Can Communication Skills Training Alter Physicians’ Beliefs and Behavior in Clinics?

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Purpose: To measure the psychosocial attitudes and beliefs of physicians working within oncology in the United Kingdom and to examine whether beliefs alter after communication skills training. Additionally, to investigate whether physicians’ attitudes are reflected in communication behaviors with patients during interviews.

Methods: Ninety-three physicians completed a 32-item Physician Psychosocial Belief (PPSB) questionnaire at baseline (T1) before randomization to attendance at a 3-day residential communication skills course (n = 48) or a control group (n = 45). Three months later (T2), both groups completed another PPSB and a self-assessment questionnaire recording perceived changes in communication with patients. At both time points, physicians’ consultations with two consenting patients were videotaped. Communication behaviors were measured using the Medical Interaction Processing System.

Results: Physicians who attended the course showed significantly improved attitudes and beliefs toward psychosocial issues compared with controls (P = .002). This improvement was reflected in the analysis of the videotaped recordings of their communication behaviors with patients. Expressions of empathy were more likely for the course group at T2 than the controls (P = .02), as were open questions (P = .001), appropriate responses to patient cues (P = .005), and psychosocial probing (P = .041). These objective findings were supported by physicians’ self report of changes in communication style during interviews with patients.

Conclusion: Our results show that a communication skills training intervention using behavioral, cognitive, and affective components not only increases potentially beneficial and more effective interviewing styles but can also alter attitudes and beliefs, thus increasing the likelihood that such skills will be used in the clinical setting.


There are many examples of positive benefits for patients when physicians engage in a patient-centered approach to treatment and care. It can lead to an improvement in compliance with treatment, better control of diabetes and hypertension, increased patient satisfaction, and a greater understanding of symptoms. A patient-centered consultation is characterized by the frequency of use of open questions, acknowledgment of the patient’s feelings and emotions, and shared responsibility in the decision-making process and outcomes of the consultation. Thus, physicians who engage in patient-centered behavior should not only demonstrate good communication skills and actively probe patients’ psychosocial concerns, but they should also exhibit positive beliefs and attitudes toward the importance of such behaviors. However, only one study has directly examined the relationship between the two.

Levinson and Roter examined the psychosocial attitudes and communication behaviors in 50 primary care physicians in the United States and demonstrated an association between physicians’ attitudes toward psychosocial issues in health care and communication style. Routine consultations were audiotaped and analyzed for communication behaviors and emotional tone using the Roter Interactional Analysis System. Physicians’ beliefs were measured using an adaptation of the Physician Psychosocial Belief (PPSB) scale. The results from the study showed that physicians who had positive scores on the psychosocial belief scale used more statements expressing emotion and empathy in their consultations and provided patients with more psychosocial and less biomedical information than physicians with less positive attitudes. In addition, the patients of the physicians who had positive attitudes expressed more opinions and asked more questions.

In addition, there is emerging evidence that psychosocial beliefs differ between clinical specialties. Coutts van Dijk et al showed that medical students who chose primary care as a specialty scored significantly better on the psychosocial belief scale than students who chose surgery or support specialties. In contrast, Markham and Diamond found no difference between students planning residencies in primary care and those selecting other residencies. However, female physicians had a significantly greater psychosocial orientation than did their male peers. This finding corresponds with results from other studies demonstrating that female family physicians are more patient-centered than their male colleagues.

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These results suggest that physicians’ attitudes and beliefs toward psychosocial issues affect how they communicate with their patients. A physician who believes psychosocial issues are important may be more likely to discuss emotional problems with patients than a physician who is concerned with the technical aspects of illness and treatment. However, as beliefs are complex concepts based on social, emotional, and behavioral factors, one question to address is whether a change in beliefs to predict one’s intention to behave in a certain way rather than predict actual behavior.

In an earlier pilot study for the communication skills course, Fallowfield et al\textsuperscript{12} reported that physicians working in cancer medicine showed more positive attitudes toward psychosocial issues after an intensive residential training program. However, there was no objective evidence from recordings or observations in clinics with patients that the changes in attitude resulted in desired changes of communication behavior. Therefore, a prospective 5-year randomized study was implemented to examine this and other important communication issues.

