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Communication skills training for health care professionals improves the adult orthopaedic patient's experience of quality of care

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Rationale: Despite the fact that communication has become a core topic in health care, patients still experience the information provided as insufficient or incorrect and a lack of involvement.

Objective: To investigate whether adult orthopaedic patients' evaluation of the quality of care had improved after a communication skills training course for healthcare professionals.

Design and methods: The study was designed as an intervention study offering professionals training in communicating with patients and colleagues. The outcome was measured by assessing patients' experience of quality of care. Data were collected by means of a questionnaire and analysed using a linear regression model. Approval was obtained from the Danish Data Protection Agency.

Results: A total of 3133 patients answered the questionnaire, 1279 before staff had attended courses and 1854 in

the postcourse period, with response rates of 67.8 and 77.8%, respectively. After the course period, significant increases in responses indicating 'considerable' improvement were recorded for 15/19 questions, nonsignificant increases were registered for 3/19 questions and a statistically significant decrease for one question.

Study limitations: This being an effectiveness study, it is deemed that the organizational changes taking place during the study period constitute no serious limitation. Response rates were comparable to those of other studies.

Conclusion: Patients show increased satisfaction with the quality of health care after professionals have attended a communication skills training course, even when implemented in an entire department.

Practice implications: We recommend that healthcare professionals are trained in patient-centred communication and that training is extended to the entire organization.

Keywords: patient satisfaction, effectiveness study, communication skills training.

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Introduction

During recent years, communication has become one of the core topics in health care, and communication that takes the patients' perspective in consideration has been called one of the 'amenities of care' by the creator of quality in health care, Avedis Donabedian (1). This means that technical tasks and interpersonal exchanges do not

fully describe health care as a domain; from the patients' perspectives, it is equally important under which circumstances these tasks and interpersonal exchanges are performed. So, from the patients' perspectives, quality in health care is not what is done, but more what is accomplished (1). Therefore, patients' satisfaction plays an important role in health care. Research shows high patient satisfaction with nursing, but still, the patients' satisfaction correlates to shared decision-making (2) and furthermore depends on whether the information is perceived as adequate and whether the nurses are suffering from burnout (3). Also concerning communication with doctors patients give high priority to doctors' information being comprehensible and appreciate that their experiences are taken into account (4). Good inter-collegial communication and

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collaboration also ranks as an important factor with regard to patients' satisfaction and outcomes. A positive association between medical ICU nurses' assessment of nurse-doctor communication and collaboration and patient outcomes (e.g. severity of illness, death and readmission rates) has been established (5). Other studies have demonstrated that good inter-professional collaboration creates enhanced patient care (6) and that increased focus on personalized care has a positive impact on patient satisfaction (7). Furthermore, doctors who adopt a warm, friendly and reassuring manner in their consultations have been shown to be more effective than those who keep a formal tone (8). The importance of good communication as a precondition for optimal care and treatment is thus thoroughly investigated and generally accepted. However, a study of the literature reveals that patients continue to experience serious communication problems: insufficient and incorrect information, insufficient interest in meeting their needs and expectations, and a lack of respect and involvement are among the main communication problems reported by patients (9). The need for more training in patient-centred communication is underscored by research, demonstrating that doctors tend to underestimate patients' level of distress and that they tend to feel complacent about their own performance (10).

Research has provided ample evidence that healthcare professionals' communication skills and patient-centredness can be enhanced through training (6, 11–20), for example doctors' empathy and problem-defining skills (19). Communication skills training can furthermore increase doctors' tendency to elicit information about patients' concerns (21) and their satisfaction with communication (11). It has been stated that patients expect high-quality technical tasks from the nurses as a matter of course (22), and therefore the patients' experience of quality of nursing predominantly is related to the nurses' personal care and also the nurses being a companion and adviser (23). As a consequence, the correlation between the patients' perception of nursing care and their perception of quality of care is strong (24).

