JUVENILE IDIOPATHIC ARTHRITIS

1. COMPARABILITY OF PROXY, ADOLESCENT AND ADULT MEASURES OF FUNCTIONAL ABILITY IN ADOLESCENTS WITH JIA

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Background: It is unclear which tool should measure functional ability in adolescents with JIA. The proxy-completed Childhood Health Assessment Questionnaire (P-CHAQ) is completed on the adolescent’s behalf and an adolescent version (A-CHAQ) has not been validated. Since adolescence parallels transfer to adult care, the adult HAQ may be preferable to capture functional ability throughout transition. However, it is unclear how the HAQ compares with the two CHAQ tools.

Aims: To assess agreement between the P-CHAQ, A-CHAQ and HAQ in adolescents with JIA at initial presentation to rheumatology.

Methods: Adolescents aged 11 to 17 years recruited before 1st January 2013 to the Childhood Arthritis Prospective Study (CAPS), a UK multicentre JIA inception cohort, were selected. Adolescents had complete data on proxy-completed P-CHAQ and adolescent-completed A-CHAQ and HAQ at presentation. Wilcoxon signed-rank tests compared median scores, Spearman’s correlations assessed pairwise correlations and percent agreement was assessed via Bland-Altman plots. Univariate and age and sex-adjusted associations between scores were assessed via linear regression models.

Results: Of 94 adolescents included, median age at diagnosis was 13 years (IQR 12 to 15) and 61% were female. Median disease duration at diagnosis was seven months (IQR 5 to 14) and the most common subtype was oligoarticular JIA (40%). Median baseline HAQ (0.5) was marginally lower than both CHAQ scores (both 0.6), although this difference was not clinically significant. However, the strongest correlation was between the HAQ and the A-CHAQ (0.91), with the lowest between the two CHAQ tools (0.83). In accordance, the highest agreement was between the two adolescent-completed tools (94%) and lowest between the P-CHAQ and A-CHAQ (87%). Where discordant, the majority of HAQ scores fell below those from either CHAQ. Discordance between CHAQ scores was more evenly distributed. After adjustment for age and sex, all baseline scores were statistically and clinically similar (Table 1).

Conclusions: There was strong correlation, good concordance and similar associations between the P-CHAQ, A-CHAQ and HAQ in adolescents with JIA. The strong relationship between the HAQ and either CHAQ tool indicate the utility of HAQ in adolescents with JIA.

Table 1 Comparisons of the P-CHAQ, A-CHAQ and HAQ in adolescents with JIA at baseline

<table>
<thead>
<tr>
<th>Score</th>
<th>Median score (IQR)</th>
<th>Comparison</th>
<th>Correlation</th>
<th>Coefficient for association†</th>
</tr>
</thead>
<tbody>
<tr>
<td>P-CHAQ</td>
<td>0.625 (0.125, 1.375)</td>
<td>Vs. A-CHAQ</td>
<td>0.84</td>
<td>1.0 (0.9, 1.1)</td>
</tr>
<tr>
<td>A-CHAQ</td>
<td>0.625 (0.125, 1.250)</td>
<td>Vs. HAQ</td>
<td>0.93</td>
<td>0.9 (0.8, 1.0)</td>
</tr>
<tr>
<td>HAQ</td>
<td>0.500 (0.000, 1.125)</td>
<td>Vs. P-CHAQ</td>
<td>0.86</td>
<td>0.9 (0.8, 1.0)</td>
</tr>
</tbody>
</table>

†In multivariate linear regression adjusting for age and sex. P-CHAQ: Parent-assessed Childhood Health Assessment Questionnaire (CHAQ); A-CHAQ: Adolescent-assessed CHAQ; IQR: Interquartile range; CI: Confidence interval

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