The present study reports the psychosocial beliefs of senior and junior physicians working within the field of oncology who participated in the 5-year randomized controlled study. The primary aim was to examine whether beliefs altered after a training intervention and if these changes were reflected in physicians’ communication behaviors with patients in oncology clinics. The data were also examined to determine whether the psychosocial beliefs of physicians in the United Kingdom differed according to seniority, specialty, or sex.

The hypotheses were that clinicians attending the communication skills course would demonstrate more positive attitudes toward psychosocial beliefs and improved communication behaviors after the course compared with clinicians who did not attend a course.

**METHODS**

**Analysis of Physicians’ Interviewing Behaviors**

The Medical Interaction Process System (MIPS)\textsuperscript{13} was used to analyze two videotaped recordings of physicians’ consultations with patients in hospital outpatient clinics. There were two separate assessment periods. Time point 1 (T1) was before a training intervention or control, and time point 2 (T2) was 3 months later. Consecutive patients attending clinics were asked by one of the members of the research team for their written consent to complete questionnaires and permit videotaping of their consultations. Each doctor had six to 10 consultations filmed at each assessment or as many as could be practically achieved on two visits. Two median-time-length videotapes from each doctor at T1 and T2 were analyzed using the MIPS by one of two raters who were blinded as far as possible to time point of assessment and to randomization group. (Occasionally, blinding to time point was impossible because of such things as pregnancy in female clinicians and senior registrars [advanced residents] changing their place of work.) Briefly, the MIPS involves an utterance-by-utterance analysis of the interaction between physician and patient. These utterances are coded by their content, categorizing the type of exchange or topic of interest, such as treatment or side effects. Each utterance also has a mode signifying the manner in which information is sought or exchanged, for example, a question or advice. In the study reported here, empathic statements, appropriate responses to patients’ questions and comments, psychosocial probing, and open-ended questioning were deemed a priori to be behaviors reflecting a more psychosocial approach to patient interviewing.

**Questionnaires**

The 32-item PPSB scale (adapted from Ashworth et al\textsuperscript{7}) was administered at T1 and T2. This is an instrument developed to measure the effectiveness of behavioral science teaching and changes in physicians’ beliefs about psychosocial aspects of patient care. The questionnaire uses a 5-point Likert scale ranging from strongly disagree (1) to strongly agree (5). With 32 items scored from 1 to 5, scores could range from 32 (maximum psychosocial orientation) to 160 (minimum psychosocial orientation). A low score reflects positive attitudes and a high score reflects the belief that psychosocial issues are not part of a physician’s role.

**Perception of Practice Changes**

At 3 months (T2), physicians were sent a self-report questionnaire probing any perceived changes in their clinical practice when communicating with patients. They were asked, “Have you been able to identify any change at all in your personal practice of medicine as a result of being in the study?” Participants were requested to give specific details and examples of how their practice had altered. The responses were categorized into the following bands: awareness of question type, checking patient’s understanding, change in structure of consultation, change in nonverbal behavior, summarizing information, probing psychosocial issues with patients, and general increase in confidence.

**Participants**

Because of administrative errors early in the study, only 121 physicians participating in the randomized control trial of a communication skills training model received the PPSB scale questionnaire at both time points. Of these, 93 (77%) consultants (attendings) and senior registrars (advanced residents) returned the questionnaires.

Each physician had his or her consultations with patients in clinic videotaped at time 1 (baseline) and time 2 (12 weeks later). After baseline assessment, physicians were randomized to attendance at a 3-day communication skills training course or control. Table 1 lists the group, sex, specialty, and seniority of the participating physicians. Thirty-one were medical oncologists, 47 were radiation oncologists, and 15 were surgical oncologists. The study had ethical approval, and all patients and physicians gave fully informed written consent before participation.

Table 2 lists the characteristics of the patients who participated in the study according to age, sex, aim of treatment, and cancer site. Most patients at both time points were women with breast cancer.

