

Pediatric Psychologist Use of Adherence Assessments and Interventions

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Objective To document current clinical practices for medical regimen adherence assessment and intervention in the field of pediatric psychology. **Methods** 113 members of the Society of Pediatric Psychology completed an anonymous online survey that assessed use of adherence assessments and interventions in clinical practice, barriers and facilitators to their use, and preferred resources for obtaining information on adherence assessments and interventions. **Results** Respondents reported using a range of adherence assessment and intervention strategies, some of which are evidence-based. Barriers to implementing these clinical strategies included time constraints and lack of familiarity with available clinical tools. Respondents reported that education about effective clinical tools would facilitate their use of adherence assessments and interventions. **Conclusions** Future research and clinical efforts in adherence should consider developing practical tools for clinical practice, making accessible resources to promote dissemination of these tools, and increase understanding of clinician implementation of adherence assessments and interventions.

Key words adherence; clinical practice; dissemination; self-management; translational research.

Introduction

Little is known about the clinical use of assessments and interventions for medical regimen adherence, a common referral question for pediatric psychologists. Nonadherence is a significant problem that cuts across multiple chronic conditions (Rapoff, 2010) and can impact health outcomes (Graves, Roberts, Rapoff, & Boyer, 2010; Quittner, Modi, Lemanek, Ievers-Landis, & Rapoff, 2008) and financial costs (Delea et al., 2008; Desborough, Sach, Bhattacharya, Holland, & Wright, 2012; Rohan et al., 2010). The existing literature advocates for the use of particular adherence assessments and interventions that have demonstrated

effectiveness for pediatric populations. For instance, in a review of general and illness-specific pediatric adherence assessment methods, Quittner, Modi, Lemanek, Ievers-Landis, and Rapoff (2008) recommended that in clinical practice, multiple measures of adherence should be used and discussions about adherence should be routinely incorporated into practice. Meta-analyses indicate that certain behavioral and multicomponent interventions (e.g., behavioral and educational) provide the best adherence outcomes (Graves, Roberts, Rapoff, & Boyer, 2010; Kahana, Drotar, & Frazier, 2008). However, it is unclear to what extent these recommended assessments and

interventions have been successfully disseminated into clinical practice within pediatric psychology. This has limited the field's ability to propose next steps for clinical efforts for medical regimen adherence and for clinically relevant research in this area.

In addition to not knowing which assessments and interventions are used to address adherence in pediatric psychologists' clinical practice, details are lacking in the published literature about to whom and how interventions are provided (e.g., delivered to the individual vs. family, in-person or through technology, whether adherence is addressed collaboratively with the multidisciplinary treatment team) and the guiding theoretical frameworks pediatric psychologists use for adherence problems. In addition, logistical issues have not been examined, including barriers and facilitators to using adherence assessments and interventions, and where pediatric psychologists learn about these assessments and interventions. Obtaining a better picture of these aspects of clinical practice will facilitate future efforts to promote dissemination of effective adherence assessment and intervention strategies into practice. Specifically, existing models in the literature on disseminating effective interventions and assessments into practice recommend that before promoting use of certain assessments and interventions, a key first step is obtaining a baseline understanding of current practice. During this assessment phase, areas of need, potential barriers and facilitators to adopting new clinical strategies, and target groups for dissemination efforts are identified. The goal is to inform future dissemination steps, such as promoting transportability of tools across practice settings, modifying tools so they can be efficiently implemented in practice, measuring effectiveness, and assessing consumer and clinician satisfaction (Schoenwald & Hoagwood, 2001; Stirman, Crits-Christoph, & DeRubeis, 2004).

