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# Erratum

**The effects of the participation of patients with cancer in teaching communication skills to medical undergraduates: a randomised study with follow-up after 2 years**—This paper by S. Klein, *et al.* was published in *Eur J Cancer* 1999, **35**(10), 1448–1456.

It is regretted that three of the authors were omitted from the title page of this paper. The corrected version appears below. We apologise for this mistake.

# Original Paper

# The Effects of the Participation of Patients with Cancer in Teaching Communication Skills to Medical Undergraduates: a Randomised Study with Follow-up after 2 Years

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**The importance of good doctor–patient communication is widely recognised. The aims of this study were to evaluate the immediate effects of the participation of patients with cancer on the attitudes and skills of undergraduate medical students receiving an interview skills training programme, and to assess the effects of the participation of patients with cancer on the attitudes and interview performance of students 2 years later. It was hypothesised that the participation of cancer patients would have specific beneficial effects on attitudes and interview performance. Before participating in a 6-session interview methods course in third year, students were randomised to be taught with patients who had cancer (experimental group) or with patients with other diagnoses (control group). Before and after participating in the course, 233 students (94% response rate) completed an Attitudes Questionnaire. When they reached their fifth year, 54 students again completed the Attitudes Questionnaire and, in addition, made a video recording of an interview with a patient who had gynaecological cancer. These recordings were rated independently by two researchers using the Interview Rating Instrument. Immediately after the course, a number of differences were found between the two groups. For example, students in the experimental group were more likely to consider the ability to listen an extremely important characteristic of hospital doctors and to consider more strongly that trust is an essential part of the doctor–patient relationship. 2 years after the course, the ability of hospital doctors to communicate with patients, and the need for clinical decisions to reflect**

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patients' wishes, were considered to be more important by students in the experimental group, although even 96% of controls felt both these issues were very or extremely important. As hypothesised, the experimental group had better ratings in terms of responding empathically, showing regard and concern for the patient, and assessing the impact of the symptoms on the patient's life. The participation of patients with cancer has beneficial and enduring effects on the attitudes and interview performance of medical undergraduates. Medical schools should consider how best patients with cancer can make an important contribution to communication skills training. © 1999 Elsevier Science Ltd. All rights reserved.

## INTRODUCTION

IN RECENT years, there has been an increasing awareness of the psychosocial impact of the diagnosis and treatment of cancer. It is now widely accepted that good doctor–patient communication is of considerable importance in helping patients cope [1]. For example, in a series of women with gynaecological cancer, patients who were depressed at follow-up were significantly less satisfied with doctor–patient communication, particularly with the amount and timing of the information given [2].

It is important to recognise that the progressive, disabling and life-threatening nature of certain diseases makes the management of psychosocial issues complex and often intensely stressful for doctors. A recent survey of British senior oncologists revealed that those who considered that they had been insufficiently trained in communication skills were more likely to suffer burnout than were those who felt adequately trained. Moreover, only 56% of the 393 consultants who participated considered that they had received adequate communication skills training [3].

To ensure that both doctors and patients benefit from effective communication, doctors need formal training in communication skills [4]. Direct observation of both medical students' interviews and clinical practice indicates that mere exposure to patients does not ensure the development of skills needed for effective communication [5]. Beginning with the early work of Maguire and his associates [6], and extending to more recent studies [7], there is now considerable evidence that basic communication skills can be taught at both undergraduate and postgraduate levels. There is evidence that students benefit from detailed guidelines about the topics to cover and from the opportunity to practise these skills in controlled conditions with feedback on their interview performance by an experienced tutor [5, 8]. However, there is a paucity of randomised longitudinal studies to assess the durability of such skills [9].

Effective communication, however, demands more than good interview techniques; positive attitudes are needed [10]. The management of patients with cancer, and the quality of their care, is determined in part by the attitudes of the doctor caring for them. Especially at the beginning of their training, some medical students view cancer patients negatively [11]. Attempts have been made to modify the attitudes of students toward patients with cancer [12–14]. However, it is not clear how these changes are best effected. Moreover, little is known about the durability of attitude change towards patients with cancer [15].

In view of the above considerations, it may be that the participation of patients with cancer in communication skills training programmes is especially helpful in training medical undergraduates to communicate more effectively with patients with cancer. The aims of this study, therefore, were to evaluate the immediate effects of the participation of patients with cancer on the attitudes of undergraduate medical students receiving an interview skills training programme, and to assess the effects of the participation of patients with cancer on the attitudes and interview performance of students 2 years later. It was hypothesised that the participation of cancer patients would have beneficial effects on students' attitudes towards and interview performance with cancer patients.

## PATIENTS AND METHODS

### Setting

The study took place within the context of an interview methods course for third year undergraduate medical students (the first of three clinical years) [8]. The course aims are 3-fold: (i) to increase students' awareness of the importance of doctor–patient communication; (ii) to teach basic clinical interview skills; and (iii) to reinforce these skills. Three blocks of 6-weekly ($1\frac{1}{2}$-h) sessions are taught throughout the academic year. Within each block, four groups of between 10 and 12 students meet two tutors, one of whom is either a clinical psychologist or psychiatrist and the other a physician, surgeon or general practitioner. For each pair of tutors, one is a senior clinical academic who has had extensive experience of this form of teaching. A detailed teaching protocol is issued to all tutors to standardise the aims and content of all teaching sessions. All students are required to make a brief video recording of an interview with a real patient and to receive feedback from tutors and peers. Tutors initially demonstrate live 'model' interviews and discuss with the students communication issues that emerge.