**The Courses**

The physicians attended a 3-day residential course using a model reported previously.\textsuperscript{12} Courses were learner centered, incorporating cognitive, experiential, and behavioral components. Participants worked in small groups of 3 to 5 individuals, led by an experienced...
facilitator together with a core team of six patient simulators skilled in providing constructive verbal feedback. A typical consultation filmed in each doctor’s clinic during the T1 assessment was reviewed in depth at the start of the course to illustrate and to elaborate on comments made in their written feedback. (Written feedback was provided by one of six different raters, including one of the authors of this article [L.J.F.]). Doctors identified the communication problems most important to them and worked on ways of resolving at least one of these through role playing with patient simulators followed by video review and group discussion. Wherever relevant and whenever possible, the facilitator encouraged group discussion about psychosocial issues and practical ways of addressing these issues within a busy clinic setting. After course evaluation of teaching methods, feedback from actor simulators and materials were also assessed. These data will all be reported separately at a later date.

RESULTS

MIPS Videotape Analysis

The characteristics of the 640 patients whose videotaped consultations were analyzed using the MIPS are listed in Table 2. Patient variables such as sex, age, treatment intent, and cancer site were similar at T1 and T2.

The rate-rate reliability of the two raters was performed to ensure consistency and that there was no rater drift in coding the communication behaviors over the study period. Spearman’s correlation was used because the data did not meet the requirement for parametric analysis of normal distribution. Coefficients were calculated for all the MIPS content categories that had a mean frequency greater than one. The overall global coefficient for rater A was .77 and rater B was .7. Interrater reliability was examined using the analysis of variance intraclass correlation method using a two-way mixed model. This accounts for variability both within and between the raters. The global coefficient for interrater reliability was .69 (95% confidence interval, .49 to .81).

Statistics

The data were analyzed using SPSS, and attention is drawn to differences that are significant at the 5% level or less. Analysis of covariance and χ² tests (one-sided exact) were used where appropriate.

Baseline

There were no differences in PPSB scores at T1 across the physicians according to the sex of the physician or specialty.

Effect of Course

The scoring system of the PPSB produces a total score for each physician. Changes were compared within and between the subjects at both time points using one-way analysis of covariance. Although there was a significant difference between groups at T1, when PPSB scores at T1 were controlled for, the main effect of course on PPSB scores at T2 remained highly significant (F = 10.479, df = 1, P = .002). The mean (SD) scores on the PPSB scale with 95% confidence intervals for both groups at stages T1 and T2 are listed in Table 3.

In addition, the proportion of physicians who changed or retained the same scores from T1 to T2 assessment differed significantly. Those who attended a communication skills course had more positive scores (58% vs 38%) and fewer negative scores (31% vs 56%) than those who did not attend a course (χ² = 5.178, df = 1, P = .023).
To measure whether a change in attitude was related to a change in behavior, MIPS summary data from the videotaped consultations between the physicians and patients were examined. The specific behaviors included in the analysis for this report were chosen a priori as important for conducting a more patient-centered interview. These were empathy, appropriate reassurance, psychosocial probing, and the use of open questions. A conservative approach (binary yes or no outcomes) was taken with data analysis. The presence or absence of the desired behaviors, irrespective of actual frequency counts, was compared between the groups. These differed significantly only at T2 (see Table 4). The intervention group were more likely to exhibit empathy (56 [58%] v 38 [42%]; $\chi^2 = 4.823, df = 1, P = .02$), make appropriate responses to patient cues (50 [52%] v 29 [32%]; $\chi^2 = 7.499, df = 1, P = .005$), use more open questions (86 [90%] v 64 [71%]; $\chi^2 = 10.155, df = 1, P = .001$), and engage in psychosocial probing (26 [27%] v 14 [16%]; $\chi^2 = 3.657, df = 1, P = .041$) more often than the control group at T2.