Thus, the primary goal of the current study was to determine current clinical practices in adherence within the field of pediatric psychology. This study was implemented by a subcommittee of the Adherence Special Interest Group (SIG) of the Society of Pediatric Psychology (SPP; Division 54 of the American Psychological Association). The Adherence SIG was initiated due to an interest in connecting pediatric psychologists who use, develop, and research adherence assessments and interventions. One of the goals of the SIG, and in particular its Dissemination subcommittee, is to promote the dissemination of adherence-focused effective assessment and intervention recommendations to clinicians and researchers. The Dissemination subcommittee implemented the current study to inform the content and format for the SIG's

dissemination promotion efforts and to provide information on the use of adherence assessments and interventions in clinical practice within the field of pediatric psychology. Specifically, this study examined pediatric psychologists' use of adherence assessments and interventions, theoretical frameworks used to guide the clinical approach, information sources used to learn about these strategies, barriers and facilitators to using the clinical strategies, and resources needed to promote adoption of adherence assessments and interventions.

Methods

Participants

In total, 113 SPP members who participate in clinical care or supervision of trainees providing clinical care completed the survey. Respondents were primarily female (87.6%) and at various career stages, including graduate students (10%), psychology interns/residents (8%), post-doctoral fellows (20%), and licensed psychologists/faculty members (62%). Owing to the current analyses' focus on clinical care, participants who reported 0% effort in clinical care or supervision of trainees providing clinical care ($N = 5$) were excluded. For individuals who engage in clinical care or supervision of trainees providing clinical care ($N = 108$), the majority reported working in an academic health center (58.1%) or a free-standing hospital (26.7%). Other primary clinical settings included academic psychology department (6.7%), outpatient medical clinic (2.9%), private practice (2.9%), university (1.9%), and other mental health service (1.0%). Of the respondents who work in a hospital setting ($N = 97$), about one-half (53.6%) reported working in a children's hospital within an academic health center. Respondents reported working with a variety of medical populations in their clinical practice (Table I; mean = 5, $SD = 5$, range 1–23) and with individuals of a variety of ages, including young children (birth to 4 years, 75.0%), school-age children (5–12 years, 95%), adolescents (13–17 years, 94%), young adults (18–25 years, 72%), and adults (26+ years, 16%).

Measure

A 31-item measure (see supplementary data online) focused on clinical practice and research in adherence or self-management was created for the current study by clinician and researcher members of the Adherence SIG Dissemination subcommittee. Subcommittee members created items based on review of relevant literature, including reviews of evidence-based adherence assessments and interventions (Graves, Roberts, Rapoff, & Boyer, 2010; Kahana, Drotar, & Frazier, 2008; Quittner, Modi,

Table 1. *Pediatric Populations Served by Respondents (N = 108)*

Population	N	%
Diabetes	49	45.4
Gastroenterology	42	38.9
Abdominal pain/other pain condition	41	38.0
Endocrine	39	36.1
Hematology/oncology	31	28.7
Cystic fibrosis	30	27.8
ADHD/other externalizing disorders	28	25.9
Obesity	27	25.0
Pulmonary	26	24.1
Sleep	26	24.1
Solid organ transplantation	24	22.2
Feeding	21	19.4
Neurology	21	19.4
Cancer	19	17.6
Elimination disorders	19	17.6
Nephrology	19	17.6
Sickle cell disease	19	17.6
Asthma	17	15.7
Cardiology	16	14.8
Rheumatology	11	10.2
Burn	6	5.6
Neonatology	5	4.6
HIV/AIDS	3	2.8

Lemanek, Ievers-Landis, & Rapoff, 2008). Adherence SIG members and SPP members not part of the SIG who are experts in pediatric adherence assessment and intervention reviewed earlier drafts of the measure and provided feedback.

The measure assessed demographic characteristics (e.g., current level of training/employment, gender, highest degree and years elapsed since attaining the degree, primary employment setting, and medical/age populations they serve) and adherence assessments and interventions used in clinical practice (e.g., specific evidence-based methods, assessment and intervention within multidisciplinary teams). For the adherence intervention methods, participants were asked, on a 5-point Likert scale (ranging from “Never” to “Always”), how often they use various intervention methods. The adherence assessment methods and interventions included in the survey were based on recent review articles (Kahana, Drotar, & Frazier, 2008; Quittner, Modi, Lemanek, Ievers-Landis, & Rapoff, 2008). The measure also assessed perceived barriers and facilitators to using adherence assessments and interventions, and participant’s preferred resources for obtaining information on adherence assessments and interventions.

