Burden on Oncologists When Communicating the Discontinuation of Anticancer Treatment

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Objective: Communicating the discontinuation of anticancer treatment to patients is a difficult task. The primary aim of this study was to clarify the level of oncologist-reported burden when communicating about discontinuation of an anticancer treatment. The secondary aims were (i) to identify the sources of burden contributing to their levels and (ii) to explore the useful strategies to alleviate their burden.

Methods: A multicenter nationwide questionnaire survey was conducted on 620 oncologists across Japan (response rate, 67%).

Results: High levels of perceived burden were reported by 47% of respondents, and 17% reported that they sometimes, often or always wanted to stop oncology work because of this burden. There was a significant association between high levels of burden and: a feeling that breaking bad news would deprive the patient of hope; concern that the patient’s family would blame the oncologist; concern that the patient may lose self-control; and a feeling that there was not enough time to break the bad news. Strategies perceived to be useful by oncologists included training in how to effectively communicate to patients discontinuation of anticancer treatment, a reduction in total workload to allow sufficient time to break bad news, and development of a multidisciplinary model to facilitate cooperation with other professionals and facilities.

Conclusions: Many oncologists reported high levels of burden relating to communication of discontinuation of anticancer treatment. A specific communication skills training program, sufficient time for communication and development of a multidisciplinary model could help alleviate the burden on oncologists.

Key words: burden – oncologists – communicating

INTRODUCTION

Breaking bad news is a stressful experience for the oncologist (1–6); moreover, it contributes to diminished confidence in communication skills and higher expectations of a negative outcome. The experience of dealing with distressed, angry and reproachful patients is also associated with burnout (7). Previous studies have suggested that oncologist-perceived burden is caused by several factors associated with the patient, the patient’s family, the oncologists themselves and the medical environment (8,9). An oncologist’s communication style affects the extent of emotional distress felt by the patient and the patient’s family (10). The most
difficult conversations involved discussing the discontinuation of curative treatment and admission to a hospice (4); therefore, it is important to clarify the extent of the burden experienced by the oncologist when communicating the discontinuation of anticancer treatment.

Many studies have been conducted to clarify patients’ preferences and experiences in receiving bad news in oncology settings (11–14), and several clinical guidelines and expert recommendations have been published (1,15,16). Moreover, recent intervention trials have demonstrated that structured communication skills training can improve physicians’ skills in breaking bad news (17–19).

Despite the existence of many experience-based recommendations and studies into the psychological effects on patients and their families, to our knowledge, only a few studies have explored the extent of the burden on oncologists when communicating the discontinuation of anticancer treatment. Therefore, the aims of the present study were to: (i) clarify the level of oncologist-perceived burden when communicating the discontinuation of anticancer treatment to patients; (ii) identify factors contributing to this burden; and (iii) explore potentially useful strategies to alleviate oncologist-perceived burden.

PATIENTS AND METHODS

SUBJECTS

The present study was a cross-sectional anonymous multicenter nationwide survey of oncologists in cancer centers across Japan. Questionnaires were mailed to 620 eligible oncologists in February 2007 and again 2 months later to those oncologists who had not yet responded. If the oncologists did not want to participate in the survey, we requested that they return the questionnaire without replying to any of the questions. The participating institutions were 12 cancer centers selected from the 15 cancer centers that make up the Japanese Association of Clinical Cancer Centers.

We recognized potential sampling bias with this method, but decided to use convenient institutions because we felt that the risk of sampling bias would be minimized by a large number of participants.

Eligibility criteria for the participants were as follows: (i) oncologists specializing in gastroenterology, respiratory medicine, breast oncology, hematology, medical oncology, urology, gynecology, otolaryngology, orthopedics, pediatrics, neurosurgery or dermatology; and (ii) the oncologist’s name had to appear on his/her medical facility’s website. The website of all Japanese cancer centers shows the complete list of all physicians in that center. We regarded the completion and return of the questionnaire as consent to participate in the study. The institutional review board of the principal investigator confirmed the study’s ethical and scientific validity.

QUESTIONNAIRE

A questionnaire was developed based on a review of the literature (2,3,8,9) and discussions among the authors. Content validity was assessed by full agreement of the authors, and face validity was confirmed by a pilot test of 20 potential participants.