**Perceived Changes in Practice**

Ninety-one physicians (47 in the course group and 44 in the control group) returned the 3-month self-assessment questionnaire highlighting changes in practice. Significantly more of the physicians who attended a course reported greater awareness of their style of questioning (64% [30 of 47] v 27% [12 of 44]; $\chi^2 = 12.22, df = 1, P = .001$) and felt that they discussed more psychosocial issues with patients (45% [21 of 47] v 20% [five of 44]; $\chi^2 = 6.036, df = 1, P = .016$) than those who did not attend a course. These findings concur with the objective data reported in the previous section.

### DISCUSSION

The results from this study show that physicians’ attitudes toward psychosocial issues can alter after training in communication skills that incorporates cognitive, affective, and behavioral components. We believe that all three components may be necessary to produce change, although it is difficult to ascertain whether one specific aspect of the course was primarily responsible for the observed effects. These types of courses are undeniably resource intensive, requiring skilled facilitators and sufficient time. Results from the earlier pilot study showed a clear dose-response relationship. Clinicians who attended a 3-day course demonstrated and maintained improvements in communication skills over those who attended a 1.5-day course.

It is particularly important when teaching new behaviors to uncover whether the learner has a strongly held belief that may clash with the new behavior, otherwise the new behavior will be quickly abandoned or rejected. For example, if a physician on the course believed that physicians could not treat patients’ psychosocial problems, he or she would be less likely to engage in communication skills that would elicit these issues. The communication skills model used in our study tackles this problem by using exercises and activities designed to create skills development, knowledge acquisition, and personal awareness of how these impact on both the physician and the patient. Particularly valued by oncologists was the feedback from role given by the patient simulators.

Participating in a course had a significant beneficial effect on both the attitudes and communication styles of the
physicians. This suggests an indirect association between the two and complements previous work in the area.\textsuperscript{6} One difficulty with studying the effect of communication skills training on real-life clinical consultations is that many of the desired behaviors are context dependant. For example, a physician will have more opportunity to make an empathic response or respond to cues if the patient does have psychosocial concerns or problem areas requiring active probing. We used real-life clinic settings with consecutive, consenting patients, and no attempt was made to select out certain types of patients. It was not possible to ensure that the context or reason for consulting, ie, diagnosis, routine follow-up, or discussing a trial, was constant for an individual doctor at each time point. This can only be achieved using simulated patients with preselected scenarios or scripts. Nevertheless, significantly more positive attitudes and beliefs did seem to promote changed behaviors and might have done so to an even greater extent if the assessment interview had been deliberately contrived. Our positive findings are even more powerful considering the difficulty inherent with real-life settings.

In contrast to some other studies, there were no significant differences in attitudes toward patients’ psychosocial needs according to the sex of the physician. However, the ratio of male to female physicians in our sample may have disguised any apparent differences. Alternatively, Dufort and Maheux\textsuperscript{15} suggest that differences in psychosocial attitudes among the sexes level out by the time medical students reach graduation. This may be because women are still in the minority in hospital medicine, and in order to survive and achieve, they may mask their more emotionally responsive side. This argument also supports the fact that there were no differences between the oncology specialties in our small sample. Studies that have shown differences in attitude mostly compare family practitioners and palliative care physicians with hospital-based physicians.

In a recent publication,\textsuperscript{16} it was shown that physicians working in cancer medicine frequently misclassify patients with significant psychologic morbidity who may be in need of referral for specialist intervention that is shown to benefit adult cancer patients.\textsuperscript{17} Many physicians worldwide working within oncology fail to identify their patients’ distress. They do not actively probe psychologic problems because of poor communication skills, apprehension about dealing with emotional issues, or a belief that such areas are not part of their remit. We believe that the data reported in this study reinforce previous studies that communication skills training interventions that use behavioral, cognitive, and affective components not only increase potentially beneficial and more effective interviewing styles but can also alter attitudes and beliefs, thus increasing the likelihood that such skills will be used in the clinical setting.

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**REFERENCES**

15. Dufort F, Maheux B: When female medical students are the majority: Do numbers really make a difference? J Am Med Womens Assoc 50:4-6, 1995