Procedures

All study procedures were approved by the last author’s institutional review board. An e-mail invitation to participate in the current study was sent to SPP members who elected to be included on the SPP listserv. Approximately 2 months later, a follow-up e-mail was sent to the listserv to remind members to respond if interested. The e-mail invitations contained a link to the passive consent statement and the online anonymous questionnaire, which was administered through the Qualtrics™ Research Suite. The e-mail invitation and introduction to the survey specified that only individuals whose clinical practice and/or research addressed adherence or self-management should participate. However, the final sample presented in the current analyses was composed of only those SPP members on the listserv who self-reported providing clinical care or supervising trainees in clinical care for adherence or self-management. Adherence or self-management was defined as “The ways in which patients with chronic illness and their families manage prescribed treatment regimens to promote health and quality of life and prevent future health complications. For example, in the context of type 1 diabetes, self-management refers to how patients and families manage various aspects of diabetes management, including exercise, diet, hypoglycemia/ hyperglycemia episodes, blood glucose testing.” The Qualtrics™ system ensured that respondents using a particular computer were only able to complete the survey one time. A raffle for three \$25 gift certificates was provided as an incentive for participation.

Results

Assessment Strategies for Measuring Adherence

Seventy-six respondents (70.4%) reported using at least one type of adherence measure in clinical practice (mode = 3, range 1–15). As shown in Table II, the most commonly used general adherence assessments of these 76 respondents were clinical interviews with patients (90.8%) or parents (80.3%) and the least commonly used were structured self-report measures. In general, disease-specific questionnaire measures were not commonly used in practice.

Intervention Strategies for Adherence Promotion

The majority of respondents ($N = 72$, 67%) reported using at least one intervention approach to address issues related to adherence and/or self-management. The mean number of intervention strategies endorsed as being used “always” or “almost always” in addressing adherence/self-management

Table II. *Types of Adherence Assessments Used in Clinical Practice and Pediatric Populations Served by Respondents in Clinical Practice*

Illness group	Type of adherence measure used in clinical practice	N	% (N = 76)	% (N = 108)
General adherence measure	Clinical interview: Patient	69	90.8	63.9
	Clinical interview: Parent	61	80.3	56.5
	Biological markers (e.g., HbA1c)	35	46.1	32.4
	Daily diary ^a	26	34.2	23.1
	24-hr recall interview ^a	25	32.9	22.2
	Health status	23	30.3	21.3
	Provider ratings	20	26.3	18.5
	Drug assays	13	17.1	12.0
	Pharmacy reports	13	17.1	12.0
	Pill count	11	14.5	9.3
	Electronic monitoring (e.g., MEMS TM) ^a	9	11.8	8.3
	Illness management survey	5	6.6	4.6
	Medical adherence measure	5	6.6	3.7
Other measures	4	5.3	3.7	
Diabetes-specific	Self-care inventory ^a	6	7.9	5.6
	Other measures	5	6.6	4.6
	Diabetes Regimen Adherence Questionnaire ^a	2	2.6	1.9
	Self-Care Adherence Interview ^b	1	1.3	0.9
Transplant	Parent/Adolescent Medication Barriers Scale	9	11.8	8.3
	Other measures	2	2.6	1.9
	Behavioral Affective And Somatic Experiences Compliance Scale ^b	0	0.0	0.0
Cystic fibrosis	Self-Regulation of Medication Adherence Battery ^c	0	0.0	0.0
	Other measures	3	3.9	2.8
	Treatment Adherence Rating Scale ^c	0	0.0	0.0
Asthma	Disease Management Interview-CF ^a	0	0.0	0.0
	Family Asthma Management System Scale ^b	2	2.6	1.9
	Other measures	1	1.3	0.9
HIV/AIDS	Disease Management Interview—Asthma ^c	0	0.0	0.0
	Other measures	2	2.6	1.9
	Pediatric AIDS Clinical Trials Group: Adherence Modules ^c	1	1.3	0.9
Spina bifida	Other measures	1	1.3	0.9
	Medical Adherence In Spina Bifida Scale ^b	0	0.0	0.0
Other	Other measures	1	1.3	0.9

Note. Measures with superscripts were reviewed by the American Psychological Association Division 54 Evidence-Based Assessment Task Force and evaluated on the Chambless and Ollendick (2001) criteria (Chambless & Ollendick, 2001; Quitner, Modi, Lemanek, Ievers-Landis, & Rapoff, 2008).