As background data, oncologists reported their age, gender, clinical experience in oncology, specialty, previous experience with formal communication skills training, attitudes toward disease and prognosis disclosure for terminally ill patients, and the number of patients to whom they would usually communicate the discontinuation of anticancer treatment annually.

The primary endpoint was oncologist-perceived burden imposed by communicating the discontinuation of anticancer treatment to patients. Given the lack of existing validated instruments, the following outcome parameters were developed by the authors. First, the level of oncologist-perceived burden was evaluated by the question, ‘What level of burden do you feel when you communicate with patients about discontinuation of anticancer treatment?’ Answers to this question were rated on a five-point scale ranging from 1 (I do not feel any burden at all) to 5 (I feel a heavy burden). In addition, we investigated the impact of the burden on motivation to continue working in oncology by asking oncologists, ‘How often do you feel some level of desire to stop oncology work due to this burden’. Again, answers were rated on a five-point scale ranging from 1 (not at all) to 5 (always).

We extracted 20 potential sources of burden from the literature (8,9) and questioned oncologists on their level of perceived burden relating to each of these sources. Oncologists were requested to rate their degree of burden on a five-point Likert-type scale ranging from 1 (I do not feel any burden) to 5 (I feel a heavy burden). In addition, we developed a list of 14 potentially useful strategies to alleviate oncologists’ perceived burden derived from a previous report (20) and from a qualitative study using in-depth interviews with three oncologists. The oncologists were requested to rate their level of agreement with each of these strategies on a six-point Likert-type scale ranging from 1 (not necessary) to 6 (absolutely necessary).

STATISTICAL ANALYSES

For comparisons, respondents were classified into two groups: oncologists who rated themselves as ‘heavily burdened’ or ‘burdened’ (high-level burden) and then all other oncologists (low-level burden). This cut-off point was selected on the basis of the actual distribution of the data and enabled the entire sample to be divided into two equal-sized groups for comparison.

To explore the determinants of levels of oncologist-reported burden, we screened 7 background variables and 20 sources of burden. Univariate analyses were performed using Student’s t-test or the χ² test, as appropriate. To assess the
results in 20 comparisons, the $P$ value necessary for statistical significance was defined as 0.0025 (0.05/20) using the Bonferroni correction. Multiple logistic regression analyses were then performed using a forward elimination procedure. All potential predictors with statistical significance as ascertained by the univariate analyses were included as independent variables in multiple logistic regression analyses. All analyses were performed using SPSS version 11.0.

RESULTS

Of the 620 questionnaires mailed to oncologists, 10 were undeliverable because of incorrect addresses and 416 oncologists returned questionnaires, resulting in a response rate of 67%. Of the questionnaires returned, 3 were excluded due to missing data in primary endpoints and 19 were returned without any of the questions being answered. Thus, a total of 394 responses were analyzed, giving an effective response rate of 67% (394/591). The oncologists’ characteristics are summarized in Table 1.

Overall levels of oncologist-reported burden relating to communication of the discontinuation of anticancer treatment were: heavily burdened, 13%; burdened, 34%; slightly burdened, 37%; not particularly burdened, 13%; or not burdened at all, 1.3% (Table 2). Clinical oncologists rated their level of desire to stop oncology work because of this burden as: not at all, 55% (n = 218); rarely, 26% (n = 106); sometimes, 11% (n = 45); often, 5.3% (n = 21); or always, 1.0% (n = 4).

The oncologists’ ratings of the 20 potential sources of burden relating to the communication of discontinuation of anticancer treatment are given in Table 3. More than 20% of respondents reported feeling ‘heavily burdened’ or ‘burdened’ by the following factors: insufficient time to break bad news; feeling that breaking bad news will deprive the patient of hope; the possibility that the breaking of bad news is interrupted by other tasks; concern that the patient may lose self-control; opposition from the patient’s family to breaking bad news to the patient; evidence from a certain group is not applicable to every patient; and, finally, an inability to answer philosophical questions regarding death and the value of life.

