Developing and validating a tool for assessment of pharmacist prescribers’ consultations

Derek Stewart\textsuperscript{a,*}, Johnson George\textsuperscript{b}, Christine Bond\textsuperscript{c}, Lesley Diack\textsuperscript{a}, Jennifer Cleland\textsuperscript{d}, Dorothy McCaig\textsuperscript{a}, Scott Cunningham\textsuperscript{a}, Katie MacLure\textsuperscript{a} and Sally Harkness\textsuperscript{d}

\textsuperscript{a}School of Pharmacy & Life Sciences, Robert Gordon University, Aberdeen, UK, \textsuperscript{b}Department of Pharmacy Practice, Monash University, Melbourne, Australia, \textsuperscript{c}Centre for Academic Primary Care, University of Aberdeen, Aberdeen, UK and \textsuperscript{d}Inverurie Medical Group, Inverurie, UK.

\*Correspondence to Derek Stewart, School of Pharmacy & Life Sciences, Robert Gordon University, Aberdeen, UK; E-mail: d.stewart@rgu.ac.uk

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Objective. To develop and validate an assessment tool, based on the ‘Royal College of General Practitioners’ (RCGP) Video Assessment Tool’, for assessment of pharmacist prescribers’ consultation skills.

Methods. Competency areas of the RCGP tool were left unchanged but performance criteria for each were modified to reflect pharmacist prescribing. Each criterion and the overall consultation were rated from 1 (poor) to 5 (excellent).

A purposive sample of 10 experienced prescribing pharmacists was selected. Each pharmacist identified, recruited and consented two patients. Video recordings of consultations were assessed independently by two randomly assigned GPs, experienced in the use of the RCGP tool, using the newly developed scale. Inter-rater reliability was assessed. Construct validity was assessed by comparing the assessor score with a patient satisfaction score. Spearman’s rho was used to test the correlation between the two scores.

Results. The RCGP tool was modified to give the ‘Pharmacist Consultation Assessment Tool’ (PharmaCAT). The median overall PharmaCAT consultation rating was 3. There was good agreement between the two assessors for total scores (intraclass correlation coefficient = 0.694).

Fourteen (78%) patient satisfaction questionnaires were returned; most (n = 13, 93%) agreed/strongly agreed that they were entirely satisfied with the consultation. Correlations between average total scores on PharmaCAT and the patient satisfaction questionnaire were weak (Spearman’s rho = 0.142 and 0.242 for both assessors).

Conclusions. The PharmaCAT has been tested in the pharmacist prescriber setting. The tool had discriminatory power across different domains and inter-rater reliability. The PharmaCAT has potential to be used as a formative and/or summative assessment tool.

Keywords. Communication skills, consultation, pharmacy, prescribing.

Introduction

Many developments in pharmacy practice in the UK have taken place recently. Pharmacist prescribing, initially introduced as supplementary prescribing in 2003, followed by independent prescribing in 2006,\textsuperscript{1,2} is one of the most notable developments.

The scope of independent prescribing, described as ‘prescribing by a practitioner responsible and accountable for the assessment of patients with undiagnosed or diagnosed conditions and for decisions about the clinical management required, including prescribing’, is wide ranging. All licensed medicines (other than controlled drugs) can be prescribed within the independent prescriber’s competence with no need for any overarching endorsement by a medical practitioner.\textsuperscript{3}

Qualification as an independent pharmacist prescriber requires completion of a short postgraduate course. This comprises 26 days of university delivered training, with an additional 12 days in practice under the guidance of a designated medical practitioner.\textsuperscript{3} To date, \textasciitilde{}1600 pharmacists in Great Britain have completed their prescribing training and are registered with
the Royal Pharmaceutical Society of Great Britain as prescribers.

Consultation skills are a key element of this training, aiming to further develop effective relationships and communication strategies and to demonstrate a shared approach to decision making.6

Despite the emphasis placed on consultation skills during training, the published literature on pharmacist prescribers’ consultation skills training or practice is sparse. Cleland et al. used semi-structured interviews with a purposive sample of nine prescribers to explore views of consultation skills training and impact on practice. While participants were positive about their enhanced skills, some practical difficulties were highlighted.5 Most patient-focused research relates to patients’ perspectives of pharmacist prescribing or their satisfaction with prescribing services, rather than consultation skills.6–8

Consultation skills are recognized as a central component of the clinical encounter. A recent patient survey reported by the General Medical Council identified communication skills as the second most influential factor (after giving good advice and treatment) in patients’ confidence in their doctors.9 Studies involving doctors have also demonstrated key benefits, including enhanced working relationships, increased patient satisfaction and improved health outcomes.10–12