### Design

A prospective randomised controlled study was carried out. Following a pilot study, two cohorts of third year medical students (1992–1993, 1993–1994) were evaluated. The sections which are compiled alphabetically by the Faculty Office at the beginning of the academic year were used to obtain an approximation to random distribution of the 249 students. The experimental group of 123 students (54 females, 69 males) were taught with cancer patients, and the control group of 126 students (64 females, 62 males) were

Table 1. *Inter-rater agreement on fifth year interview ratings by item* (n = 54)

| | Kappa analysis |
|---|---|
| **Item** | *k* |
| (1a)★ Mentions own name in introduction | 1.00 |
| (1b)★ Mentions patient's name in introduction | 1.00 |
| (2)★ Establishes eye contact | 1.00 |
| (3a)★ Indicates verbally where patient should sit | 1.00 |
| (3b)★ Indicates non-verbally where patient should sit | 1.00 |
| (4)★ Defines purpose of interview | 1.00 |
| (5)★ Indicates own status | 1.00 |
| (6)★ States time available for interview | 1.00 |
| (7)★ Enquires as to acceptability of note taking | 1.00 |
| (8)★ Enquires if patient is comfortable | 1.00 |
| (9)★ Shakes patient's hand | 1.00 |
| (10)† Gives appropriate encouragement | 0.70 |
| (11)† Encourages precision | 0.61 |
| (12)† Does not interrupt inappropriately | 0.72 |
| (13)† Asks one question at a time | 0.72 |
| (14)† Uses suitably brief questions | 0.73 |
| (15)★ Consistently uses appropriate language | 1.00 |
| (16)† Clarifies what the patient says | 0.62 |
| (17)† Makes explicit transitional statements | 0.69 |
| (18)† Avoids repetition | 0.75 |
| (19)† Picks up verbal leads | 0.70 |
| (20)† Consistently avoids jargon | 1.00 |
| (21)† Controls the interview appropriately | 0.70 |
| (22)† Responds empathically | 0.69 |
| (23)★ Maintains appropriate eye contact | 1.00 |
| (24)† Shows regard and concern for the patient | 0.85 |
| (25)★ Avoids putting words into patient's mouth | 0.95 |
| (26)★ Avoids being tactless | 1.00 |
| (27)† Assesses impact of symptoms on patient's life | 0.78 |
| (28)† Account elicited of history of presenting complaint | 0.81 |
| (29)† Reviews what has been said | 0.33 |
| (30)† Appropriate use of negotiating style | 0.36 |
| (31)† Appropriate use of closed questions | 0.67 |
| (32)† Appropriate use of open questions | 0.60 |
| (33)★ Indicates to patient that interview is about to end | 1.00 |
| (34)★ Thanks patient for participating | 1.00 |
| Global assessment† | 0.74 |

★Items rated using a two-point scale. †Items rated using a five-point scale.
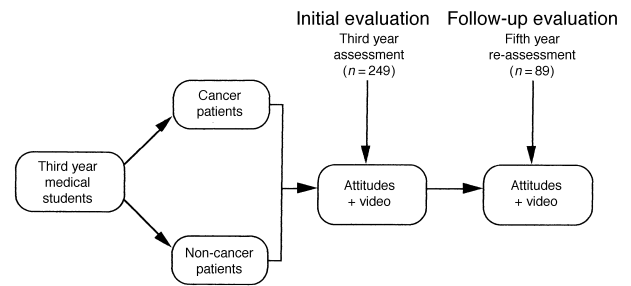


**Figure 1. Study design.**

taught with patients with other diagnoses (typical of patients admitted to medical or surgical wards or presenting in general practice). Tutors from different clinical specialties were used to teach the two groups (as described above).

The first cohort of third year medical students were followed up in their fifth year (1994–1995). Of the 119 students who comprised this cohort, a total of 89 students were eligible to participate in the follow-up evaluation. The remaining 30 students were excluded from the study because 11 students were completing an intercalated B.Sc. degree; 16 were required to repeat their fourth year, and three students were non-graduating. The design of the study is shown in Figure 1.

*Measures*

Two outcome measures were used: the Attitudes Questionnaire (a 32 item self-report questionnaire) and the Interview Rating Instrument (a 36 item behavioural assessment of students' interview performance).

The Attitudes Questionnaire (AQ) assesses the attitudes of students toward what they consider to be important characteristics of hospital doctors and attitudes toward various aspects of the treatment and management of cancer patients. Responses to each item are assessed on a Likert scale. Content and face validity of the instrument were established by a pilot survey of cancer patients and medical students.