Univariate analysis (Table 4) showed that oncologists with high-level burden were significantly more likely to report the following concerns: feeling that breaking bad news will deprive the patient of hope; concern that the oncologist may be blamed by the patient’s family; concern that the patient may lose self-control; insufficient time to break bad news; possibility that the time for breaking bad news is interrupted by other tasks; opposition from the patient’s family to breaking bad news to the patient; evidence from a certain group is not applicable to every patient; an inability to answer philosophical questions regarding death and the value of life; feeling a sense of guilt because oncologists cannot provide adequate treatment; concern that the oncologist may be criticized by the patient; scientific evidence is not always predictable or reproducible; opposition from patients to breaking bad news to their families; fear of talking to patients whom the oncologist do not know very well; lack of confidence in oncological medical skills; uneasiness in changing roles from curing patients to caring for patients; and a concern that an objective stance cannot be maintained if the oncologist becomes too intimate with the patient.

Multiple logistic regression analysis (Table 4) revealed that independent determinants of high-level burden were: feeling that breaking bad news will deprive the patient of hope; concern that the oncologist may be blamed by the patient’s family; concern that the patient may lose self-control; and insufficient time to break bad news.

Table 1. Background of respondent oncologists

| Age (years)         | Median | Inter-quartile range |
|---------------------|--------|----------------------|
| Male gender [no. (%)] | 371 (91) |
| Oncology experience (years) | 15 | 8–20 |

| Number of communications concerning discontinuation of anticancer treatment annually | Median | Inter-quartile range |
|----------------------------------------------------------------------------------|--------|----------------------|
| Routinely, without patient’s request | 55 (14) |
| If necessary, without patient’s request | 234 (59) |
| If necessary, and if the patient explicitly asks | 78 (19) |
| Routinely, and if the patient explicitly asks | 21 (5.3) |

| Specialty [no. (%)] | Gastroenterology | Respiratory medicine | Breast oncology | Hematology, medical oncology | Urology | Gynecology | Oncology | Orthopedics | Neurosurgery | Pediatrics | Dermatology |
|---------------------|------------------|---------------------|----------------|--------------------------|--------|------------|---------|-------------|--------------|------------|-------------|
| Dermatology         | 116 (30)         | 50 (13)             | 42 (10)        | 42 (10)                  | 32 (8.3)| 30 (7.8)   | 24 (6.2)| 19 (4.9)    | 12 (3.1)     | 13 (3.3)   | 5 (1.3)     |

Received formal training in breaking bad news [no. (%)] 59 (16.5)

*Percentages do not add up to 100% because of missing data.
formal communication skills training, or number of communications concerning discontinuation of anticancer treatment annually, are not the determinants of levels of oncologist-reported burden.

Strategies to relieve oncologist-reported burden when communicating the discontinuation of anticancer treatment were also investigated. Table 5 lists the percentage of oncologists who agreed with each of the 14 strategies suggested to alleviate oncologists’ perceived burden. More than 20% of respondents considered the following strategies to alleviate oncologist-reported burden as ‘absolutely necessary’: that an inpatient hospice is readily available and that patient information is exchanged smoothly among facilities; quiet and private rooms are available for breaking bad news; after breaking bad news, a nurse, psychologist or medical social worker is available to provide emotional support; and a reduction in oncologists’ total workload to give them sufficient time to break bad news.

**DISCUSSION**

To the best of our knowledge, this is the first large multicenter nationwide survey to investigate oncologist-reported burden when communicating the discontinuation of anticancer treatment. The first important finding of the present study was the demonstration of the oncologist-reported burden when

| Table 3. Sources of oncologist-reported burden when communicating discontinuation of anticancer treatment |
|-----------------------------------------------------------------------------------------------------|
| **No. (%)**                                                                                          |
| Insufficient time to break bad news                                                               |
| Feeling that breaking bad news will deprive the patient of hope                                     |
| Possibility that the time for breaking bad news is interrupted by other tasks                       |
| Concern that the patient may lose self-control                                                     |
| Opposition from family members to breaking bad news to the patient                                 |
| Evidence from a certain group does not always apply to the patient                                 |
| The oncologist is unable to answer philosophical questions regarding death and the value of life   |
| Concern that the oncologist may be blamed by the patient’s family                                  |
| Feeling a sense of guilt because oncologists cannot provide effective anticancer treatment         |
| Opposition from patients to breaking bad news to their families                                     |
| Concern that the oncologist may be criticized by the patient                                       |
| Fear of talking to patients whom oncologist does not know very well                                 |
| Scientific evidence is not always predictable or reproducible                                       |
| Lack of confidence in oncological medical skills                                                  |
| Concern that the oncologist does not have the latest knowledge                                     |
| Uneasiness in changing roles from curing patients to caring for patients                           |
| Concern that oncologists cannot answer all knowledge-based questions posed by the patient         |
| Oncologists fear their own illness and death                                                       |
| Concern that an objective stance cannot be maintained if the oncologist becomes too intimate with the patient |
| Fear that oncologists themselves may become very emotionally involved, such as expressing anger or sadness |