Several consultation skills assessment tools are available for medical consultations, including the ‘Segue framework’,13 ‘Henbest and Stewart rating scale’14 and the ‘Royal College of General Practitioners’ (RCGP) summative assessment single route video assessment.15 Of these, the latter has contributed both formatively and summatively to the assessment process for membership of the RCGP. Each consultation is assessed around five broad areas of discovering the reason for the patient’s attendance, defining the clinical problem(s), explaining the problem(s) to the patient, addressing the patient’s problem(s) and making effective use of the consultation. The application and concurrent validity of this tool have been previously described.16,17

As with the medical consultation, evaluation of pharmacist prescribers’ consultation skills is critical. However, there is no validated tool for either formative or summative assessment of pharmacist prescribers’ consultation skills. Greenwood et al.18 reported one study in which they used the Henbest and Stewart rating scale (assesses patient-centredness)14 and the Segue framework (asses content of the consultation).13 Salter et al.19 have used discourse analysis to research pharmacist consultations. Both studies had limitations and neither validated an evaluation tool or approach.

Thus, the aim of our study was to develop and validate a tool based on the RCGP video assessment tool for assessment of pharmacist prescribers’ consultations.

Methods

Development of the scale

The five competency areas of the RCGP video assessment tool were left unchanged. Performance criteria (PC) for each of the competency areas were modified to reflect the pharmacist prescribing context by replacing the term ‘doctor’ with ‘pharmacist prescriber’ and placing less emphasis on physical and mental examination and clinical diagnosis. Each criterion was rated on a scale of 1 (poor) to 5 (excellent) with the option of scoring ‘not observed’. In addition, there was an overall rating for the consultation and space for free text comments on specific strengths, weaknesses and serious concerns.

The tool was further refined by a panel of four GP assessors with extensive training and experience in video assessment of medical consultations and six academics with expertise in medical and pharmacy education. The panel communicated by email apart from one face to face meeting when face and content validity of the tool were established by consensus.

Sample of pharmacist prescribers and recruitment

A purposive sample of 10 study sites was identified. These were selected to provide a range of geographical regions, practice settings (community pharmacy, general practice and hospital) and therapeutic areas of prescribing (cardiovascular, diabetes, oncology, pain and respiratory). To participate, each pharmacist had to have been prescribing for at least 20 patients in the previous 3 months. Pharmacists were approached sequentially to recruit the sample of 10. Written informed consent was obtained from each pharmacist. Each pharmacist identified, recruited and consented two patients. There were no exclusion criteria.

Data collection

One consultation between each of the recruited patients and their pharmacist prescriber was video recorded. The Guidance of the General Medical Council on video recording was followed. Video recording was undertaken by a researcher, except in three cases where pharmacists undertook the recording themselves, following detailed verbal and written instructions. The pharmacists were informed that the video recordings would be reviewed by experts but were not given any details regarding the content of the assessment tool.

Each recording was assessed independently by two randomly assigned GP assessors (from the panel of four who had contributed to tool development) using the new scale. Data were analysed for completeness, and inter-rater reliability (agreement between assessors) was tested using intraclass correlation coefficient (ICC).
Construct validity was assessed by comparing assessor scores with a patient satisfaction score based on a validated scale,\textsuperscript{20} which had been adapted and used previously for pharmacist prescriber consultations.\textsuperscript{7} Questions relating to in-depth examination and long-term professional relationships were removed from Baker’s scale leaving nine statements rated on a 5-point Likert scale. The scale was completed by each patient immediately after the consultation. Spearman’s rho was used to test the correlations between the two assessor scores and the patient satisfaction score.

Approval for the research was obtained from the Multi-Centre Research Ethics Committee for Scotland and the relevant Research and Development committees in Scotland.