The majority of studies of the issue have been efficacy studies conducted under relatively controlled and manageable conditions (25), either focusing on a single profession (14, 15, 21, 26), on delimited parts of an organization (27), or conducted in a training environment separated from clinical settings (28).

The aim of this study was to investigate whether a communication skills training course for healthcare professionals implemented in an entire hospital department (in a clinical setting) would improve the adult orthopaedic patient's experience of quality of care.

Methods

The study was carried out in the Department of Orthopaedic Surgery, Kolding Hospital, Denmark, from 2007 to 2010. It was designed as an intervention study aimed at assessing the effect of a communication skills training course for healthcare professionals on the patients' evaluation of quality of care. Data were collected using a questionnaire. Responses from the period before the intervention were compared with responses after the intervention.

All healthcare professionals in the department, that is, doctors, nurses, nursing assistants, medical secretaries, service staff and managers, attended the course. Patients were included in the study consecutively, and the outcome was measured by assessing the patients' experience of quality of care.

Sample

The study included all patients of 18 years and above, who were hospitalized for more than 24 hours in one of the department's inpatient wards (A or B) during the period 1 May 2007–31 May 2010. Another precondition was that they could speak and read Danish. Participants were asked to fill in a touch screen questionnaire just before discharge. Some patients were deemed ineligible for a number of reasons, for example cognitive limitations, poor eyesight, readmission, transferral to other hospitals or severe immobilization. The patients were adults suffering from musculoskeletal disorders. The two inpatient wards differed with regard to their patient characteristics, ward A serving primarily elderly patients and a few infants scheduled for arthroplasties (mean age for project period, 56.44 years for men and 62.04 years for women), and ward B serving slightly younger patients (mean age for project period, 48.68 years for men and 51.92 years for women), who were mainly admitted acutely after trauma. The responders' mean age and gender distributions are shown in Table 1.

Table 1 Responders by gender and mean age

	<i>Gender</i>		<i>Not indicated</i>	<i>N</i>	<i>Mean age</i>		
	<i>Men</i>	<i>Women</i>			<i>Men</i>	<i>Women</i>	<i>All</i>
P1 – before training course	578 (45%)	586 (45%)	115 (9%)	1279	43.1	51.9	47.8
P2 – after training course	872 (47 %)	941 (50%)	41 (2%)	1854	48.9	58.6	54.0

Some major changes in ward A during the project period required analysis for differences between the two wards, so data were collected separately in the two inpatient wards, yet collapsed before the main analysis.

The intervention

The intervention was a communication skills training course offered to the involved staff groups. Over 3 days participants trained using the Calgary–Cambridge Observation Guide, which offers a structure for effective patient interviews.

Another important feature of the training course was a so-called toolbox, with exercises in attentive listening, silence/pausing, summarizing, etc. (29, 30). The course was inspired by the British psychiatrist Peter Maguire's (31) work on medical communication, which has a skills-based approach and includes videotaped scenarios, role-playing and simulated communication sequences. The training sessions were conducted by two in-house trainers per class. During two initial course days, the structure and tools for patient-centred communication and communication with colleagues were presented, alternating with supervised role-play.

A 6-week interval gave the participants the opportunity to practise their new communication tools and videotape an authentic communication situation with a patient or a colleague. On a follow-up day, the video recordings pro-

vided the focus for plenary discussions, supervision and personal feedback sessions. Each class had eight participants, representing different professional backgrounds. The course was compulsory for all staff members with patient contact, that is, doctors, nurses, nursing assistants and medical secretaries. Courses were conducted between February 2008 and April 2009.

The questionnaire

The patient questionnaire was based on the interpersonal skills (IPS) rating form developed and validated by Schnabl et al., (32) who have shown the instrument is a precise tool for measuring important aspects of doctor–patient interaction, particularly with regard to empathy and the communication of factual information. The questionnaire was used in an earlier study carried out in the Department of Paediatrics, Kolding Hospital, where it was test-piloted on 12 parents (33) and afterwards adjusted and used in an additional study including 2832 parents in a paediatric department (34).