The Interview Rating Instrument (IRI) is based on a modified form of the Rating Scale for History-taking Interviews [16]. This scale was used to assess students' interview

Table 2. *Postcourse: group number and percentage response to items regarding important characteristics of hospital doctors (*n = 233)

| | | Not at all important (1) | | Slightly important (2) | | Very important (3) | | Extremely important (4) | | t-Test analysis |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Exp. n % | Con. n % | Exp. n % | Con. n % | Exp. n % | Con. n % | Exp. n % | Con. n % | t |
| **Item** | | | | | | | | | | |
| (1) | Diagnostic skills | 0 (0) | 2 (2) | 4 (3) | 7 (6) | 47 (41) | 54 (46) | 65 (56) | 54 (46) | 1.94 |
| (2) | Knowledge of cancer treatment | 0 (0) | 2 (2) | 6 (5) | 6 (5) | 46 (40) | 54 (46) | 64 (55) | 55 (47) | 1.29 |
| (3) | Awareness of patient's social circumstances | 0 (0) | 0 (0) | 12 (10) | 10 (8) | 66 (57) | 56 (48) | 38 (33) | 51 (44) | − 1.54 |
| (4) | Awareness of patient's mental health | 0 (0) | 1 (1) | 6 (5) | 7 (6) | 52 (45) | 53 (45) | 58 (50) | 56 (48) | 0.47 |
| (5) | Awareness of patient's emotional needs | 0 (0) | 1 (1) | 3 (3) | 7 (6) | 46 (40) | 45 (39) | 67 (57) | 63 (54) | 1.20 |
| (6) | Ability to communicate with the patient | 0 (0) | 2 (2) | 0 (0) | 2 (2) | 17 (15) | 17 (14) | 99 (85) | 96 (82) | 1.37 |
| (7) | Ability to understand how the patient feels | 0 (0) | 1 (1) | 6 (5) | 6 (5) | 34 (29) | 46 (39) | 76 (66) | 64 (55) | 1.55 |
| (8) | Ability to listen | 0 (0) | 2 (2) | 2 (2) | 2 (2) | 22 (19) | 33 (28) | 92 (79) | 80 (68) | 2.03★ |
| (9) | Kindness | 1 (1) | 3 (3) | 7 (6) | 10 (8) | 58 (50) | 56 (48) | 50 (43) | 48 (41) | 0.80 |
| (10) | Compassion | 1 (1) | 2 (2) | 9 (8) | 9 (8) | 51 (44) | 55 (47) | 55 (47) | 51 (43) | 0.51 |
| (11) | Non-moralising attitude | 1 (1) | 1 (1) | 12 (10) | 16 (14) | 53 (46) | 54 (46) | 49 (43) | 45 (39) | 0.68 |
| (12) | Warmth | 2 (2) | 1 (1) | 10 (9) | 13 (11) | 48 (41) | 58 (50) | 56 (48) | 45 (38) | 1.15 |
| (13) | Genuineness | 0 (0) | 2 (2) | 8 (7) | 10 (8) | 38 (33) | 47 (40) | 70 (60) | 58 (50) | 1.80 |

★*P* < 0.05. Exp., experimental group; Con., control group.

Table 3. *Postcourse: percentage response to statements regarding treatment and management of cancer patients* (n = 233)