Results

The RCGP tool was modified to give the Pharmacist Consultation Assessment Tool (PharmaCAT). The RCGP tool and PharmaCAT are compared in Table 1.

\begin{table}[h]
\centering
\begin{tabular}{|l|l|}
\hline
PharmaCAT & RCGP \\
\hline
PharmaCAT 1. The pharmacist is seen to encourage the patient’s contribution at appropriate points in the consultation & The doctor is seen to encourage the patient’s contribution at appropriate points in the consultation \\
& The doctor is seen to respond to signals (cues) that lead to a deeper understanding of the problem \\
PharmaCAT 2. The pharmacist uses appropriate psychological and social information to place the patient’s health/medical conditions in context & The doctor uses appropriate psychological and social information to place the complaint(s) in context \\
PharmaCAT 3. The pharmacist explores the patient’s health understanding & The doctor explores the patient’s health understanding \\
PharmaCAT 4. The pharmacist establishes the clinical reason leading to attendance and … & Grouping of 1, 2, 3 and 4 \\
PharmaCAT 4…. and undertakes appropriate assessment of the patient’s condition systematically & 6. The physical/mental examination chosen is likely to confirm or disprove hypotheses that could reasonably have been formed; Or is designed to address a patient’s concern \\
PharmaCAT 5. The pharmacist obtains sufficient information to be aware of other/suspected new diagnoses beyond the scope of management, or diagnosis, and refers to appropriate medical professional or other health professional, if necessary & 5. The doctor obtains sufficient information to include or exclude likely relevant significant conditions \\
PharmaCAT 6. The pharmacist explains the clinical condition in appropriate language & 7. The doctor appears to make a clinically appropriate working diagnosis \\
PharmaCAT 7. The pharmacist explanation incorporates some or all of the patient’s health beliefs & 8. The doctor explains the problem or diagnosis in appropriate language \\
PharmaCAT 10. The pharmacist specifically seeks to confirm the patient’s understanding of any newly diagnosed conditions and management & 9. The doctor specifically seeks to confirm the patient’s understanding of the diagnosis \\
PharmaCAT 8. The management plan (including any prescription) is appropriate for the clinical reason/working diagnosis, reflecting a good understanding of modern accepted clinical practice & 10. The management plan (including any prescription) is appropriate for the working diagnosis, reflecting a good understanding of modern accepted medical practice \\
PharmaCAT 9. The patient is given the opportunity to be involved in significant management decisions to enhance concordance & 11. The patient is given the opportunity to be involved in significant management decisions \\
PharmaCAT 11. The pharmacist takes steps to enhance compliance/adherence, by exploring and responding to the patient’s understanding of treatment & Overall rating \\
PharmaCAT 12. The pharmacist specifies the conditions and interval for follow-up or review, appropriately ensuring a safety net & 12. Makes effective use of resources \\
PharmaCAT. Overall rating & \\
\hline
\end{tabular}
\caption{Comparison between PharmaCAT and RCGP}
\end{table}
Nineteen pharmacists were approached to recruit the sample of 10. These 10 were from six National Health Service (NHS) organizational areas in Scotland (see Table 2). Pharmacists’ performances on each of the 12 criteria are given in Table 3. The median overall rating was 3 (range 1–4) on a scale of 1 (poor) to 5 (excellent). There was good agreement between the two assessors for the total PharmaCAT (sum of scores of PC1–PC12) scores (ICC = 0.694).

Pharmacists performed best in PC1 (encourage the patient’s contribution at appropriate points in the consultation), PC9 (management plan is appropriate for the clinical reason/working diagnosis) and PC12 (specifies the conditions and interval for follow-up or review).

Lower scores were obtained for PC5 (obtains sufficient information to rule out any medical condition beyond their scope of management), PC7 (explanation incorporates some or all of the patient’s health beliefs), PC8 (specifically seeks to confirm the patient’s understanding of the clinical condition/diagnosis) and PC10 (specifically seeks to confirm the patient’s understanding of the clinical condition/diagnosis). There were 10 occurrences of ‘not observed’ for PC 7 (patient’s health beliefs).

Fourteen patient satisfaction questionnaires were returned (see Table 4) and almost all (n = 13, 93%) agreed or strongly agreed that they were entirely satisfied with the consultation.

Spearman’s rho, measuring correlation between total PharmaCAT scores for the two assessors and total patient satisfaction scores, indicated little correlation (rho = 0.142 and 0.242).

Discussion

In this study, we developed and tested PharmaCAT, modified from the RCGP video assessment tool. The tool had discriminatory power between pharmacist prescribers and the different competency areas and inter-rater reliability. However, there was little correlation between assessors’ total PharmaCAT scores and patients’ ratings of consultation satisfaction. Similarly, McKinstry et al.21 showed little correlation between the RCGP tool and patients' scores on a consultation satisfaction questionnaire. While patients’ views on satisfaction are valuable, they may be measuring something different and additional to the skills of the practitioner linked to other competencies. They may also be a poor measure of discrimination.