^aWell-established.

^bApproaching well-established.

^cPromising.

issues across patients was 4.8 ($SD = 2.4$; range 0–11). Of the 72 respondents, individuals reported using at least one or more of the following intervention strategies to address adherence-related issues in clinical practice: problem-solving (80.6%), educational/instructional strategies (69.4%), parent training (e.g., monitoring, supervision, discipline; 62.5%), patient/family self-monitoring (62.5%), organizational strategies (54.2%), reward systems/incentives (43.1%), cognitive restructuring (23.6%), motivational interviewing (23.6%), communication skills training (19.4%), social support (19.4%), functional analysis (18.1%), or another type of strategy (1.4%).

Theoretical Approach

The theories that pediatric psychologists reported using to guide their conceptualization and approach to addressing adherence issues in practice varied. In the current sample ($N = 66$), 31.8% of respondents reported using the Health Belief Model (Becker, 1974) in clinical practice, 19.7% the Transtheoretical Health Model (Prochaska & Velicer, 1997), 16.7% Social Cognitive Theory (Self-Efficacy; Bandura, 2004), 15.2% Applied Behavior Analytic Theory (Cooper, Heron, & Heward, 2007), 7.6% Theory of Reasoned Action/Planned Behavior perspectives (Montano & Kasprzyk, 2008), and 9.1% another theoretical

perspective (e.g., combination of Health Belief Model and Self-Efficacy; family systems; Unified Theory of Behavior Change; Fishbein et al., 2001; Patterson & Garwick, 1994).

Intervention Modality

Several modality types were reported to be used to deliver adherence promotion interventions: family based (97%), individual/patient alone (88%), parent only (68%), group-based (18%), and/or technology-based interventions (e.g., interactive video-games, text messaging, Web sites, electronic monitoring; 18%). The majority of respondents (94%) reported targeting medication-taking in their clinical practice, 76% dietary behaviors, 74% exercise/behavioral/environmental changes, 44% clinic attendance, 29% laboratory draws, and 17% another type of adherence behavior (e.g., airway clearance, blood glucose testing).

Information Sources for Adherence Assessments and Interventions

Many respondents reported relying most heavily on a range of pediatric, disease-specific, and psychology-related journals (85%) and peer consultation (70%) for information about adherence-related assessment and intervention, followed by books (58%), continuing education workshops (21%), and the Internet (21%). Respondents reported using, on average, three resources ($SD = 1.0$) to inform their practice.

Interdisciplinary Collaborations Related to Adherence Assessment

The vast majority of respondents (86.8%) indicated that they were part of a multidisciplinary team. Members of these teams included physicians (98.9%), nurses (96.7%), psychologists (91.3%), social workers (81.5%), dietitians (60.9%), physical/occupational therapist (48.9%), child life specialists (45.7%), pharmacists (19.6%), and other (16.3%). Sixty-one percent of respondents indicated that they “sometimes” discuss adherence-related issues with providers from other disciplines, with 36.5% stating that they “always” discuss adherence with different providers. Table III contains a listing of the role each provider plays in adherence assessment.

Barriers and Facilitators to Adherence Assessment and Interventions

To inform efforts to promote use of evidence-based strategies, clinicians were asked about barriers and facilitators to their use of adherence assessments and interventions (see Table IV). There were multiple barriers that reportedly interfered with pediatric psychologists ($N = 91$) using adherence assessments and interventions in clinical practice;

Table III. *Adherence Assessment and Promotion Among Multidisciplinary Providers*

Provider	Responsible for assessing or promoting adherence ($N = 94$)		Providers with whom psychologists discuss adherence ($N = 96$)	
	<i>N</i>	%	<i>N</i>	%
Physician	68	72.3	87	90.6
Nurse	66	70.2	69	71.9
Psychologist	88	93.6	58	60.4
Pharmacist	13	13.8	14	14.6
Social worker	33	35.1	48	50.0
Other	11	11.7	14	14.6

time limitations was most commonly endorsed (68.1%). Similarly, there were facilitators of adherence assessments and interventions that affected clinical practice ($N = 87$, Table IV). The top facilitator was that adherence was the primary referral question for the psychologist (77.0%).

