Doctor–patient communication in a musculoskeletal unit: relationship between an observer-rated structured scoring system and patient opinion

J. O’Neill, J. R. Williams1 and L. J. Kay1

Objectives. To investigate the ability of consultant rheumatologists and orthopaedic surgeons to communicate well with patients and to determine the validity of a structured proforma used to assess medical students’ communication skills.

Methods. Seventy new patient appointments with consultant rheumatologists and orthopaedic surgeons were assessed for communication skills exhibited by the consultants and patient satisfaction. Communication skills were assessed using a proforma previously used to examine medical students, and patient ratings were obtained using visual analogue scales.

Results. Median scores attained using the structured proforma for rheumatology, elective orthopaedic and fracture clinic consultations were 17, 15 and 14 out of 20 ($P < 0.05$). Patient satisfaction scores were high in all three domains measured. Scores were statistically significantly higher for rheumatology appointments than in fracture clinic (median scores 29.5, 29.5 and 28 out of 30). Consultation durations varied, with a median of 23 min for rheumatology and 10.5 and 4 min for orthopaedic surgeons in clinic and fracture clinic, respectively.

Conclusions. Consultant rheumatologists and orthopaedic surgeons demonstrate good communication skills, according to a tool used to assess medical students. These scores correlate with patient views, suggesting that teaching and assessment of communication skills at medical schools may address concerns of patients. Scores and satisfaction correlate with the duration of the consultation.

Keywords: Doctor–patient communication, Consultant rheumatologists, Orthopaedic surgeons, Assessments.
evidence in its favour [12]. For example, in seminars where students discuss positive and negative examples of communication with patients they have observed, they most often cite orthopaedic surgeons as poor (personal communication, Prof. J. Spencer, University of Newcastle). We do not know whether this is representative, or whether students use stereotypes, feel it is acceptable, or even expected, and therefore safe to criticize the communication skills of orthopaedic surgeons. Poor communication by doctors is a factor in poor overall performance [13]. Current senior hospital doctors will have developed their own communication styles by apprenticeship and observation and are unlikely to have received extensive formal training or feedback on their own performance.

Consultation length correlates with patient satisfaction and perceived quality of care [14, 15]. Specialist associations recommend maximum numbers of patients per clinic, but little evidence exists about optimum consultation duration and such guidelines are not adhered to. Shorter waiting times for out-patient appointments are an increasing priority, creating pressures to shorten the consultation, despite potential adverse effects on patient care.

We have investigated the communication skills performance of consultant rheumatologists and orthopaedic surgeons in real new patient consultations using a structured proforma used in medical student OSCE examinations, and the relationship between these scores, patients’ views and length of time spent with the patient.

Methods

We studied new patient consultations so there would be no ongoing relationship between doctor and patient that might influence consultation style and content. These were consecutive new patient consultations with consultants in orthopaedic and rheumatology elective clinics and fracture clinics. We used the following two measures.

A structured proforma (see Appendix 1) was completed by a medical student (J. O’N) who observed consultations but did not participate. This came from a medical student OSCE at another medical school. Consultants were not familiar with the structured proforma, and had not used it to examine students. The maximum possible score was 20.

Three visual analogue scores (see Appendix 2) were completed by the patient immediately after the consultation, outside the consultation room, in answer to the questions: How well do you think the doctor listened to what you had to say? By the end, how much do you think the doctor knew about your medical problem? How well do you feel, overall, that this appointment with the doctor went? Each question had a maximum score of 10, with a total of 30. The student recorded the duration of the consultation in minutes.

The participating doctor and patient gave consent for each consultation to be studied. Ethical approval from the local research ethics committee (Newcastle and North Tyneside) was given. The patient’s information sheet explained that the purpose of the study was to compare the patient’s view with the medical student’s score, and that individual responses would not be shown to the doctors or used to criticize the doctor. Statistical analysis, performed using EPI INFO, used the \( \chi^2 \)-test with a significance level of 5%, and linear regression.

Results

We studied seventy consultations: 26 orthopaedic new patients, 22 rheumatology new patients and 22 fracture clinic patients. Four rheumatologists and five orthopaedic surgeons participated. One orthopaedic surgeon declined; all patients approached agreed to take part.