Our research has strengths and weaknesses. To our knowledge, this is the first study assessing pharmacist consultations using a set of criteria covering specific competency areas. We studied a range of settings and specialities and importantly benchmarked pharmacist prescribing consultations using a tool modified from one developed for trainee GP. We used experienced RCGP consultation skills assessors with many years of experience for testing the reliability of the PharmaCAT. Our consultations were video recorded rather than audio taped in order to examine non-verbal as well as verbal communication. Limitations included the small sample numbers of pharmacists and patients and the lack of representation from secondary care settings. There was potential for selection bias as the participating pharmacists recruited the patients; however, this is similar to the process used by the RCGP.

Pharmacists’ performances varied across the criteria. Higher scores were obtained in relation to encouraging the patient’s contribution and aspects of clinical management with lower scores for achieving concordance and exploring patient health beliefs. Areas of lower scores and omissions may reflect the pharmacists’ prior knowledge and management of the patient

<table>
<thead>
<tr>
<th>Pharmacist</th>
<th>Geographical region</th>
<th>Prescribing setting</th>
<th>Clinical area(s)</th>
<th>Number of consultations recorded</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>GP practice</td>
<td>Respiratory</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>GP practice/community pharmacy</td>
<td>Respiratory</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>GP practice</td>
<td>Cardiovascular</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>GP practice</td>
<td>Cardiovascular</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>GP practice/community pharmacy</td>
<td>Rheumatology/pain</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>4</td>
<td>GP practice</td>
<td>Cardiovascular/diabetes</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>4</td>
<td>GP practice</td>
<td>Cardiovascular</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>4</td>
<td>GP practice</td>
<td>Cardiovascular</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>5</td>
<td>Community pharmacy</td>
<td>Respiratory</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>6</td>
<td>Hospital (secondary care)</td>
<td>Oncology</td>
<td>0</td>
</tr>
</tbody>
</table>

*Pharmacist 8 was one of the first recruits but decided to withdraw from the research in the later stages.

bPharmacist 9 had problems with the technology.

cPharmacist 10 was unable to recruit any patients (working in oncology in secondary care).
### Table 3  Pharmacists’ performances in each of the 12 criteria and overall scores

<table>
<thead>
<tr>
<th>PC</th>
<th>Median Score [range: 1 (poor) to 5 (excellent)]</th>
<th>Number of times rated ‘not observed’</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The pharmacist prescriber is seen to encourage the patient’s contribution at appropriate points in the consultation</td>
<td>4 (1–5)</td>
<td>1</td>
</tr>
<tr>
<td>2. The pharmacist prescriber uses appropriate psychological and social information to place the patient’s health/medical conditions in context</td>
<td>3 (1–5)</td>
<td>2</td>
</tr>
<tr>
<td>3. The pharmacist prescriber explores the patient’s health understanding</td>
<td>3 (1–4)</td>
<td>6</td>
</tr>
<tr>
<td>4. The pharmacist prescriber establishes the clinical reason/diagnosis leading to attendance and undertakes appropriate assessment of the patient’s condition systematically</td>
<td>3 (1–5)</td>
<td>0</td>
</tr>
<tr>
<td>5. The pharmacist prescriber obtains sufficient information to rule out any medical condition beyond their scope of management, or diagnosis, and refers to appropriate medical professional or other health professional, if necessary</td>
<td>2 (1–5)</td>
<td>9</td>
</tr>
<tr>
<td>6. The pharmacist prescriber explains the clinical condition/diagnosis in appropriate language</td>
<td>3 (1–5)</td>
<td>2</td>
</tr>
<tr>
<td>7. The pharmacist prescriber’s explanation incorporates some or all of the patient’s health beliefs</td>
<td>1–2 (1–4)</td>
<td>10</td>
</tr>
<tr>
<td>8. The pharmacist prescriber specifically seeks to confirm the patient’s understanding of the clinical condition/diagnosis</td>
<td>2 (1–3)</td>
<td>8</td>
</tr>
<tr>
<td>9. The management plan (including any prescription) is appropriate for the clinical reason/working diagnosis, reflecting a good understanding of modern accepted clinical practice</td>
<td>3.5 (1–5)</td>
<td>1</td>
</tr>
<tr>
<td>10. The pharmacist specifically seeks to confirm the patient’s understanding of the clinical condition/diagnosis</td>
<td>2 (1–5)</td>
<td>5</td>
</tr>
<tr>
<td>11. The pharmacist prescriber takes steps to enhance concordance, by exploring and responding to the patient’s understanding of the treatment</td>
<td>3 (1–5)</td>
<td>5</td>
</tr>
<tr>
<td>12. The pharmacist prescriber specifies the conditions and interval for follow-up or review, appropriately ensuring a safety net</td>
<td>3.5 (1–4)</td>
<td>1</td>
</tr>
<tr>
<td>Overall (sum of 1–12)</td>
<td>3 (1–4)</td>
<td>—</td>
</tr>
</tbody>
</table>