The questionnaire contained 19 items categorized as information (12 items), continuity (three items) and care (four items). All questions are shown in Tables 1 and 2. The respondents were asked to give separate ratings for the communicative performance of each staff group. To simplify the evaluation for the patients, the nurses and nursing assistants were not evaluated separately like the

Table 2 Patients' evaluation of information, by proportion of patients. ORs for top ratings before (P1) and after (P2) training course period

Evaluation of communication – information	P1 (%)	P2 (%)	Difference	OR	95% CI	p
	(n = 1279)	(n = 1854)	P1–P2 (%)			
Do you experience that the doctor have been prepared for your interviews?	68.4	68.8	0.4	1.09	0.93–1.28	0.296
Do you experience that the nurses and nursing assistants have been prepared for your interviews?	72.1	75.4	3.3	1.36	1.15–1.61	<0.001
Did the doctor use a language you could understand?	74.7	80.1	5.4	1.47	1.24–1.75	<0.001
Did the nurses and nursing assistants use a language you could understand?	83.8	89	5.2	1.67	1.35–2.08	<0.001
Have you been given the opportunity to explain your problem/illness to the doctor?	71.7	74.7	3	1.20	1.02–1.42	0.029
Have you been given the opportunity to explain your problem/illness to the nurses and nursing assistants?	76.1	80.6	4.5	1.41	1.18–1.69	<0.001
Did the doctor explain to you about examinations and treatments?	70.3	70.7	0.4	1.09	0.93–1.29	0.289
Did the nurses and nursing assistants explain to you about examinations and treatments?	65.5	69.4	3.9	1.43	1.22–1.68	<0.001
Did the doctor explain to you about future plans?	61.5	62	0.5	1.05	0.90–1.22	0.534
Did the nurses and nursing assistants explain to you about future plans?	65.1	68.4	3.3	1.37	1.17–1.61	<0.001
Are you satisfied with the information you received from the doctor?	67.9	74	6.1	1.48	1.26–1.73	<0.001
Are you satisfied with the information you received from the nurses and nursing assistants?	74.1	81.9	7.8	1.87	1.56–2.25	0.001

doctors were. Besides, a traditional Danish inpatient pathway does not include contact between patients and medical secretaries and therefore the medical secretaries were not included in the evaluation.

Patients were also asked to supply information on age, gender, waiting times, and whether admission to the ward had been acute or planned. The questionnaires were filled in on a fixed touch screen placed in the ward or on a portable mini laptop, which could be brought to immobilized patients. Access to the touch screen was gained using a bar code scanner card supplied by the nurses.

Analysis

Data were entered directly from the touch screen into the multi-lingual survey system (MLSS) and then transferred into STATA, version 11 for analysis (35).

Data on patients' assessment of the quality of information, continuity and care were dichotomized into two groups: the top rating (five points) versus the collapsed results of the four lower ratings. The contents of each group were then sorted according to the time periods: before the training course (P1) and after the training course. Data were described by proportions and analysed by linear regression tests.

For each time period (P1 and P2), 1565 patients were required to detect an expected difference of 10% points, for example an increase in patients giving the top rating from 50 to 60%. A power of 80% (0.80) and 5% significance level was chosen.

Ethical considerations

The patients were informed regarding the aim of the study, their right to remain anonymous and to withdraw at any time without consequences for their actual or future care and treatment. This information was given by nurses when the bar code scanner card for the touch screen questionnaire was handed out. All personal identifiers were removed or disguised from all data to preclude personal identification.

The study was licensed by the Danish Data Protection Agency and needed no further ethical approval. The study was approved by the Head of Department.

Results

Population

A total of 3660 patients answered the questionnaire from 1 May 2007 to 31 May 2010. However, the 527 answers obtained while training took place (February 2008–May 2009) were excluded, leaving 3133 for analysis. In P1, 1279 responses were obtained (67.8%); the corresponding figure for P2 was 1854 (77.6%). Responders' mean ages were 47.8 years in P1 and 54.0 years in P2. With respect to gender distribution, differences between the measurement periods were only minor.