| Item | Strongly disagree (1) | | Disagree (2) | | Agree (3) | | Strongly agree (4) | | t-Test analysis |
|---|---|---|---|---|---|---|---|---|---|
| | Exp. n % | Con. n % | Exp. n % | Con. n % | Exp. n % | Con. n % | Exp. n % | Con. n % | t |
| (14) Hospital doctors should encourage cancer patients to maintain a 'stiff upper lip'. | 53 (46) | 50 (44) | 52 (45) | 49 (43) | 8 (7) | 15 (13) | 2 (2) | 0 | − 0.54 |
| (15) It is not the hospital doctors' job to give emotional support to cancer patients. | 51 (44) | 45 (39) | 62 (53) | 60 (52) | 3 (3) | 9 (8) | 0 | 2 (1) | − 1.70 |
| (16) It is not the general practitioner's job to give emotional support to cancer patients. | 54 (47) | 57 (49) | 58 (50) | 57 (49) | 2 (1) | 3 (2) | 2 (2) | 0 | 0.51 |
| (17) Most cancer patients need considerable emotional support from doctors. | 0 | 1 (1) | 8 (7) | 10 (9) | 77 (68) | 70 (60) | 29 (25) | 35 (30) | − 0.29 |
| (18) Trust is an essential part of the doctor–patient relationship in the effective treatment of cancer. | 0 | 3 (3) | 0 | 0 | 30 (26) | 53 (45) | 86 (74) | 61 (52) | 3.66‡ |
| (19) Hospital doctors should always tell cancer patients they have cancer, no matter what the patient's personality. | 2 (2) | 9 (8) | 60 (52) | 59 (52) | 41 (36) | 42 (37) | 11 (10) | 3 (3) | 1.99 |
| (20) Following the clinical diagnosis of cancer the patient should be asked what further information he/she would want. | 0 | 1 (1) | 4 (3) | 5 (4) | 45 (39) | 55 (47) | 67 (58) | 56 (48) | 1.60 |
| (21) Hospital doctors should tell cancer patients about all the side-effects their treatment may cause, no matter what the patient's personality. | 4 (4) | 3 (3) | 38 (33) | 52 (45) | 49 (43) | 43 (37) | 23 (20) | 18 (15) | 1.46 |
| (22) Clinical decisions on the treatment of cancer must take into account the patient's wishes, even if this means that the patient will die sooner. | 1 (1) | 0 | 5 (4) | 4 (3) | 50 (44) | 56 (48) | 58 (51) | 57 (49) | − 0.07 |
| (23) Hospital doctors should always tell cancer patients their likely prognosis, no matter what the patient's personality. | 14 (12) | 7 (6) | 69 (61) | 65 (57) | 27 (24) | 34 (30) | 3 (3) | 8 (7) | − 2.29* |
| (24) All terminally ill cancer patients should be treated in a hospice or at home rather than in hospital. | 11 (10) | 7 (6) | 53 (46) | 48 (43) | 48 (42) | 54 (48) | 2 (2) | 4 (3) | − 1.42 |
| (25) Most cancer patients feel the hospital doctors give them too little information about their illness and its treatment. | 4 (4) | 0 | 61 (55) | 35 (33) | 42 (38) | 65 (61) | 3 (3) | 7 (6) | − 4.09‡ |
| (26) To manage a cancer patient effectively, it is very important that the hospital doctor establishes the patient's attitude (e.g., fighting spirit) towards the illness. | 0 | 1 (1) | 11 (10) | 9 (8) | 67 (60) | 76 (65) | 34 (30) | 30 (26) | 0.53 |
| (27) Most cancer patients feel the hospital doctors give them too much information about their illness and its treatment. | 15 (13) | 6 (6) | 95 (86) | 95 (90) | 1 (1) | 5 (4) | 0 | 0 | − 2.51† |
| (28) Whatever else, the hospital doctor has a duty to avoid destroying hope, no matter how poor the prognosis. | 2 (2) | 1 (1) | 22 (19) | 17 (15) | 60 (52) | 66 (57) | 31 (27) | 32 (27) | − 0.83 |
| (29) Patients should be encouraged to participate in cancer treatment trials. | 42 (40) | 47 (41) | 48 (42) | 53 (46) | 23 (20) | 13 (11) | 1 (1) | 2 (2) | 1.22 |
| (30) Patients should be told in detail about all the side-effects they might expect with cancer treatment. | 2 (2) | 3 (2) | 17 (15) | 17 (15) | 64 (55) | 70 (61) | 32 (28) | 25 (22) | 0.76* |
| (31) Certain types of people, for example those who have difficulty showing their feelings, are more likely to get cancer. | 1 (2) | 0 | 12 (21) | 19 (34) | 43 (75) | 34 (61) | 1 (1) | 3 (5) | 0.57 |
| (32) The attitude of cancer patients to their disease can significantly affect the course of their illness. | 0 | 0 | 12 (21) | 23 (40) | 32 (55) | 27 (47) | 14 (24) | 7 (12) | 2.50 |

*P < 0.05. †P < 0.01. ‡P < 0.001. Exp., experimental group; Con., control group.

performance in terms of beginning the interview (9 items); the interview process (23 items), concluding the interview (2 items), and an overall assessment (1 item). A Rating Manual described in behavioural terms the criteria to be used to rate each of the interview items. This was compiled following an initial pilot study designed to maximise precision, minimise bias and optimise inter-rater agreement. A five-point scaling response was found to produce the optimal results for most items. Descriptive anchoring statements (''unsatisfactory'', ''satisfactory'' and ''very good'' performance) were included for 19 of the 23 items. The remaining four items related to skills that were assessed by ''yes'' (present) or ''no'' (absent) categories.

To confirm adequate test–retest reliability, a second pilot study was conducted following six 1-h rater training sessions. A random sample of 13 third year interviews from a previous course were assessed independently by two trained raters.

### Inter-rater reliability

Following extensive training, two raters (a research psychologist and a senior registrar in psychiatry) independently rated each recording using the descriptions and criteria set out in the Rating Manual. One rater was 'blind' to the allocation of students to the two groups. Table 1 shows that the level of inter-rater reliability for the majority of items was excellent or good: 17 of the 19 correlations were over 0.61. The items with the lowest level of agreement were item 29 (kappa value = 0.33) and item 30 (kappa value = 0.36). Thus, both of these items were excluded from the follow-up analysis.

### Assessments

*Third year.* The AQ was administered at the first session of the Interview Methods Course and again at the end of the final (sixth) session. To minimise the possibility of dissimulation whilst allowing a comparison of precourse and postcourse responses, students were instructed to put an identifying mark of their choice (not their name) on both questionnaires.

*Fifth year.* Students from the 1992–1993 cohort were invited by letter to participate in a follow-up evaluation. As an incentive to participate, they were offered £5. Interviews were arranged for a time outside the designated curricular timetable. All students interviewed an inpatient with gynaecological cancer.

Before conducting their follow-up interview, students were asked to complete the AQ. The researcher vacated the room during the recording of the interview. All interviews were carried out in the same recording venue to eliminate possible environmental effects.

### Analysis

Data were analysed using SPSS PC + . Parametric and non-parametric tests were used as appropriate (Student's *t*-test, Mann–Whitney U test, kappa and chi-squared test). Alpha was set at 0.05 two-tailed. The two sets of fifth year ratings were combined for the IRI items and mean scores were used in the analysis of the interview performance data. Such an approach, because it combines two sets of ratings, is considered to be more reliable than analysing the data separately [17].