Percentages do not add up to 100% due to missing data.
Table 4. Determinants of oncologist-reported burden when communicating discontinuation of anticancer treatment

| Perception                                                                 | Low level (n = 206) | High level (n = 190) | P value | Odds ratio (95% CI) | P value |
|-----------------------------------------------------------------------------|---------------------|----------------------|---------|---------------------|---------|
| Feeling that breaking bad news will deprive the patient of hope              | 3.1 ± 0.9           | 3.8 ± 0.8            | <0.01   | 1.8 (1.4–2.5)       | <0.01   |
| Concern that the oncologist may be blamed by the patient’s family           | 2.1 ± 0.8           | 2.8 ± 1.1            | <0.01   | 1.5 (1.2–1.9)       | <0.01   |
| Concern that the patient may lose self-control                              | 2.8 ± 0.8           | 3.4 ± 0.9            | <0.01   | 1.4 (1.1–1.9)       | <0.01   |
| Insufficient time to break bad news                                         | 3.3 ± 1.0           | 3.8 ± 0.9            | <0.01   | 1.2 (0.99–1.6)      | 0.049   |
| Possibility that the time for breaking bad news is interrupted by other tasks| 3.1 ± 1.0           | 3.5 ± 1.1            | <0.01   |                     |         |
| Opposition from family members to breaking bad news to the patient           | 2.7 ± 1.0           | 3.2 ± 1.1            | <0.01   |                     |         |
| Evidence from a certain group does not always apply to every patient        | 2.6 ± 0.9           | 3.0 ± 1.1            | <0.01   |                     |         |
| The oncologist is unable to answer philosophical questions regarding death and the value of life| 2.5 ± 0.8           | 3.0 ± 1.0            | <0.01   |                     |         |
| Feeling a sense of guilt because oncologists cannot provide effective anticanter treatment| 2.1 ± 0.9           | 2.7 ± 1.1            | <0.01   |                     |         |
| Concern that the oncologist may be criticized by the patient                | 2.1 ± 0.8           | 2.7 ± 1.0            | <0.01   |                     |         |
| Scientific evidence is not always predictable or reproducible               | 2.3 ± 0.8           | 2.7 ± 1.0            | <0.01   |                     |         |
| Opposition from patients to breaking bad news to their families             | 2.2 ± 0.8           | 2.6 ± 1.2            | <0.01   |                     |         |
| Fear of talking to patients whom the oncologist does not know very well     | 2.2 ± 0.9           | 2.5 ± 1.1            | <0.01   |                     |         |
| Lack of confidence in oncological skills                                    | 2.2 ± 0.8           | 2.5 ± 0.9            | <0.01   |                     |         |
| Uneasiness in changing roles from curing patients to caring for patients    | 1.9 ± 0.8           | 2.3 ± 0.9            | <0.01   |                     |         |
| Concern that an objective stance cannot be maintained if the oncologist becomes too intimate with the patient | 1.9 ± 0.7           | 2.2 ± 0.8            | <0.01   |                     |         |
| Concern that the oncologist does not have the latest knowledge             | 2.1 ± 0.8           | 2.2 ± 0.9            | 0.24    |                     |         |
| Fear that the oncologist may become very emotionally involved, such as expressing anger or sadness | 1.9 ± 0.6           | 2.0 ± 0.8            | 0.24    |                     |         |
| Concern that the oncologist cannot answer all knowledge-based questions posed by the patient| 2.0 ± 0.8           | 2.2 ± 0.9            | 0.34    |                     |         |
| Fear of the oncologists’ own illness and death                              | 1.9 ± 0.7           | 2.0 ± 1.0            | 0.78    |                     |         |

Oncologists who rated their burden level as heavily burdened or burdened (high-level group) are compared as a single group against all others (low-level group). Multiple logistic regression analyses used the high-level burden group as the dependent variable. Each condition was rated on a scale of 1 (do not feel any burdened) to 5 (feel heavily burdened).