Patients' evaluation of quality of information, continuity and care

Linear regression tests showed statistically significant increases in the number of patients giving top ratings for 15/19 questions (ORs between 1.20 and 1.87, $p < 0.05$), nonsignificant increases for 3/19 questions (ORs between 1.04 and 1.09) and a statistically significant decrease for 1/19 questions (OR 0.68, $p = 0.001$) after the training course (P2). In Tables 2 and 3, the proportion of patients giving top ratings, their ORs, CIs and p-values are shown for each question.

The three questions showing nonsignificant increases in top scores after the training course all involved communication with doctors, whereas the corresponding questions involving communication with nurses and nursing assistants all had significant increases. The single question that showed a significant decrease following the training course reflected the patients' experience of kindness and obligingness.

A separate analysis of the two inpatient wards showed a considerable difference for P1. With all questions collapsed,

Table 3 Patients' evaluation of continuity and care, by proportion of patients. ORs for top ratings before (P1) and after (P2) training course period

	P1 (%) (n = 1279)	P2 (%) (n = 1854)	Difference P1–P2 (%)	OR	95% CI	p
<i>Evaluation of communication – continuity</i>						
Was the information you received from the doctors coherent?	55.9	60.5	4.6	1.29	1.11–1.50	0.011
Was the information you received from the nurses and nursing assistants coherent?	59.4	66.9	7.5	1.58	1.35–1.85	<0.001
Was the overall information you received coherent?	57.3	66.2	8.9	1.62	1.39–1.89	0.001
<i>Evaluation of communication – care</i>						
Did you experience kindness and obligingness?	86	82.1	-3.9	0.69	0.55–0.86	0.001
Did the doctor have enough time for you?	58.3	63.1	4.8	1.26	1.08–1.46	0.003
Did the nurses and nursing assistants have enough time for you?	68.8	77.4	8.6	1.73	1.46–2.05	<0.001
Have you been involved in your care and treatment?	69.9	73.3	3.4	1.33	1.12–1.57	0.001

the proportion of responses to the category 'To a considerable extent' was 72.9% for ward A and 62.5% for ward B. At P2, the proportions were 76.1% for ward A and 70.9% for ward B. Ward A also showed an increase in the proportion of patients responding 'To a considerable extent' from P1 to P2 for 15/19 items, and for two of those the increase was above 10% points. For ward B, the number of patients responding 'To a considerable extent' increased from P1 to P2 for all 19 items, and for seven of those the increase was above 10% points (data not shown).

The analyses showed age to be a confounder with ORs between 1.000243 and 1.008992 per year for the top rating. A repeated analysis with adjustment for age resulted in only minor changes (in OR), with no effect on the conclusions (data not shown).

The result of the Cronbach's alpha estimation was 0.88 for all questions collapsed. The questions concerning information showed an alpha coefficient of 0.86; continuity, 0.88; and care, 0.66.

Discussion and conclusion

Discussion

The study showed significant increases in patient satisfaction in the period after the healthcare professionals had participated in the training course. This corroborates the results of other researchers who found a significant increase in outpatients' satisfaction after a workshop on communication skills for doctors (36), a nonsignificant increase in patient satisfaction after a communication skills training course for doctors (37) and a nonsignificant increase in patients' satisfaction after a communication course for doctors and nurses (33). The clinical relevance of the study is stressed by the increase in the most positive rating for 18 of 19 questions, with seven questions showing increases of more than five percentage points. Furthermore, with a view to Donabedian (1) stating that patient-centred care is highly important for patients, the healthcare professionals' improved communication skills must be considered of great value. The fact that the three questions with nonsignificant increases all concerned communication with doctors, whereas the corresponding questions showed significant increases in communication with nurses and nursing assistants, can be difficult to explain based on existing research. Most research concerning communication with patients has focused on either doctors (15, 26, 37) or nurses (18) and till now, none have found an impact on patients' satisfaction.