## RESULTS

### Sample

*Third year.* Complete data from the precourse and postcourse questionnaires were obtained from 233 students (94% response rate). Analysis of the demographic characteristics of these students using the chi-squared test revealed no significant differences between the two groups in terms of either gender or native language.

*Fifth year.* Of the 89 students eligible to participate in the follow-up evaluation of this study, 54 fifth year students agreed to take part (61% response rate). This reduced response rate may be due to the fact that participation in the follow-up evaluation placed an additional demand on students' time during a busy curriculum and close to their final degree exams.

28 (10 male; 18 female) of the 54 students were originally taught using cancer patients. There were no significant differences in either gender or first language between the two groups (data not shown).

Table 4. *Follow-up number and percentage response to items regarding important characteristics of hospital doctors (*n = 54*)*

| Item | | Not at all important (1) | | Slightly important (2) | | Very important (3) | | Extremely important (4) | | Mann–Whitney U test analysis |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Exp. *n* % | Con. *n* % | Exp. *n* % | Con. *n* % | Exp. *n* % | Con. *n* % | Exp. *n* % | Con. *n* % | *z* |
| (1) | Diagnostic skills | 0 | 0 | 1 (4) | 1 (4) | 13 (48) | 12 (46) | 13 (48) | 13 (50) | −0.12 |
| (2) | Knowledge of cancer treatment | 0 | 0 | 1 (4) | 4 (15) | 11 (41) | 10 (39) | 15 (55) | 12 (46) | −0.99 |
| (3) | Awareness of patient's social circumstances | 0 | 0 | 4 (15) | 2 (8) | 15 (56) | 18 (69) | 8 (29) | 6 (23) | −0.41 |
| (4) | Awareness of patient's mental health | 0 | 0 | 2 (7) | 2 (8) | 14 (52) | 19 (73) | 11 (41) | 5 (19) | −1.47 |
| (5) | Awareness of patient's emotional needs | 0 | 0 | 1 (4) | 2 (8) | 11 (42) | 11 (42) | 14 (54) | 13 (50) | −0.38 |
| (6) | Ability to communicate with the patient | 0 | 0 | 0 | 1 (4) | 2 (7) | 9 (35) | 25 (93) | 16 (61) | −2.69* |
| (7) | Ability to understand how the patient feels | 0 | 0 | 0 | 1 (4) | 9 (33) | 14 (54) | 18 (67) | 11 (42) | −1.84 |
| (8) | Ability to listen | 0 | 0 | 0 | 0 | 6 (22) | 11 (42) | 21 (78) | 15 (58) | −1.55 |
| (9) | Kindness | 0 | 0 | 1 (4) | 3 (12) | 16 (59) | 11 (42) | 10 (37) | 12 (46) | −0.27 |
| (10) | Compassion | 0 | 0 | 1 (4) | 3 (12) | 14 (52) | 11 (42) | 12 (44) | 12 (46) | −0.19 |
| (11) | Non-moralising attitude | 0 | 1 (4) | 1 (4) | 4 (15) | 15 (56) | 9 (35) | 11 (40) | 12 (46) | −0.28 |
| (12) | Warmth | 0 | 0 | 3 (11) | 5 (19) | 12 (44) | 10 (39) | 12 (45) | 11 (42) | −0.44 |
| (13) | Genuineness | 0 | 1 (4) | 1 (4) | 4 (15) | 10 (37) | 8 (31) | 16 (59) | 13 (50) | −1.08 |

*P < 0.01. Exp., experimental group; Con., control group.

Table 5. *Follow-up: number and percentage response to statements regarding treatment and management of cancer patients* (n = 54)