Consultation duration

Mean duration of consultation varied significantly between the three types of consultation, with rheumatology consultations being significantly longer than orthopaedic elective consultations, which were in turn longer than fracture clinic consultations (median durations 23 vs 10.5 vs 4 min, respectively, \( P < 0.02 \) (Table 1).

Observer-rated consultation scores

OSCE scores were higher for rheumatology than orthopaedic consultations (median scores 17 vs 15 vs 14 out of 20, \( P < 0.05 \)) but differences between orthopaedic elective and fracture clinic consultations were not significant (\( P = 0.096 \)). The difference in score shown is unlikely to be of clinical significance.

Patient satisfaction scores

Patients recorded high levels of satisfaction in all three domains. Rheumatology consultations scored higher than those in fracture clinic, but otherwise there were no significant differences in OSCE score (median scores 29.5 vs 29.5 vs 28 out of 30).

### Table 1. Number, duration and scores awarded for new patient consultations in rheumatology and orthopaedic elective clinics and in fracture clinic

<table>
<thead>
<tr>
<th></th>
<th>Rheumatology elective new patient consultation</th>
<th>Orthopaedic elective new patient consultation</th>
<th>Fracture clinic new patient consultation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of consultations</td>
<td>22</td>
<td>26</td>
<td>22</td>
</tr>
<tr>
<td>Median duration (min)</td>
<td>23</td>
<td>10.5</td>
<td>4</td>
</tr>
<tr>
<td>Range (min)</td>
<td>11–33</td>
<td>4–26</td>
<td>2–14</td>
</tr>
<tr>
<td>Median (range) OSCE score out of 20</td>
<td>17 (15–20)</td>
<td>15 (12–19)</td>
<td>14 (8–19)</td>
</tr>
<tr>
<td>Median (range) overall patient score out of 30</td>
<td>29.5 (20–30)</td>
<td>29.5 (19–30)</td>
<td>28 (19–30)</td>
</tr>
</tbody>
</table>
Relationships between observer-rated consultation score, patient satisfaction score and consultation duration

Linear regression analysis showed that duration of consultation correlated positively with OSCE scores for orthopaedic surgeons in both settings ($r^2 = 0.45$, $P < 0.004$ for out-patients and $r^2 = 0.22$, $P = 0.018$ in fracture clinic), and with patient satisfaction in fracture clinic ($r^2 = 0.39$, $P = 0.003$). There was no correlation between consultation duration and either score for rheumatology consultations. The patient satisfaction score and the observer-rated OSCE score were highly correlated ($P < 0.05$ for all three settings).

Discussion

This study demonstrates good communication between consultant rheumatologists and orthopaedic surgeons and their patients, as measured by a structured tool normally used to assess communication skills in medical students, and by patient ratings. There was a positive relationship between scores using the OSCE tool and patients’ views about communication during the consultation. This suggests that the scoring system captures important information about doctor–patient communication and that it measures something which matters to patients.

This study has potential limitations. The medical student’s presence might have altered the doctor’s performance. However, medical students frequently attend such clinics, so consultants involved are used to being observed, and none was aware of the specific items being monitored. Patient satisfaction ratings may be biased by patients’ apprehension that negative comments may affect their future treatment: we tried to ameliorate this by assuring patients that data collection was anonymous and that individual results would not be shown to the doctors concerned. The scoring system used has not been validated in studies, although it has been used extensively in student assessment. There is a serious lack of validated instruments in this important area [16].

Most literature about communication skills training describes the learning process, but there is little on valid means of its assessment. Similar patient rating scales have been used in previous studies. One review showed that the majority of assessment variation is due to variation in communication performance rather than measurement [17].