Communicating the discontinuation of anticancer treatment to patients. Of the oncologists surveyed, 47% reported high levels of burden when communicating the discontinuation of anticancer treatment. Moreover, 17% of the oncologists surveyed reported that they sometimes, often or always want to stop oncology work because of this burden. Multiple studies have revealed that a major contributor to physicians’ burnout is communication with patients and families (21–26). The present study confirms that communication with patients and families is a major source of oncologists’ work-related stress. In particular, the present study highlights that communicating the discontinuation of anticancer treatment can be a heavy burden for oncologists and that it is urgent that strategies are developed to alleviate this burden.

The present study also evaluated oncologists’ opinions regarding the strategies likely to be effective in reducing this burden. The strategies perceived to be potentially effective included: ready availability of an inpatient hospice and smooth exchange of patient information among facilities; availability of quiet and private rooms for the breaking of bad news; the provision of emotional support from a nurse, psychologist or medical social worker after the patient has received the bad news; and a reduction in oncologists’ total workload to give them sufficient time to break the bad news.

Moreover, multiple logistic regression analyses revealed that independent determinants of high-level burden were: a feeling that breaking bad news will deprive the patient of hope; concern that the oncologist may be blamed by the patient’s family; concern that the patient may lose self-control; and insufficient time to break bad news.
their families; and (iii) developing a multidisciplinary care model with other professionals and facilities.

This study emphasizes the importance of communication skills. Previous studies suggested that communication skills training increases both patient satisfaction (27,28) and oncologists’ confidence (29). However, to the best of our knowledge, existing communication skills training does not specifically address issues surrounding the discontinuation of anticancer treatments. The present study highlights the importance, under these difficult circumstances, of helping the patient maintain hope, dealing with the oncologists’ fear of being blamed by the patients and their families, and strengthening patient self-control. The results indicate that a communication skills training program specifically targeting skills for communicating the discontinuation of anticancer treatment needs to be developed. This program should include strategies to deal with oncologists’ concerns, such as that by breaking bad news to a patient, the oncologist will deprive the patient of hope, that the oncologist may be blamed by the patient’s family and that the patient may lose self-control. The oncologists surveyed stressed the importance of a reduction in their total workload to give them sufficient time to facilitate effective communication with patients. A previous study suggested that physicians face excessive workloads that are associated with a lower quality of patient care (30). Several studies have suggested that the perception of having insufficient time to communicate with patients is the factor most strongly associated with oncologist burnout (22,31). In Japan, according to a 2008 revision by the Ministry of Health, Labor and Welfare in Japan of the payment of fees for medical treatment, an additional fee for outpatient care can be applied when a physician is directly involved in clinical practice for 5 min or longer. This indicates that the Ministry of Health, Labor and Welfare in Japan defines the time for consultation and implies that most physicians in Japan are too busy to spend 5 min or more on each outpatient. These results stress that a reduction in physicians’ workload is vital.

Many oncologists surveyed in the present study agreed with the importance of multidisciplinary cooperation with other professionals and facilities. Two types of cooperation were considered to be particularly valuable: (i) that after breaking bad news, a nurse, psychologist or medical social worker was available to follow up with patients and their families; and (ii) the availability of other facilities, especially inpatient palliative care units. Previous studies have shown that cancer patients’ participation in nurse-led interventions resulted in an improvement in depressive moods (32,33). Multiple intervention studies have indicated that practice-based interprofessional collaboration can improve patients’ health-care processes and outcomes (34). Furthermore, existing literature indicates that regional palliative care programs succeed in increasing family satisfaction (35,36). These findings suggest that developing a multidisciplinary team to support oncologists, not only within a hospital, but also beyond the hospital (as a region), is of considerable importance in achieving improvement in depressive moods (32,33). Multitude intervention studies have indicated that practice-based interprofessional collaboration can improve patients’ health-care processes and outcomes (34). Furthermore, existing literature indicates that regional palliative care programs succeed in increasing family satisfaction (35,36). These findings suggest that developing a multidisciplinary team to support oncologists, not only within a hospital, but also beyond the hospital (as a region), is of considerable importance in achieving improvement in depressive moods (32,33). Multitude intervention studies have indicated that practice-based interprofessional collaboration can improve patients’ health-care processes and outcomes (34). Furthermore, existing literature indicates that regional palliative care programs succeed in increasing family satisfaction (35,36). These findings suggest that developing a multidisciplinary team to support oncologists, not only within a hospital, but also beyond the hospital (as a region), is of considerable importance in achieving improvement in depressive moods (32,33).