Resources and Needs for Adherence Assessment and Intervention

For professional development, respondents reported that they would benefit from strategies to enhance their use of adherence assessments and interventions: 84% reported interest in summaries of assessment tools and intervention strategies, 67% would like examples that highlighted the use of these tools and strategies and ways to document their use, whereas 52% and 50% were interested in continuing education opportunities and learning about demonstrated benefits of such strategies and interventions, respectively. Finally, 40% of respondents would appreciate guidance in how to document their use of these strategies.

Discussion

The implementation of adherence assessment and intervention in clinical practice is relevant to pediatric psychologists, many of whom address this issue across multiple pediatric populations. The findings of this survey of SPP members have implications for practice, next steps for dissemination of evidence-based adherence and intervention strategies, and future research efforts. Results of this study indicate that pediatric psychologists demonstrate flexibility in their approach to adherence assessment and intervention, as evidenced by the use of multiple methods to assess and address medical regimen adherence in clinical practice. However, respondents reported less frequent use of evidence-based illness-specific measures or interviews to assess adherence among children or adolescents with conditions such as diabetes and asthma, suggesting a gap in

Table IV. *Perceived Barriers and Facilitators to Adherence Assessment and Intervention in Clinical Practice*

Barrier (N = 91)	Endorsed (%)	Top barrier (%)
Time limitations	68.1	27.9
Logistical challenges (e.g., clinic space/time)	54.9	17.4
Not familiar with available adherence assessments/interventions	41.8	23.3
Other presenting concerns (e.g., mood problems) prioritized over adherence concerns	34.1	17.4
Lack of reimbursement for adherence assessment/interventions	23.1	3.5
Adherence assessment/interventions not available for specific medical population	13.2	3.5
Medical team not perceived as being appreciative of adherence promotion assessment/intervention	13.2	2.3
Disagreement within field regarding focus of adherence assessment/intervention	4.4	2.3
Other ^a	14.3	2.3
Facilitators	Endorsed (%)	Top facilitator (%)
Adherence was primary referral question	77.0	47.7
Other staff (e.g., medical team) valued adherence promotion assessment/intervention	65.5	25.6
Effective adherence assessment/interventions available for specific clinical populations	37.9	17.4
Adherence assessment/interventions reimbursable	19.5	5.8
Access to technological support for intervention or monitoring strategies for adherence assessment/intervention	14.9	2.3
Other ^b	4.6	1.2

^aDo not have resources needed for electronic monitoring or other objective measures, adherence measures (e.g., pencil and paper versions) not standard practice in current place of employment, no access to patient's medical records outside of psychology, lack of available measures that accurately capture range of barriers to adherence which families endorse or that are focused on adherence behavior targeted in practice, family not interested in adherence-focused services.

^bStaff support including graduate assistants and pharmacy staff, patient/family readiness to change.

the translation of research findings to clinical practice and potentially a lack of valid illness-specific adherence measures for some pediatric illness groups. Pediatric psychologists reported using a variety of adherence intervention techniques. Consistent with the literature documenting the effectiveness of adherence intervention strategies (Graves, Roberts, Rapoff, & Boyer, 2010; Kahana, Drotar, & Frazier, 2008), respondents reported using multimethod interventions, and most commonly problem-solving and educational/instructional strategies. The literature indicates that whereas behavioral, problem-solving, and multimethod interventions are effective in promoting adherence, education alone is typically less effective for increasing adherence (Graves, Roberts, Rapoff, & Boyer, 2010; Kahana, Drotar, & Frazier, 2008).