### Table 4  Patient ratings of their consultation with the pharmacist prescriber, n (%)  

<table>
<thead>
<tr>
<th>Statements</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am totally satisfied with my visit to this pharmacist prescriber</td>
<td>12 (85.7)</td>
<td>1 (7.1)</td>
<td>0</td>
<td>0</td>
<td>1 (7.1)</td>
</tr>
<tr>
<td>This pharmacist prescriber told me everything about my treatment</td>
<td>12 (85.7)</td>
<td>1 (7.1)</td>
<td>0</td>
<td>0</td>
<td>1 (7.1)</td>
</tr>
<tr>
<td>Some things about my consultation with the pharmacist prescriber could have been better</td>
<td>3 (21.4)</td>
<td>0</td>
<td>2 (14.3)</td>
<td>5 (35.7)</td>
<td>4 (28.6)</td>
</tr>
<tr>
<td>This pharmacist prescriber examined me very thoroughly</td>
<td>10 (71.4)</td>
<td>1 (7.1)</td>
<td>2 (14.3)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>This pharmacist prescriber was interested in me as a person, not just my illness</td>
<td>8 (57.1)</td>
<td>4 (28.6)</td>
<td>0</td>
<td>1 (7.1)</td>
<td>1 (7.1)</td>
</tr>
<tr>
<td>I understand my illness much better after seeing this pharmacist prescriber</td>
<td>9 (64.3)</td>
<td>4 (28.6)</td>
<td>1 (7.1)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>I felt this pharmacist prescriber really knew what I was thinking</td>
<td>9 (64.3)</td>
<td>3 (21.4)</td>
<td>2 (14.3)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>I wish it had been possible to spend a little more time with the pharmacist prescriber</td>
<td>3 (21.4)</td>
<td>2 (14.3)</td>
<td>4 (28.6)</td>
<td>4 (28.6)</td>
<td>1 (7.1)</td>
</tr>
<tr>
<td>I would find it difficult to tell this pharmacist prescriber about some private things</td>
<td>2 (14.3)</td>
<td>0</td>
<td>1 (7.1)</td>
<td>5 (35.7)</td>
<td>6 (42.9)</td>
</tr>
</tbody>
</table>
or their lack of familiarity with the assessment tool. In future, the assessment criteria should be embedded in the training programme and pharmacists made aware of the need to focus on all aspects of the consultation assessment criteria, regardless of their familiarity with the patient.

The development of PharmaCAT using video recordings is a clear advance. Previous studies from Greenwood et al.\(^{18}\) and Salter et al.\(^{19}\) were based on audio recordings. Greenwood studied six pharmacists’ interactions with 18 congestive cardiac failure patients. Although none of the pharmacists were registered prescribers, they were expected to explore patients’ understanding of heart failure, strategies for self-management, undertake a medication review and provide lifestyle advice. The authors concluded that the Henbest and Stewart rating scale (assesses patient-centredness)\(^{14}\) and the Segue framework (assesses content of the consultation)\(^{13}\) were appropriate for assessing audio recording of pharmacist consultations. However, they also noted the limitations of audio recording including the inability to record visual information.

Salter et al.\(^{19}\) used discourse analysis to explore the advice giving role of pharmacists (non-prescribers) during consultation for medication review with patients aged 80 years and above. One researcher observed, taped and transcribed a total of 29 consultations with seven pharmacists. Although the pharmacists provided advice, this was rarely initiated by the patients and often resisted or rejected.

The RCGP video assessment tool has recently been modified to be used in a more formative way as part of work-based assessment, the ‘Consultation Observation Tool’.\(^{22}\) This has the same competency areas as before but each is now graded on a four-point scale of ‘insufficient evidence’, ‘needs further development’, ‘competent’ and ‘excellent’. We now note the potential of adopting this scale for PharmaCAT, subject to confirmation of validity and reliability.

Further work is required to test PharmaCAT with a greater number of pharmacists in more diverse therapeutic areas. There may also be a role for a summative assessment tool for pharmacist prescribers based on PharmaCAT. PharmaCAT was developed for pharmacist prescribers but we suggest that with a similar process of modification and validation, a further modified tool may be applicable to all non-medical prescribers, including nurses, physiotherapists and optometrists.

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**Declaration**

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**References**


