant interactions.

DISCUSSION

Unsurprisingly, the most frequent goals parents reported were related to core symptoms of ADHD. The largest number of parents specifically reported a goal related to decreasing children's symptoms of inattention. Despite goals related to core ADHD symptoms being most common, less than half of parents reported such goals and parents' goals were quite heterogeneous. Many parents reported goals about school and children's emotional problems, which included goals to reduce depression, anxiety, or emotional outbursts. Nearly a third of parents reported goals about children's relationships. These results show that parents come to pediatric ADHD visits with a variety of things on their minds, and clinicians need to be prepared to help in a range of areas.

Clinicians may wonder about the best way to arrive at parents' goals for ADHD care. Given that rating scales of symptomatology and functioning are widely used in ADHD care,[15] clinicians may set goals with parents based on elevations in ADHD symptoms or impairments in functioning. We took a different approach, however, and asked parents directly about their goals and then examined relations between parents' reported goals and symptomatology and functioning. As would be expected, meaningful relations emerged between goals and ratings of ADHD symptoms, comorbid conditions (i.e., ODD/CD and anxiety/depression), and functioning (i.e., relationships, academics). For instance, the inattention scale on the VADPRS was positively correlated with parents reporting a goal about inattention. Nevertheless, these relations were small-modest (correlation coefficients ranged from .11–.25), suggesting that although parents' goals are influenced by symptomatology and functioning/impairment, a direct assessment of parents' goals does not duplicate using standardized ratings of symptomatology and functioning/impairment. One

cannot assume that parents' goals will directly align with ratings of symptoms and functioning/impairment—as parents' goals seem, in part, to be influenced by factors that are not differentiated in these rating scales. Direct assessment of parents' goals seems necessary for optimal collaborative ADHD care.

One theme that emerged from the present investigation was the importance of considering problems comorbid with ADHD symptoms when assessing parents' goals. A number of parents reported goals regarding comorbid symptoms and associated features of ADHD, such as reducing children's emotional problems, building children's self-esteem, building positive relationships, reducing conduct problems and reducing physical problems. Goals related to emotions or self-esteem and conduct problems were more prevalent in DBP office than in PCP office, suggesting comorbidities may be more prevalent in children seeing a DBP clinician. In addition, the presence of comorbid symptoms (i.e., ODD/CD and anxiety/depression), reported on the VADPRS, influenced which goals parents reported. Parents were more likely to report a goal about relationships or goals about emotion-esteem when children exhibited a high number of comorbid (i.e., ODD/CD and anxiety/depression) symptoms and low ADHD symptoms. Possibly, parents may report goals specifically about reducing ADHD symptoms when symptoms are more elevated. When the core symptoms of ADHD are under control and comorbid conditions are present, parents may set their focus on reducing these problems and areas of functioning (i.e. relationships) affected by these problems. Clinicians need to assess and address comorbid conditions particularly once symptoms of ADHD are managed.

Implications for Future Assessment of Goals

In the present investigation, we assessed parents' goals in an unstructured way (i.e., free text). This format is similar to the sample management plan in the AAP's ADHD toolkit (i.e., asking parents what improvement they would like to see in the areas of home and school).[8] Using an open-ended format lets parents use their own words and give details about perceived problems. Assessing goals in a more structured way, on the other hand, may help guide parents to specific, focused goals. We found many parents' goals were vague or general (e.g., "behave better," "have a better attitude") making them difficult for clinicians to address. Specific goals help clinicians provide more precise resources and targeted interventions as is central to the most effective behavior-focused intervention.[21] Selecting goals from a list may be easier than writing them and may also help parents realize goals they might not otherwise articulate.

We have used these results to create a structured questionnaire, which is currently being piloted. In this questionnaire, parents can select a general goal (derived from the coded goals categories; e.g., better behavior in class) and then select a more specific related goal (e.g., stay in seat when supposed to during class). Using this format, parents report two general and two specific goals. Whenever possible, wording was taken from actual parents' written responses. Parents also have the option of free text. Parents complete this questionnaire online and results are immediately available for clinician review with links available to appropriate resources and clinical decision support. Others may be able to use these categorical results in a similar way to organize resources. Anticipating parents' goals and

organizing resources could help clinicians promptly and effectively assist families with reaching their goals.