Respondents identified a variety of logistical, referral-related, and knowledge-based barriers and facilitators to using adherence assessments and interventions that have implications for research and future dissemination efforts. Specifically, respondents cited time constraints and lack of familiarity with evidence-based strategies as frequent barriers in clinical practice that impeded their ability to treat medication adherence. Facilitators to addressing adherence in clinical practice included medication adherence being the primary referral problem, medical providers valuing adherence assessment and intervention, and the existence of adherence assessment/intervention strategies tailored for

a clinical population. To address these barriers and to aid in the accessibility and availability of evidence-based assessment and intervention strategies for promoting medical adherence in clinical practice, a number of initiatives are needed.

First, our findings suggest that efforts need to be directed at developing adherence assessment and intervention tools that are maximally time-efficient. This is consistent with recommendations that clinical tools should be designed with real-world application in mind (Chorpita & Nakamura, 2004; Glasgow, Magid, Beck, Ritzwoller, & Estabrooks, 2005) and tested in real-world settings. The extent to which clinical tools are efficient and practical is particularly relevant for adherence assessment and promotion, as pediatric psychologists address medication adherence in multidisciplinary settings across many pediatric conditions.

Second, these findings suggest that efforts to translate evidence-based adherence assessment and intervention strategies consistently into clinical practices should include provision of education and training on effective strategies, including those tailored to specific pediatric populations (e.g., illness-specific adherence assessments). Given that clinicians in the current study reported using journals most often for information on evidence-based strategies, journals focused on specific chronic illness populations and pediatric populations more generally should continue

to encourage submissions on adherence assessment and intervention through special issues or sections and by encouraging submission of nonsignificant findings as well as case report and quality improvement (QI; Palinkas et al., 2011) methodology articles that illustrate the application of evidence-based strategies in practice. However, the literature suggests that for practitioners to successfully adopt new practices, educational efforts should go beyond simply providing manuals or guidelines (Herschell, McNeil, & McNeil, 2004; Sholomskas et al., 2005). Future initiatives may include providing interactive workshops at conferences or online and establishing professional networks for the purpose of promoting evidence-based practices (Angelo & Citkowitz, 2001; Mitchell, Robinson, Seiboth, & Koszegi, 2000; Palinkas et al., 2011). Examples of successful initiatives to provide education on evidence-based interventions exist in the larger field of clinical child psychology ("The REACH Institute: Putting Science to Work NOW for Children's Health," 2011).

Third, demonstration of the effectiveness of adherence assessment and intervention strategies in practice will be of utmost importance. To this end, practicing psychologists may use a QI approach (i.e., Plan, Do, Study, Act; Kotagal & Nolan, 2010; Stark, 2010). QI methodology provides a practical and personalized medicine approach by allowing psychologists to introduce evidence-based practices into real-world settings, to evaluate the effectiveness of doing so on a reasonable scale (e.g., N of 1; Gabler, Duan, Vohra, & Kravitz, 2011), and to make treatment changes accordingly. Health professionals from the broader fields of clinical child psychology and behavioral health are similarly translating evidence-based methods into clinical settings and documenting the effectiveness of these practices ("Effective child therapy: Evidence-based mental health treatment for children and adolescents," 2012; "Evidence-based behavioral practice: Bridging research and practice," 2007).

Fourth, building on previous efforts to integrate pediatric psychologists into health care delivery (Brown et al., 2002; Ernst et al., 2010; Kazak et al., 2010), the findings suggest that pediatric psychologists should continue to develop effective strategies for collaborating with multidisciplinary teams on treating patient adherence problems. In particular, it may be helpful to provide education to other health care providers on the types of adherence assessments and interventions pediatric psychologists offer and that it can facilitate treatment if medical teams list adherence as a primary referral question.

