A compliance questionnaire could discriminate among patients for drug taking behaviour and correct dosing in rheumatic diseases


Clinical impact ratings GP/FP/Primary care ★★★★★☆ Internal medicine ★★★★★★☆

Q In patients with rheumatic diseases, how well does the compliance questionnaire rheumatology (CQR) predict compliance with taking medications and correct dosing compared with an electronic medication event monitoring system (MEMS)?

**METHODS**

**Design:** cohort study to validate a previously derived self-administered questionnaire.

**Setting:** outpatient rheumatology wards of 3 hospitals in the Netherlands.

**Patients:** 127 patients (mean age 61 y, 57% women) who had rheumatoid arthritis and were taking sulphasalazine, methotrexate, diclofenac, or naproxen; polymyalgia rheumatica and were taking prednisone or prednisolone; or gout and were taking colchicine, allopurinol, or benz bromaron. The drugs had to be first time prescriptions and taken as directed, not on demand. Patients were excluded if a caregiver was involved in the administration of medication.

**Prediction guide:** patients completed the CQR in the first week after starting medication. The CQR contained 19 questions on drug taking behaviour (score range 0 (complete non-compliance) to 100 (perfect compliance)). Patients received a MEMS pill bottle which was filled by their pharmacist. The MEMS cap contained electronic circuitry that recorded the time and date of each opening and closing of the pill bottle. At 6 months (12 mo for gout), patients returned the MEMS pill bottle.

**Outcomes:** drug taking compliance (percentage of prescribed doses taken), and correct dosing (percentage of days on which the correct number of doses was taken). Satisfactory compliance was defined as drug taking compliance or correct dosing >80%.

**MAIN RESULTS**

The mean CQR score was 76.6. Total CQR score did not correlate with drug taking compliance or correct dosing. However, a multiple regression analysis weighting scores assigned to individual items showed CQR items predicted drug taking compliance and correct dosing. The discriminant analyses of the CQR for detecting drug taking compliance and correct dosing <80% and ≥50% are in the table.

**CONCLUSION**

In patients with rheumatic diseases, the compliance questionnaire rheumatology detected poor drug taking compliance and dosing.

**Discriminant analysis of the compliance questionnaire rheumatology in detecting poor drug taking compliance and dosing in rheumatic diseases**

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Sensitivity (95% CI)</th>
<th>Specificity (CI)</th>
<th>+LR (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug taking compliance &lt;80%</td>
<td>62% (57 to 67)</td>
<td>95% (92 to 97)</td>
<td>11.6 (6.7 to 20)</td>
</tr>
<tr>
<td>Drug taking compliance ≥50%</td>
<td>63% (57 to 68)</td>
<td>97% (96 to 99)</td>
<td>24.1 (7.9 to 73)</td>
</tr>
<tr>
<td>Correct dosing &lt;80%</td>
<td>89% (85 to 92)</td>
<td>70% (65 to 75)</td>
<td>2.9 (1.5 to 5.9)</td>
</tr>
<tr>
<td>Correct dosing ≥50%</td>
<td>62% (57 to 67)</td>
<td>94% (91 to 96)</td>
<td>9.9 (7.0 to 14)</td>
</tr>
</tbody>
</table>

*Diagnostic terms defined in glossary.*