

Development of the 6-10 year interviewer-administered version of the Asthma Control Questionnaire (ACQ-IA) in Spanish for Guatemala and Peru

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OBJECTIVES

- The Asthma Control Questionnaire (ACQ) was developed in North American English and validated to measure the adequacy of asthma control in patients 11-70 years.
- Since young children may have difficulty reading and understanding the instructions, questions and response options an interviewer version (ACQ-IA), with instructions on explaining the time specification and interval scale, was developed for 6 to 10 year old children, and validated in UK English. If a child had difficulty understanding an ACQ question, standardised alternative wording was developed. See a copy of the items in Table 1.

Table 1. List of items of the British Interviewer version of the ACQ (ACQ-IA)

First, read each question to the child using the primary wording. If the child does not fully understand the question, read it again using the secondary wording marked with 'a' (e.g. 2a, 3a etc.).

- 1, During the past week, how often were you **woken by your asthma** during the night?
- 2, During the past week, how **bad were your asthma symptoms when you woke up** in the morning?
2a. During the past week, how **bad were your asthma symptoms (for instance, hard to breathe, wheeze, cough) when you woke up** in the morning?
- 3, During the past week, how **limited were you in your activities** because of your asthma?
3a. During the past week, how **bothered were you in the things you do every day** because of your asthma?
- 4, During the past week, how much **shortness of breath** did you experience because of your asthma?
4a. During the past week, how much **shortness of breath (hard or difficult to breathe, breathless)** did you have because of your asthma?
- 5, During the past week, how much time did you **wheeze**?
- 6, During the past week, how many **puffs/inhalations of short-acting bronchodilator** (e.g. Ventolin/Bricanyl) have you used each day?
6a. During the past week, how many **puffs of your Reliever** (your blue puffer) have you used each day?

- The objective of this study was to develop the ACQ-IA in Spanish for Guatemala and Peru, languages in which the adult ACQ already exists, using the methodology developed for the UK ACQ-IA.

METHODS

In each language, the following methodology was used:

1. Forward and backward translation of the UK ACQ-IA instructions;
2. Review of the instructions by the clinician;
3. Cognitive debriefing with children (n=5) to identify ACQ questions that were difficult to comprehend (the existing Guatemalan and Peruvian versions of the adult ACQ were used);
4. Development of alternative wording for questions in Guatemalan and Peruvian Spanish;
5. Developer's review;
6. Testing of the alternatives on another sample of children (n=5);
7. Developer's review.

RESULTS

- In both languages, the wording of the adult version of item 4 (“...how much **shortness of breath** did you experience because of your asthma?”) was well understood and did not require the development of alternative wording.
- In both languages, items 1, 2, 3, and 6 required the development of alternatives because children had difficulties in understanding specific words or expressions.
 - **Item 1:**
 - ✓ **Guatemalan Spanish:** “asma” (asthma) was difficult to understand and was replaced by “problemas para respirar” (breathing problems).
 - ✓ **Peruvian Spanish:** ¿Con qué frecuencia ? (How often) was replaced by ¿Cuántas veces ?.
 - **Item 2:**
 - ✓ **Guatemalan Spanish:** “fuertes” (bad) was replaced by “malos” and “asma” by “problemas para respirar.” In addition, examples were given: “no podías respirar, silbido, tos” (you could not breathe, wheezing, cough).
 - ✓ **Peruvian Spanish:** “intensos” (bad) was replaced by “fuertes.”
 - **Item 3:**
 - ✓ **Guatemalan Spanish:** “asma” was replaced by “problemas para respirar.”
 - ✓ **Peruvian Spanish:** “actividades” (activities) was replaced by “hacer tus cosas” (do your things) and, for clarification, examples were given: “estudiar, jugar, hacer deportes” (study, play, do sports).
 - **Item 6:**
 - ✓ **Guatemala Spanish:** “disparos” (puffs) was replaced by “esprayasos,” and “un broncodilatador de efecto inmediato” (short-acting bronchodilator) by “medicina de emergencia.”
 - ✓ **Peruvian Spanish:** “te has aplicado” (have you used) was replaced by “has usado.”
- Item 5 (“...how much time did you **wheeze**?”) was problematic in Peru, but not in Guatemala. Children had difficulties with “wheeze” (“te ha silbado el pecho”). The wording used by mothers (“te ha sonado el pecho”) was more easily understood by children.
- In all cases, the changes (alternatives) requested by the first sample of children were confirmed by the second round of cognitive interviews designed to test the alternatives.

CONCLUSION

- The validity of this novel methodology for the cultural adaptation ACQ-IA has been further supported by these successful adaptations for Peru and Guatemala.

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