| Item | Strongly disagree (1) Exp. n % | Con. n % | Disagree (2) Exp. n % | Con. n % | Agree (3) Exp. n % | Con. n % | Strongly agree (4) Exp. n % | Con. n % | Mann–Whitney U test analysis z |
|---|---|---|---|---|---|---|---|---|---|
| (14) Hospital doctors should encourage cancer patients to maintain a 'stiff upper lip'. | 15 (56) | 9 (35) | 11 (41) | 16 (62) | 8 (3) | 1 (4) | 0 | 0 | −1.43 |
| (15) It is not the hospital doctors' job to give emotional support to cancer patients. | 10 (37) | 7 (27) | 15 (56) | 16 (62) | 2 (7) | 3 (11) | 0 | 0 | −0.85 |
| (16) It is not the general practitioner's job to give emotional support to cancer patients. | 13 (48) | 15 (58) | 13 (48) | 10 (38) | 1 (4) | 1 (4) | 0 | 0 | −0.65 |
| (17) Most cancer patients need considerable emotional support from doctors. | 0 | 0 | 3 (11) | 2 (8) | 18 (67) | 19 (73) | 6 (22) | 5 (19) | 0.00 |
| (18) Trust is an essential part of the doctor–patient relationship in the effective treatment of cancer. | 0 | 0 | 0 | 0 | 11 (41) | 18 (69) | 15 (55) | 8 (31) | −1.60 |
| (19) Hospital doctors should always tell cancer patients they have cancer, no matter what the patient's personality. | 2 (7) | 1 (4) | 11 (41) | 17 (65) | 9 (33) | 7 (27) | 5 (19) | 1 (4) | −1.48 |
| (20) Following the clinical diagnosis of cancer the patient should be asked what further information he/she would want. | 0 | 0 | 0 | 0 | 14 (52) | 15 (60) | 13 (48) | 10 (40) | −0.59 |
| (21) Hospital doctors should tell cancer patients about all the side-effects their treatment may cause, no matter what the patient's personality. | 2 (7) | 0 | 7 (26) | 14 (54) | 14 (52) | 9 (35) | 4 (15) | 3 (11) | −1.06 |
| (22) Clinical decisions on the treatment of cancer must take into account the patient's wishes, even if this means that the patient will die sooner. | 0 | 0 | 0 | 0 | 6 (22) | 16 (62) | 21 (78) | 10 (38) | −2.87★ |
| (23) Hospital doctors should always tell cancer patients their likely prognosis, no matter what the patient's personality. | 2 (7) | 1 (4) | 15 (56) | 16 (62) | 7 (26) | 8 (31) | 3 (11) | 1 (3) | −0.17 |
| (24) All terminally ill cancer patients should be treated in a hospice or at home rather than in hospital. | 7 (26) | 1 (4) | 12 (44) | 15 (60) | 4 (15) | 9 (36) | 4 (15) | 0 | −0.10 |
| (25) Most cancer patients feel the hospital doctors give them too little information about their illness and its treatment. | 0 | 0 | 9 (35) | 7 (28) | 17 (65) | 16 (64) | 0 | 2 (8) | −0.87 |
| (26) To manage a cancer patient effectively, it is very important that the hospital doctor establishes the patient's attitude (e.g., fighting spirit) towards the illness. | 0 | 0 | 2 (7) | 2 (8) | 17 (63) | 20 (77) | 8 (30) | 4 (15) | −1.04 |
| (27) Most cancer patients feel the hospital doctors give them too much information about their illness and its treatment. | 4 (15) | 1 (4) | 21 (81) | 23 (92) | 1 (4) | 1 (4) | 0 | 0 | −1.14 |
| (28) Whatever else, the hospital doctor has a duty to avoid destroying hope, no matter how poor the prognosis. | 1 (4) | 0 | 4 (15) | 5 (19) | 13 (48) | 15 (58) | 9 (33) | 6 (23) | −0.56 |
| (29) Patients should be encouraged to participate in cancer treatment trials. | 5 (19) | 4 (16) | 12 (44) | 11 (44) | 9 (33) | 8 (32) | 1 (4) | 2 (8) | −0.58 |
| (30) Patients should be told in detail about all the side-effects they might expect with cancer treatment. | 1 (4) | 0 | 0 | 3 (11) | 13 (48) | 16 (62) | 13 (48) | 7 (30) | −0.46 |
| (31) Certain types of people, for example those who have difficulty showing their feelings, are more likely to get cancer. | 0 | 0 | 7 (27) | 8 (32) | 19 (73) | 15 (60) | 0 | 2 (8) | −0.36 |
| (32) The attitude of cancer patients to their disease can significantly affect the course of their illness. | 0 | 0 | 10 (34) | 12 (46) | 13 (50) | 11 (42) | 3 (12) | 3 (12) | −1.70 |

★P < 0.01. Exp., experimental group; Con., control group.

*Third year evaluation*

*Attitudes.* Attitudes before the course were similar: none of the items on the AQ showed a significant difference between the two groups (data not shown). Tables 2 and 3 display the results of the *t*-test analysis used to identify postcourse differences between the two groups on the 32 AQ items. Following the course, the experimental group students were more likely than the control group to consider the ability to listen to patients as extremely important ($t = 2.03$, $P < 0.05$; Table 2, item 8); to feel more strongly that trust is an essential part of the doctor–patient relationship ($t = 3.66$, $P < 0.001$; Table 3, item 18), and to agree that the attitude of patients to their disease can affect the course of their illness ($t = 2.50$, $P < 0.05$; Table 3, item 32).

Compared with the control group, the experimental group were more likely to believe that doctors should not tell patients their prognosis ($t = -2.29$, $P < 0.05$; Table 3, item 23). In addition, the experimental group disagreed that patients are given too little information ($t = -4.09$, $P < 0.001$; Table 3, item 25) and that too much information is provided by doctors about their illness and its treatment ($t = -2.51$, $P < 0.01$; Table 3, item 27).

Table 6. *Fifth year: number, percentage frequency and chi-squared values of interview items rated using a two-point scale* (n = 54)