In the future, creating a system to record and track goals over time would optimize long-term, collaborative ADHD care. In such a system, parents could be given resources and target tasks to do to accomplish goals with progress tracked between visits. Focusing initially on easily attained goals could give families a sense of accomplishment, strengthening families' "buy in" to the treatment process. Possibly, focusing on goals may lead to continued treatment with a focus on subsequently tackling more complex goals.

Strengths and Limitations

One strength of the present investigation is generalizability from the large sample size, including a diverse group of participants with children's age ranging from early childhood to late adolescence, a nearly equal mix of boys and girls, and representing both PCP and DBP care with its differences in symptom severity and complexity of presentation. The study is constrained, however, by the depth of information available for each participant, which was limited to reported goals, Vanderbilt ratings, and basic demographics. Data were not available about many elements that likely influence parents' goals, including type of diagnosis (i.e., inattentive, hyperactive, or combined presentation), length of time since ADHD diagnosis, treatment plans, course of ADHD symptoms, family characteristics (beyond basic demographics), or global impairment. Data is also unavailable about how clinicians used parents' goals in their ADHD care. Future investigations need to build upon our preliminary investigation and include richer data about patients and clinical practice to add to our understanding of goals in ADHD care.

Finally, the present investigation only considered parents' goals and did not assess patients' (i.e., children's) goals. Children's goals may be quite different from their parents, but investigations have yet to consider what goals children would choose. Optimally, goals from both children, particularly adolescent-aged children, and their parents should be collected. Goals from multiple sources may add to the clinical picture, of how the child's ADHD is impacting each family member.[6]

Conclusions

Parents report a variety of goals for ADHD care. Asking directly about goals does not appear to duplicate information from rating scales (e.g., VADPRS) that assess symptomatology and functioning/impairment. Parents' goals are somewhat influenced by symptomatology and functioning/impairment, with comorbid conditions particularly salient. The AAP[6,7] recommends assessing families' goals as part of collaborative care. Doing so may help clinicians devise targeted interventions. Clinicians and families may benefit from assessing goals in a structured way to help families identify specific goals to track over time. Future research should address the feasibility, reliability, and validity of such a structured measure.

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Conflicts of Interest and Source of Funding:

Dr. Howard is the president of and Drs. McGoron and Morrel are employees of Total Health Inc., which is a proprietary business that licensees the Child Health and Development Interactive System (CHADIS). CHADIS was used as a data collection tool in this project. Dr. Sturner is a consultant at Total Child Health, Inc. Dr. Sturner is the director of the Center for the Promotion of Child Development through Primary Care, which works to develop CHADIS.

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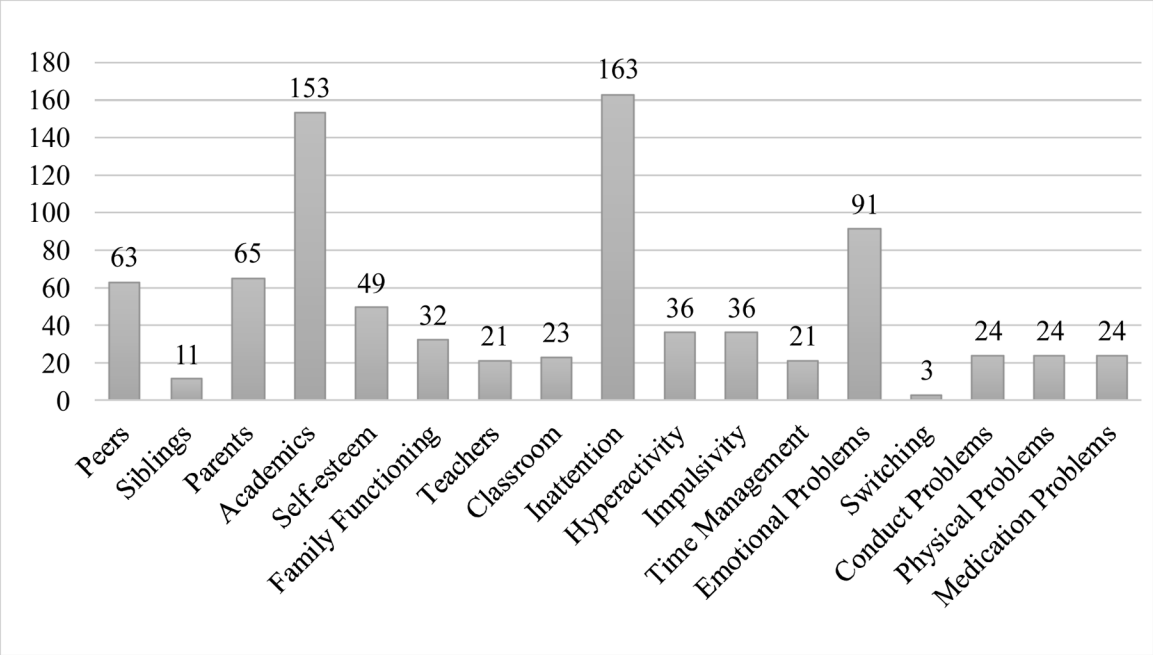

Figure 1.

