

Pilot Testing of the Asthma Action Plan Knowledge Questionnaire (AAP-Q)

Yahya A. Alzahrani, MSc, RRT-NPS, RPFT, AC-E; Ellen A. Becker, PhD, RRT-NPS, RPFT, AE-C, FAARC

Introduction: Proactive asthma self-management requires a firm understanding of the asthma action plan (AAP).^{1,2} Currently, there is no tool exists to assess patients' or caregivers' understanding of how to use their AAP. The purpose of this pilot study was to (1) conduct an item analysis for the newly developed Asthma Action Plan Questionnaire (AAP-Q) and (2) to assess the inter-rater and intra-rater agreement of the AAP-Q's scoring rubric. **Method:** The AAP-Q was pilot-tested with caregivers of children with asthma during routine clinic visits. The questionnaire's item analysis was evaluated through: (1) Item difficulty (the percentage of participants who answered the item correctly) and (2) Item discrimination (the item-to-total score correlation). *A priori* established to delete item if answered correctly by < 20% or > 80% of the participants and if the item-to-total correlation is < 0.20. To evaluate intra-rater and inter-rater agreements, two graduate students independently assessed the participants' responses using the scoring rubric. **Results:** The participants were 40 caregivers, Predominantly female (90%), African American/Black (83%), Hispanic or Latino (15%). Most participants reported receiving AAP education in the past (83%). For item difficulty, one item was considered too difficult and answered correctly by only one participant. In addition, 50% of items had item-to-total correlations of < 0.20. Thus, only one item needing revision according to *a priori* criteria. Cohen's kappa value for inter-rater agreement was 0.86. For intra-rater agreement, kappa values were 0.88 and 0.82 for rater 1 and rater 2, respectively. **Conclusion:** The AAP-Q shows promise as an assessment tool based upon the pilot evaluation data. The item analysis indicates that one items either needs to be revised or deleted. The reported kappa values confirm that the AAP-Q scoring rubric has substantial agreement amongst and within raters.

References:

1. National Asthma Education and Prevention Program Expert Panel Report 3 (EPR-3): Guidelines for the Diagnosis and Management of Asthma. J Allergy Clin Immunol 2007;120(5 Suppl):S94-138.

2. Ring N, et al. Promoting the use of Personal Asthma Action Plans: a systematic review. Prim Care Respir J 2007;16(5):271-283.

AAP-KQ Item	Item Difficulty ^a (%)	Item Discrimination ^b
How can you tell if your child is having a problem with his/her asthma? What changes do you notice?	3	-.025
What is the first thing you do when your child has asthma symptoms?	48	.453
If your child still has symptoms, what would you do next?	23	.076
What do you do to prevent your child's asthma symptoms with physical activity (walking, climbing stairs, gym, PE, exercise)?	39 ^c	.331
What do you do if physical activity makes your child asthma worse?	74 ^c	.237

What are your child asthma triggers? What do you do to minimize his/her exposure to asthma triggers?	55	.304
What do you do if your child does not have symptoms?	48	.088
Concerning your child asthma, when should you call the doctor and take him/her to the emergency department?	53	-.109