| | | Rating obtained | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Yes | | No | | Chi-squared test analysis | | |
| | | Exp. | Con. | Exp. | Con. | | | |
| Item | | n % | n % | n % | n % | $\chi^2$ | (df, n) | P |
| (1a) | Mentions own name in introduction | 27 (96) | 25 (96) | 1 (4) | 1 (4) | † | | 1.000 |
| (1b) | Mentions patient's name in introduction | 24 (86) | 23 (88) | 4 (14) | 3 (12) | † | | 1.000 |
| (2) | Establishes eye contact | 24 (86) | 24 (92) | 4 (14) | 2 (8) | † | | 0.670 |
| (4) | Defines purpose of interview | 12 (43) | 14 (54) | 16 (57) | 12 (46) | 0.7 | (1, 54) | 0.419 |
| (5) | Indicates own status | 24 (86) | 23 (89) | 4 (14) | 3 (11) | † | | 1.000 |
| (6) | States time available for interview | 1 (4) | 4 (15) | 27 (96) | 22 (85) | † | | 1.000 |
| (9) | Shakes patient's hand | 23 (82) | 13 (50) | 5 (18) | 13 (50) | 6.3 | (1, 54) | 0.012* |
| (15) | Consistently uses appropriate language | 28 (100) | 26 (100) | 0 | 0 | – | | |
| (20) | Consistently avoids jargon | 28 (100) | 26 (100) | 0 | 0 | – | | |
| (23) | Maintains appropriate eye contact | 28 (100) | 26 (100) | 0 | 0 | – | | |
| (25) | Avoids putting words into patient's mouth | 18 (64) | 16 (62) | 10 (36) | 10 (38) | 0 | (1, 54) | 0.835 |
| (26) | Avoids being tactless | 28 (100) | 25 (96) | 0 | 1 (4) | † | | 0.481 |
| (33) | Indicates to patient that interview is about to end | 5 (18) | 6 (23) | 23 (82) | 20 (77) | 0.2 | (1, 54) | 0.634 |
| (34) | Thanks patient for participating | 28 (100) | 25 (96) | 0 | 1 (4) | † | | 0.481 |

*$P < 0.05$. †Fisher's exact test. Exp., experimental group; Con., control group.

Table 7. *Fifth year: number, percentage frequency and chi-squared values of interview items rated using a two-point scale* (n = 54)

| | | Rating obtained | | | | | | Mann–Whitney U test analysis |
|---|---|---|---|---|---|---|---|---|
| | | Very unsatisfactory or unsatisfactory (0) or (1) | | Satisfactory (2) | | Good or very good (3) or (4) | | |
| | | Exp. | Con. | Exp. | Con. | Exp. | Con. | |
| Item | | n % | n % | n % | n % | n % | n % | z |
| (10) | Gives appropriate encouragement | 0 | 0 | 3 (9) | 6 (23) | 25 (91) | 20 (77) | − 0.90 |
| (11) | Encourages precision | 0 | 0 | 1 (5) | 6 (23) | 27 (95) | 20 (77) | − 1.79 |
| (12) | Does not interrupt inappropriately | 0 | 0 | 6 (22) | 9 (35) | 22 (78) | 17 (65) | − 1.54 |
| (13) | Asks one question at a time | 1 (2) | 1 (4) | 9 (31) | 7 (29) | 19 (67) | 18 (67) | − 0.58 |
| (14) | Uses suitably brief questions | 1 (2) | 1 (4) | 8 (27) | 7 (29) | 20 (71) | 18 (67) | − 0.59 |
| (16) | Clarifies what the patient says | 2 (6) | 2 (6) | 6 (22) | 8 (30) | 23 (76) | 16 (64) | − 1.05 |
| (17) | Makes explicit transitional statements | 19 (69) | 15 (57) | 6 (23) | 6 (23) | 2 (8) | 5 (20) | − 1.42 |
| (18) | Avoids repetition | 1 (4) | 4 (15) | 6 (20) | 7 (29) | 21 (76) | 15 (56) | − 1.48 |
| (19) | Picks up verbal leads | 4 (16) | 5 (18) | 7 (24) | 7 (28) | 17 (60) | 14 (54) | − 0.35 |
| (21) | Controls the interview appropriately | 1 (2) | 0 | 5 (18) | 7 (27) | 22 (80) | 19 (73) | − 1.33 |
| (22) | Responds empathically | 3 (9) | 3 (10) | 11 (41) | 18 (69) | 14 (50) | 5 (21) | − 2.04* |
| (24) | Shows regard and concern for the patient | 1 (2) | 1 (4) | 3 (13) | 14 (50) | 24 (95) | 11 (46) | − 3.28† |
| (27) | Assesses impact of symptoms on patient's life | 1 (4) | 0 | 2 (7) | 12 (46) | 25 (89) | 14 (54) | − 3.59† |
| (28) | Account elicited of history of presenting complaint | 0 | 1 (4) | 10 (37) | 11 (42) | 18 (63) | 14 (56) | − 0.59 |
| (31) | Appropriate use of closed questions | 0 | 0 | 6 (21) | 9 (34) | 22 (79) | 17 (66) | − 1.75 |
| (32) | Appropriate use of open questions | 0 | 0 | 6 (21) | 7 (27) | 22 (79) | 19 (73) | − 1.69 |
| Global assessment | | 1 (2) | 1 (4) | 6 (20) | 11 (42) | 21 (78) | 14 (56) | − 1.67 |

*$P < 0.05$. †$P < 0.001$. Exp., experimental group; Con., control group.

*Fifth year evaluation*

*Attitudes.* As shown in Tables 4 and 5, analysis by means of the Mann–Whitney U test confirmed that the ability of hospital doctors to communicate ($z = -2.69$, $P < 0.01$; Table 4, item 6) and the need for clinical decisions to reflect patients' wishes ($z = -2.87$, $P < 0.01$; Table 5, item 22) were considered to be more important by the students originally taught using cancer patients compared with those in the control group, although even 96% of controls felt communication was very or extremely important, and 96% of controls agreed or strongly agreed that the decisions should reflect the patients' wishes.