### Table 5. Oncologists’ opinion on strategies suggested to alleviate the burden associated with communicating discontinuation of anticancer treatment

| Necessary (%) | Absolutely necessary (%) |
|---------------|--------------------------|
| Inpatient hospice is readily available and patient information is exchanged smoothly among facilities | 49 | 36 |
| Quiet and private rooms are available for breaking bad news | 56 | 25 |
| After breaking bad news, a nurse, psychologist or medical social worker is available for emotional support | 63 | 24 |
| A reduction in the oncologist’s total workload to give sufficient time for the breaking of bad news | 54 | 23 |
| While breaking bad news, a nurse, psychologist or medical social worker is available for emotional support | 56 | 13 |
| Having an opportunity to attend educational workshops about how to break bad news | 51 | 6.8 |
| A psychiatrist or psychologist is available for consultation if the oncologist feels overburdened | 42 | 6.6 |
| Before breaking bad news, having the opportunity to discuss the situation with colleagues and receive advice | 54 | 6.1 |
| After breaking bad news, specialists in physician–patient communication are available to give advice to the oncologist about how they should break bad news | 60 | 5.5 |
| Having opportunities to share experiences and feelings with the colleagues within the hospital | 51 | 5.5 |
| Before breaking bad news, information about what the patient and family want to know is available from nurses | 65 | 5.0 |
| Before breaking bad news, the oncologist receives a memo from the patient and family about what they want to know | 61 | 3.8 |
| After breaking bad news, the oncologist receives a questionnaire to identify what the patient and the family are feeling and thinking | 65 | 3.3 |
| Have an opportunity to share experiences and feelings with colleagues from other hospitals | 47 | 3.0 |
approach, such as in-hospital and regional palliative care programs, could alleviate oncologist burden.

The limitations of the present study include the moderate (67%) effective response rate, which may mean that the entire oncological population is not represented by the oncologists who participated in the present study. Furthermore, because this study was performed in Japan, the results are likely to be influenced by factors relating to Japanese culture and the Japanese health-care system and, as such, may not be applicable to other countries.

In conclusion, a considerable number of oncologists experienced high levels of burden in communicating the decision to discontinue anticancer treatment. To alleviate oncologist burden, potentially useful strategies include: (i) communication skills training specifically targeting discontinuation of anticancer treatment; (ii) a reduction in total workload to allow oncologists sufficient time to break bad news; and (iii) the development of a multidisciplinary model to facilitate cooperation with other professionals and facilities.

Authors’ Contribution

H.O.: conception and design, provision of the study material, collection of data, data analysis and interpretation, manuscript writing and administrative support. T.M.: conception and design, provision of the study material, data analysis and interpretation, final approval of the manuscript, administrative support, and financial support. T.E., H.A., K.T., A.O. and K.S.: provision of the study material and final approval of the manuscript.

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Conflict of interest statement

None declared.