Medical students’ communication skills can be altered [18] by specific teaching [19–22], but often deteriorate later [23–25]. Interestingly, students’ communication skills are more influenced by gender and career preference—those wishing to train in hospital medicine perform less well—than by specific training [26]. The great increase in undergraduate communication skills teaching [27] is predicated on the conviction that improved empathy, rapport and interviewing skills can be taught and improve not only patient relationships but diagnostic processes and clinical practice [28], although this is not always supported by the limited evidence available [29]. Communication skills are also learned through interaction with patients and doctors [20] and performance is not necessarily related to knowledge about the principles of good communication [21]. Indeed, when these results were presented to clinicians at our clinical governance meeting, one orthopaedic surgeon commented that this was evidence for the long-standing view from some specialists, familiar to most deans, that the time taken to teach communication skills at medical school might be better used to teach anatomy and basic science. It is not clear how much communication skills improve or can be improved in later practice [30, 31], but it is encouraging to see the high scores attained in this study, despite the commonly reported poor communication of hospital doctors in general and orthopaedic surgeons in particular [10–12]. However, many clinicians feel that additional communication skills training would be beneficial [32].

OSCEs are widely used in the assessment of medical students’ clinical and communication skills. They improve the validity of students’ assessments, but their use in assessment of qualified doctors is less frequent [33], particularly for consultants. This tool was not designed for assessment of consultants’ practice, but the high scores attained in this study suggest that facets of communication assessed in the artificial setting of examinations are used in clinical practice. The correlation with the patient satisfaction ratings, which have previously been used to assess communication skills [34], supports the importance of these features to patients.

Taken together, this suggests that current communication skills teaching, as assessed using this scoring system, is valid and includes aspects which matter to patients.

Consultation times in this study are relatively short, particularly in fracture clinic, where a median of 4 min was spent with each new patient. It is perhaps surprising that such high scores and patient satisfaction ratings were obtained. Although rheumatologists attained statistically higher scores than orthopaedic surgeons, it is unlikely that these small differences would be significant in terms of patient outcome or rates of complaint. These results do not support stereotyped views held by medical students and others [10, 11] that orthopaedic surgeons communicate poorly or that patients are dissatisfied with their communications. It is likely that patients will have different expectations of the different types of consultation, which will influence their level of satisfaction. For example, a patient with rheumatoid arthritis seeing a rheumatologist for the first time may expect and will receive a different assessment from one attending fracture clinic for review of a recent fibular fracture. The duration of these consultations as demonstrated in this study varies accordingly. The relationship between patient expectation of the consultation and the time required to obtain patient satisfaction is likely to be important and to vary with consultation type, and requires further investigation.

This study shows that consultant rheumatologists and orthopaedic surgeons communicate well with their patients, and that a structured proforma used in the
formal assessment of medical students’ communication skills is valid in that its scores correlate highly with patient satisfaction. Further research is required to identify the principal determinants of patient satisfaction with communication from their doctors.

Acknowledgements

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Conflicts of interest

The authors have declared no conflicts of interest.

References

Appendix 1  
Student project clinic proforma

<table>
<thead>
<tr>
<th>The doctor is a:</th>
<th>Rheumatologist</th>
<th>Orthopaedic surgeon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Musculoskeletal Unit</td>
<td>Fracture Clinic</td>
<td></td>
</tr>
<tr>
<td>Length of consultation:</td>
<td>minutes</td>
<td></td>
</tr>
<tr>
<td>Consultation style:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Welcomes patient</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Introduces self to patient</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Agrees purpose of interview with patient</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Makes use of empathy</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Uses reinforcement and eye contact</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Uses open and closed questions appropriately</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Appropriate use of language</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Good rapport established and maintained</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Checks &amp; clarifies information with patient</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Closes interview effectively</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total marks:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient’s VAS marks for this consultation:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Listening</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Happy overall</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Appendix 2  
Patient’s mark sheet

We would be grateful if you would help us by filling in this short questionnaire. The questions are about the time you have just spent with the doctor in the clinic.

The doctor will not see the marks that you give and they will not be used to criticise the doctor, but to compare with marks given by the medical student. If you choose not to fill in this questionnaire, you do not have to give any reasons and it will not affect your future treatment, by this doctor or any other, in any way.

For each of these questions we would like you to mark a cross on the line, where a mark at the left of the line would mean ‘not at all’ and at the right end would mean ‘completely’.

**How well do you think the doctor listened to what you had to say?**  
Not at all  Completely

**By the end, how much do you think the doctor knew about your medical problem?**  
Not at all  Completely

**How well do you feel, overall, that this appointment with the doctor went?**  
Not at all  Completely

Thank you very much for filling in this questionnaire. Please do not show the answers to any member of staff, but fold the sheet and put it in the envelope.