

For online supplement

Development of Daily Diary Card

1 We developed the daily diary card specifically for this study. We formulated the novel questions in the
2 diary card based on available literature and with help from content leaders in the field. Sources of other
3 questions include the validated Children's Hassles Scale (Varni) and Children's Sleep Hygiene Scale
4 (Wilson KE, Lumeng JC, Kaciroti N, Chen SY, LeBourgeois MK, Chervin RD, Miller AL. Behav Sleep Med.
5 2015 Sep 3;13(5):412-23) as well as a daily stress checklist (Bolger). We obtained permission from the
6 appropriate authors to use these instruments. We did not use the entire instruments and items were
7 modified for use on our diary card. Please see Table S1 for details on the source of the question and
8 who completed it over the study interval. Note that each question was used individually as opposed to
9 grouping with other questions in most cases. The questions regarding caregiver stress (questions 36-39)
10 were analyzed as a group.

11 After the initial draft was developed, we conducted key informant interviews for diary card
12 feedback. Then cognitive laboratory interviews were conducted in a small group of caregivers and
13 children to identify possible problems with the diary card. We then performed a pilot study for 4 weeks
14 with 26 child/caregiver pairs. We assessed completion rate, understanding of individual diary card
15 items, and ability to measure item variability. Analyses of item non-response rates and non-
16 discriminating questions, as well as content evaluation, were used for item reduction. We also
17 conducted study personnel debriefings to collect personnel perceptions of diary card problems. We
18 revised the diary card based on these analyses and feedback from exit interviews.

19 In the final study, the card was completed daily by both caregivers and children. Caregivers
20 completed questions 1-6, 23, and 36-39. Children completed questions 6-22. Caregivers completed
21 questions 24-35 with child input.

Other Instruments and Questionnaires Used

23 At a baseline visit, caregivers completed the Night-time Asthma Questionnaire that we developed. The
 24 C-ACT (Liu AH, Zeiger R, Sorkness C, Mahr T, Ostrom N, Burgess S, Rosenzweig JC, Manjunath R.
 25 J Allergy Clin Immunol. 2007 Apr;119(4):817-25), a validated measure of asthma control over the past 4
 26 weeks, was completed at baseline and at 4 week intervals. At baseline, the child also completed the
 27 Revised Child Manifest Anxiety Scale-2 (RCMAS-2), a validated measure of anxiety that was purchased.
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Table S1: Source of questions and who completed them during the study

Daily Diary Card Question #	How formulated	Inspiring source validated	Who completed
1-5	Literature review/key informant	NA	Caregiver
6	Literature review/key informant	NA	Child
7-12, 14, 16, 17	Adapted from Children's Hassles Scale*	Y	Child
13, 15	Inspired by Children's Hassles Scale*	Y	Child
18-22	Literature review/key informant	NA	Child
23	Literature review/key informant	NA	Caregiver
24-31	Inspired by Childhood Asthma Research and Education Network questionnaires	N	Caregiver with child input
32-35	Adapted from Children's	Y	Caregiver with child input

	Sleep Hygiene Scale*		
36-39	Adapted from Bolger's Daily Stressors*	N	Caregiver

*permission obtained from author

Table S2

Baseline Characteristics of Study Participants (n=46)		
Caregiver		
Relationship to child, % mother	93	
Education, % some college or higher	80	
Household annual income, % <\$20,000	20	
Insurance, % Medicaid	28	
Room where sleeps relative to child, % same	11	
	% next room	46
	% down hall	41
Child		
Mean age, years ± SD	8.9 ± 1.7	
Gender, % male	52	
Race, % Caucasian	61	
Ethnicity, % non-Hispanic	98	
C-ACT score, Median (range)	21 (6-27)	
%≥20 (well controlled)	66	
Diary card weeks completed, median (range)	12 (1-12)	

<p>Revised Childhood Manifest Anxiety Scale – 2</p> <p>T score median (range)</p> <p>*96% fell within the categories of “less problematic than for most students (≤ 39)” and “no more problematic than for most students (score 40-60)”</p>	<p>44.5 (29-62)</p>
<p>Biological parent with asthma, %</p>	<p>52</p>
<p>Other allergic disease diagnosis, % nasal allergies</p>	<p>57</p>
<p>% food allergies</p>	<p>20</p>
<p>Step Therapy, % Step 2</p>	<p>35</p>
<p>% Step 3</p>	<p>33</p>
<p>% Step 4</p>	<p>26</p>
<p>% Step 5</p>	<p>2</p>