Frequencies of each of the 17 Parent Goal Categories

Note: Some names of goals codes are shorted in the figure. Peers, Siblings, Parents, and Teachers refer to codes for Relationship with Peers, Relationship with Siblings, Relationship with Parents, and Relationship with Teachers, respectively. Classroom refers to the code Influence on Classroom. Impulsivity refers to the code Impulsivity/Impatient/Inconsistency. Time management refers to the code Time Management/Organization. Finally, Switching refers to the code Switching from One Task to Another.

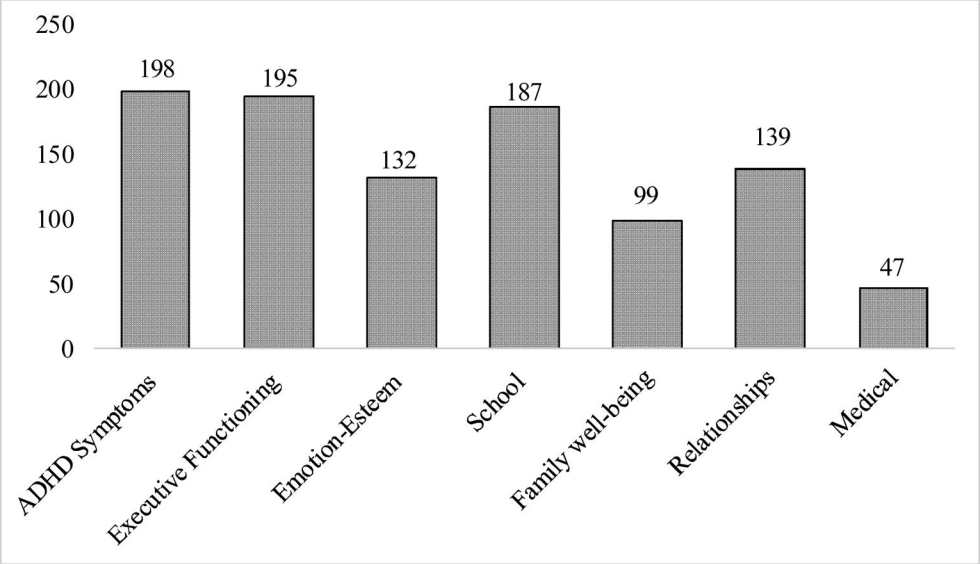

Figure 2.

Frequencies of each of the 7 Goal Composites.

Note: Regarding the computation of goal composites, ADHD symptoms includes goals related to inattention, hyperactivity, and impulsivity; Executive Functioning includes goals related to inattention, time management/organization, and switching from one task to another; Emotion-Esteem includes goals related to emotional problems and self-esteem; School includes goals related to academics, influence on classroom, and relationship with teachers; Family well-being includes goals related to relationship with siblings, relationship with parents, and family functioning; Relationships included goals related to relationship with siblings, relationship with peers, relationship with parents, and relationship with teachers; Medical includes goals related to physical problems and medication problems.

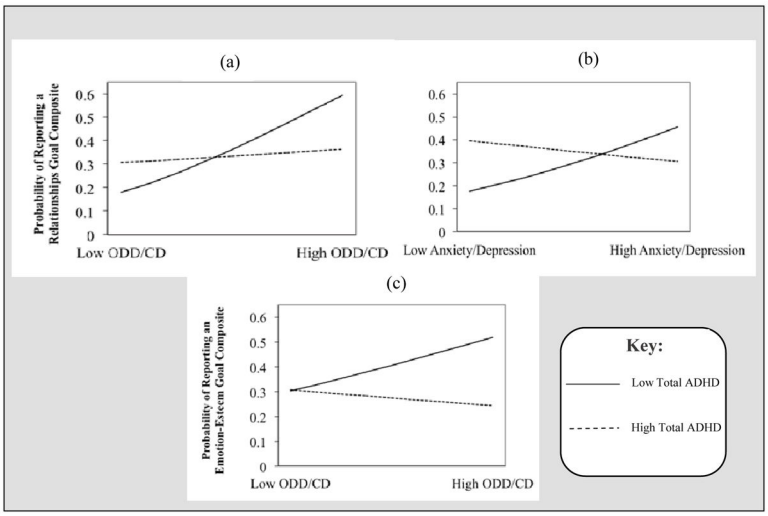

Figure 3.