A Cronbach's alpha test showed high internal consistency between responses to the question about admission (0.8794) and all other questions (0.8662–0.8794; overall alpha level, 0.8760).

Analyses of the two inpatient wards studied showed differences both in the precourse period (P1) scores and in

the increases in patient satisfaction after the training course (P2). The ward with the highest P1 scores showed the lowest increase in patient satisfaction. This ward went through some rather disruptive changes during the study period, that is, there were two changes of charge nurse and patients had to be relocated twice because of reconstruction work. Moreover, an inter-professional study unit was integrated into the ward and more than 31 nurses and nursing assistants left and were replaced by less experienced staff. A Danish study using essentially the same questions has previously demonstrated a significant association between a heavy work load and patient satisfaction (38).

The fact that a lower baseline results in higher relative increases has been pointed out by Riiskjær et al., (39) who also found that patients' evaluations can be (negatively) influenced by staff workloads and thus corroborate our results.

The use of patients' surveys involves the risk that patients are reluctant to be critical when they are still in care or treatment; they might see themselves in a position of dependency on the healthcare staff they are evaluating (40). Besides, surveys can appear too simple for patients with more complex expectations and needs, which it may be difficult to encompass in a satisfaction survey (41). Furthermore, there is a risk that a nonresponse bias will skew the responses towards a more positive result (42). It has, however, been found that patient surveys can be both relevant and valid tools (39), but a test-retest on the internal reliability of the questionnaire would have been desirable.

Although our response rates were comparable with those of similar surveys (43), a research assistant was engaged towards the end of the data collection period to increase the low response rates, which presented a challenge for the (aims of the) study. The question of nonparticipation is widely discussed; some studies have found that it causes biased results (42, 44), whereas others maintain that nonresponders have never been proved less satisfied than responders (45) and that the two groups do not differ markedly on socio-demographical parameters (46–48). The impact of nonresponse bias is therefore considered as negligible. The response rates and the mentioned organizational disturbances could be said to constitute limitations of the study, but they should be viewed in the light of the fact that this was an effectiveness study focusing on the implementation of a communication course in an orthopaedic department. Therefore, study conditions are controllable only to a certain extent. While this could be considered to be a weakness of the study design, it also reflects real day-to-day conditions in health care. The fact that the patients' satisfaction improved even in the ward undergoing major changes during the study period strengthens our conclusion that focusing on healthcare professionals' communication skills has a positive impact on patient satisfaction. Effectiveness studies are thus relevant to help close the gap between research

and practice and make research results more useful and accessible for clinicians (49). The present study demonstrates that this is a way forward in improving the quality of the patient–clinician relationship.

Conclusion

The study showed an increase in patient satisfaction with regard to information, continuity and care after the training course for healthcare professionals. The results were significant for 15/19 and nonsignificant for 3/19 questions and are considered applicable to practise due to the fact that this was an effectiveness study. This type of study increases the accessibility and usefulness of research results by demonstrating the feasibility of transferring the findings from efficacy studies into clinical practice and thereby improving the quality of the patient–clinician relationship.

Practice implications

This study shows that patients' satisfaction with the information, continuity and care offered by healthcare professionals can be improved by training staff in patient-centred communication, even when implemented in clinical practice. However, there is also an indication that patient satisfaction may be negatively influenced by major organizational changes.

Based on the results of the study, we recommend that healthcare professionals are trained in patient-centred

communication and that training is extended to the entire organization.

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Conflict of interest

There are no competing interests to be declared. I confirm all personal identifiers have been removed or disguised so the persons described cannot be identified.

Author contributions

All authors have contributed significantly to the work and approved the submitted manuscript.

Birgitte Nørgaard, Poul-Erik Kofoed, Jette Ammentorp designed the study, Birgitte Nørgaard participated in the data collection/analysis and drafting of manuscript. Poul-Erik Kofoed, Kirsten Ohm Kyvik, Jette Ammentorp have contributed to critical revisions and Supervision. Birgitte Nørgaard has contributed with Statistical expertise and Administrative support.

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