*Interview performance.* Table 6 displays the number and percentage distribution of the follow-up ratings for the experimental and control group together with chi-squared values. At the start of the interview, compared with the control group, students in the experimental group were more likely to introduce themselves by shaking the patient's hand ($\chi^2 = 6.3$, $P = 0.012$). In addition, as shown in Table 7, these students had better ratings in terms of responding empathically ($z = -2.04$, $P < 0.05$), showing regard and concern for the patient ($z = -3.28$, $P < 0.001$), and assessing the impact of the symptoms on the patient's life ($z = -3.59$, $P < 0.001$).

## DISCUSSION

This study highlights the beneficial effects of the participation of patients with cancer in interview skills training in terms of attitudes towards patients with cancer and the disease itself and, importantly, in terms of interview performance 2 years later with patients who had cancer. Before the course, the attitudes of the students in the two groups did not differ on any of the items in the Attitudes Questionnaire: this suggests that the differences after the course and at follow-up may be the direct result of the participation of patients with cancer.

At the end of the course, students taught with patients who had cancer were more likely than the control group to consider the ability to listen as an extremely important characteristic of hospital doctors and to consider more strongly that trust is an essential part of the doctor–patient relationship. The ability to listen and the importance of trust are widely accepted as desirable characteristics [5]. There were also differences between the two groups in terms of the information they thought it appropriate to give to patients. For example, with respect to prognosis, students taught with patients who had cancer were more likely to believe that doctors should not tell all patients their prognosis. It may be, therefore, that the course had taught them to consider individual cases on their own merit. This may also explain why they were more likely to disagree that patients are given too little information and that too much information is provided by doctors about their illness and its treatment.

Two years after the course, the ability of hospital doctors to communicate with patients, and the need for clinical decisions to reflect patients' wishes, were considered to be more important by the students originally taught with cancer patients compared with those in the control group, although even 96% of these agreed with both these issues. In terms of actual performance, as hypothesised, these students had a better rating in terms of responding empathically, showing regard and concern for the patient, and assessing the impact of the symptoms on the patient's life. In every case, these key skills were more apparent in the students taught with patients who had cancer.

One possible interpretation of these findings is that the differences observed between the two groups could be due to the fact that different tutors were used for the teaching of the experimental and control groups. Thus, it could be argued that the experimental group tutors (all cancer specialists) may have influenced their students by placing a particular emphasis on the importance of doctor–patient communication in relation to cancer patients. Although it was not possible (for pragmatic reasons) to evaluate the quality and content of the teaching, tutors were rotated for each block of the teaching. Thus, by virtue of the randomised design of the project, there is no reason to believe that the standard of teaching between the experimental and the control groups would have differed to such an extent as to bias the findings so markedly.

In the 2-year follow-up period, the students in both groups were exposed to the same wide-ranging clinical experiences during their fourth and fifth year clinical attachments (medicine, surgery, psychiatry, general practice, paediatrics, obstetrics and gynaecology). It is encouraging, therefore, that important differences found were still present at follow-up when the students were in their final undergraduate year. The participation of patients with cancer appears to have made a lasting impression on key skills and attitudes. The combination of a basic communication skills training programme and students' early exposure to cancer patients appears to be beneficial in enhancing their ability to elicit psychosocial information and to relate more effectively to cancer patients.

The findings are strengthened by a number of positive features of the study design, namely the use of an established interview methods course; a prospective randomised design; sensitive and reliable methods of assessment; good student compliance, and follow-up at 2 years. The interview performance of the students was assessed according to the extent to which each skill was considered to be appropriate in the context of the interview. This reflects a quantitative approach, as opposed to the qualitative approach used in previous studies that have attempted to assess the effects of the participation of patients with cancer in communication skills training [18].

The training programme made use of a well-established communication skills course that has a number of positive features from an educational point of view, including peer, tutor and video feedback. The location of the course in third year ensures good horizontal and vertical integration with the other clinical subjects. One feature that may be particularly important is that tutors are drawn from a wide range of medical specialties. This means that as students move through these clinical departments, in subsequent years they will be taught by members of staff who originally taught them in the Interview Methods Course; a circumstance that may facilitate generalisation of knowledge, attitudes and skills. Moreover, all the tutors involved in the course have a particular interest in this aspect of medical education.

Because interview performance was assessed with patients who had cancer, it is not known to what extent the interview skills could be generalised to patients with other diagnoses. Skills such as empathy, the ability to show regard and concern for the patient, and the ability to assess the impact of the symptoms on the life of the patient could be generalised to patients with other diagnoses. However, further studies are required to examine this.

The findings from this study indicate that the participation of patients with cancer may promote an awareness of the psychosocial aspects of cancer in terms of positive effects on attitudes and interview performance. Psychosocial information can provide doctors with valuable information for diagnosis and treatment. However, this information is often overlooked in favour of determining physical causes and pharmacological treatment for illness and disease. Since the early 1980s, medical educators have questioned training practices that perpetuate this omission and have proposed that psychosocial data be increasingly emphasised in medical education. Attitudes, knowledge and skills that are likely to facilitate rapport between doctor and patient and complement a psychosocial approach to patient care are essential. Thus, medical schools should consider how best they can involve cancer patients in the teaching of communication skills.

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