Decomposing Interaction Terms for (a) Total ADHD Scale Scores Moderating the Association between ODD/CD and Relationships Goal Composite, (b) Total ADHD Scale Scores Moderating the Association between Anxiety/Depression and Relationships Goal Composite, and (c) Total ADHD Scale Scores Moderating the Association between ODD/CD and Emotion-esteem Goal Composite

Table 1

Pearson chi square analyses examining differences in rates of reported goals by practice type (Primary Care Practice vs. DBP Practice)

	PCP office	DBP office		
	n (%) of parents reporting goal	n (%) of parents reporting goal	X^2	*p* value
Inattention	132 (45.4)	31 (21.1)	24.63	.001
Academics	118 (40.5)	35 (23.8)	21.20	.001
Conduct Problems	7 (2.4)	16 (10.9)	14.11	.001
ADHD Symptoms	150 (51.5)	46 (31.3)	16.20	.001
Executive Functioning	148 (50.9)	47 (32)	14.10	.001
Emotion-Esteem	70 (24.1)	62 (42.2)	15.23	.001
School	140 (48.1)	47 (32)	10.40	.001

Note: for all Chi Square analyses the degrees of freedom was 1

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Table 2

Correlations among VADPRS Scale Scores, 3 most prevalent goal categories, conduct problems, and 7 goal composites

	1.	2.	3.	4.	5.	6.	7.
1. Inattention (VADPRS)	---						
2. Hyperactivity (VADPRS)	.48**	---					
3. Total ADHD (VADPRS)	.84**	.88**	---				
4. ODD/CD (VADPRS)	.39**	.50**	.54**	---			
5. Anxiety/Depression (VADPRS)	.26**	.09	.20**	.36**	---		
6. Academics (VADPRS)	.43**	.14**	.31**	.17**	.07	---	
7. Relationships (VADPRS)	.11*	.20**	.18**	.57**	.31**	.10	---
8. Inattention Goal	.25**	.04	.16**	−.09	.19**	.14**	−.20**
9. Academic Goal	.13*	−.05	.04	−.07	.02	.25**	−.11*
10. Emotional Problems Goal	−.07	−.04	−.06	.11	.12*	−.03	−.10*
11. Conduct Problems Goal	.00	−.01	−.01	.09	.06	−.07	.10*
12. ADHD Symptoms Goal Composite	.23**	.12*	.20**	−.04	−.07	.08	−.17**
13. Executive Functioning Goal Composite	.19**	.02	.12*	−.07	−.03	.05	−.19**
14. Emotion-Esteem Goal Composite	−.05	−.03	−.05	−.04	.05	−.03	.07
15. School Goal Composite	.11**	−.03	.04	−.08	−.19**	−.24**	−.12*
16. Family Well-being Goal Composite	.09	.19**	.16**	.25**	.02	−.02	.21**
17. Relationships Goal Composite	−.01	.06	.04	.17**	.08	−.06	.19**
18. Medical Goal Composite	−.07	.00	−.04	.09	.03	.03	.03

Table 3

Results of binary logistic regression analyses examining the interactive effects of ODD/CD VDPRS scale scores (anxiety/depression VDPRS scale scores) and total ADHD VDPRS scale scores in relation to the probability of endorsing a relationships goal composite or emotion-esteem goal composite

	Relationships Goal Composite				Emotion-Esteem Goal Composite			
			95% CI				95% CI	
	Wald	*p* value	Lower	Upper	Wald	*p* value	Lower	Upper
Block 1								
ODD/CD (Anxiety/Depression)	7.03 (1.25)	.01 (.26)	1.01 (.98)	1.08 (1.10)	.06	.82	.97	1.04
Total ADHD	.07 (1.25)	.70 (.26)	.97 (.99)	1.02 (1.04)	2.13	.14	.96	1.01
Block 2								
ODD/CD x Total ADHD (Anx./Depres. x Total ADHD)	6.62 (9.97)	.01 (.00)	.99 (.99)	.10 (1.00)	5.39	.02	.99	1.00