Finally, additional research on the clinical process and its outcomes should be conducted to better understand

how adherence clinical strategies could best be used in practice. For example, future research efforts focused on psychologists engaging primarily in clinical work could examine the specific content that psychologists deliver as part of different intervention strategies (e.g., problem-solving, multicomponent interventions), how clinicians choose which adherence assessment/intervention strategies to use (e.g., whether choice of intervention relates to comorbidities such as mood problems or family conflict), how these strategies are tailored to patients' developmental level, what treatment materials clinicians are using (e.g., adherence-specific vs. tailoring generic treatment manuals), how adherence assessments and interventions are carried out within multidisciplinary teams, and the effectiveness of adherence interventions in real-world practice. Further, because respondents reported using the clinical interview most frequently, it may be important to understand the content of clinical interviews focused on adherence (e.g., what questions are asked) and the interview format (e.g., structured, semi-structured, unstructured). It will also be helpful to examine clinician characteristics, such as training level and percent of time spent in clinical practice, that may influence willingness to adopt evidence-based practices.

Several study limitations should be acknowledged, including a relatively small sample size of SPP members and possible selection bias toward pediatric psychologists from hospital-based and academic medical settings and fewer psychologists from private practice (Opipari-Arrigan, Stark, & Drotar, 2006). SPP members who participated in the survey may have had a vested interest in adherence-related clinical practice or research and it is unknown how many of the total number of SPP members on the listserv (i.e., $N = 1227$) who are involved in adherence work did not participate in the current study. In addition, the extent to which those who completed the survey are representative of all SPP members or the population of pediatric psychologists more generally is unknown. As a result, the current findings on use of assessments and interventions may not represent the full range of adherence-related clinical practice in pediatric psychology across settings. For instance, larger samples including more psychologists from other settings may lead to the identification of new barriers and facilitators to adherence-related practice (e.g., barrier of more limited contact between medical providers and psychologists). Although 108 respondents endorsed using adherence assessments and/or adherence promotion interventions in clinical practice, a smaller percentage of these respondents reported the specific types of adherence assessments and intervention techniques used in clinical practice. It is unclear whether

respondents intentionally or accidentally skipped certain items or if the response options available were not applicable to some respondents. Future work might also provide standardized definitions of interventions to minimize potential variability in respondents' understanding of the core features of interventions. Finally, because the measure used in the current study was designed to guide the future directions of the Adherence SIG, future studies using this measure should examine the psychometric properties of the measure (e.g., reliability). Even so, the current results provide a first look at current clinical practice in addressing pediatric medical adherence and have implications for next steps in understanding and promoting translation of research findings into practice.

As the field of adherence assessment and intervention develops further, it may be useful to draw on the experiences and successes from within clinical child psychology. There are models, for example, of tailoring the content of evidence-based interventions to the needs of specific patients, transporting evidence-based practices into clinical practice, understanding the common elements of effective treatment protocols, and systematically assessing which clients may be the best candidates for different interventions (Chorpita & Daleiden, 2009; Kendall & Beidas, 2007; Weisz et al., 2009). For example, as the evidence base for adherence interventions grows, the Distillation and Matching Model could be used to identify the common elements of effective adherence promotion strategies across pediatric populations and to lead to interventions that are better tailored, for example, to practice settings and the needs of individual patients (Chorpita, Daleiden, & Weisz, 2005). In addition, consistent with the idea of having "flexibility within fidelity" (Kendall & Beidas, 2007), adherence promotion interventions could be designed as general tools that could be used with any pediatric population but are tailored by the clinician to meet the needs of patients with different chronic illness conditions.

The current survey of a sample of SPP members reveals that overall, pediatric psychologists and their trainees are using a variety of assessment and intervention methods to address medical regimen adherence issues in clinical practice. Of concern, many psychologists and trainees endorsed the use of methods that are not necessarily supported by research. SPP has worked to address the numerous barriers to implementation of evidence-based methods in clinical practice with the development of the Evidence-Based Practice resource library ("Evidence-based practice resources," 2012), which includes fact sheets to provide accessible information on evidence-based psychological assessment and treatment of common pediatric

conditions. To continue the translation of research into clinical practice in the area of adherence, it will be necessary to continue efforts to develop practical clinical tools for assessment and intervention, better understand current processes for and specific content of adherence interventions, and to provide accessible resources that summarize clinical applications of adherence assessments and interventions.

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Supplementary Data

Supplementary data can be found at: <http://www.jpepsy.oxfordjournals.org/>.

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