References

1. Back AL, Arnold RM, Baile WF, Tulsky JA, Fryer-Edwards K. Approaching difficult communication tasks in oncology. CA Cancer J Clin 2005;55:164–77.
2. Peretti-Watel P, Bendiane MK, Obadia Y, Lapiana JM, Galinier A, Pegliasco H, et al. Disclosure of prognosis to terminally ill patients: attitudes and practices among French physicians. J Palliat Med 2005;8:280–90.
3. Peretti-Watel P, Bendiane MK, Pegliasco H, Lapiana JM, Favre R, Galinier A, et al. Doctors’ opinions on euthanasia, end of life care, and doctor-patient communication: telephone survey in France. BMJ 2003;327:595–6.
4. Baile WF, Lenzi R, Parker PA, Buckman R, Cohen L. Oncologists’ attitudes toward and practices in giving bad news: an exploratory study. J Clin Oncol 2002;20:2189–96.
5. Ptecek JT, Ptecek JJ, Ellison NM. ‘I’m sorry to tell you . . .’ physicians’ reports of breaking bad news. J Behav Med 2001;24:205–17.
6. Espinosa E, González Barón M, Zamora P, Ordóñez A, Arranz P. Doctors also suffer when giving bad news to cancer patients. Support Care Cancer 1996;4:61–3.
7. Trufeli DC, Bensi CG, Garcia JB, Narahara JL, Abriao MN, Diniz RW, et al. Burnout in cancer professionals: a systematic review and meta-analysis. Eur J Cancer Care 2008;17:524–31.
8. Buckman R. Breaking bad news: why is it still so difficult? Br Med J (Clin Res Ed) 1984;288:1597–9.
9. Friedrichsen M, Milberg A. Concerns about losing control when breaking bad news to terminally ill patients with cancer: physicians perspective. J Palliat Med 2006;9:673–82.
10. Morita T, Akechi T, Ikemasa M, Kizawa Y, Kohara H, Mukaiyama T, et al. Communication about the ending of anticancer treatment and transition to palliative care. Ann Oncol 2004;15:1551–7.
11. Parker PA, Baile WF, de Moor C, Lenzi R, Kudelka AP, Cohen L. Breaking bad news about cancer: patients’ preferences for communication. J Clin Oncol 2001;19:2049–56.
12. Ptecek JT, Ptecek JJ. Patients’ perceptions of receiving bad news about cancer. J Clin Oncol 2001;19:4160–4.
13. Sardell AN, Trierweiler SJ. Disclosing the cancer diagnosis. Procedures that influence patient hopefulness. Cancer 1993;72:3355–65.
14. Schofield PE, Beeeny LJ, Thompson JF, Butow PN, Tattersall MH, Dunn SM. Hearing the bad news of a cancer diagnosis: the Australian melanoma patient’s perspective. Ann Oncol 2001;12:365–71.
15. Baile WF, Buckman R, Lenzi R, Glober G, Beale EA, Kudelka AP. SPIKES-A six-step protocol for delivering bad news: application to the patient with cancer. Oncologist 2000;5:302–11.
16. Balling A, Lorenz KA, Dy SM, Naeim A, Sanati H, Asch SM, et al. Evidence-based recommendations for information and care planning in cancer care. J Clin Oncol 2008;26:3896–902.
17. Fallowfield L, Jenkins V, Farewell V, Saul J, Duffey A, Eves R. Efficacy of a Cancer Research UK communication skills training model for oncologists: a randomised controlled trial. Lancet 2002;359:650–6.
18. Jenkins V, Fallowfield L. Can communication skills training alter physicians’ beliefs and behavior in clinics? J Clin Oncol 2002;20:765–9.
19. Fellowes D, Wilkinson S, Moore P. Communication skills training for health care professionals working with cancer patients, their families and/or carers. Cochrane Database Syst Rev 2003;2:CD003751.
20. Friedrichsen M, Strang PM. Doctors’ strategies when breaking bad news to terminally ill patients. J Palliat Med 2003;6:365–74.
21. Ramírez AJ, Graham J, Richards MA, Cull A, Gregory WM, Leaning MS, et al. Burnout and psychiatric disorder among cancer clinicians. Br J Cancer 1995;71:1263–9.
22. Asai M, Morita T, Akechi T, Sugawara Y, Fujimori M, Akizuki N, et al. Burnout and psychiatric morbidity among physicians engaged in end-of-life care for cancer patients: a cross-sectional nationwide survey in Japan. Psychooncology 2007;16:421–8.
23. Travado L, Grassi L, Gil F, Ventura C, Martins C. Physician-patient communication among Southern European cancer physicians: the influence of psychosocial orientation and burnout. Psychooncology 2005;14:661–70.
24. Ramírez AJ, Graham J, Richards MA, Cull A, Gregory WM. Mental health of hospital consultants: the effects of stress and satisfaction at work. Lancet 1996;347:724–8.
25. Krasner MS, Epstein RM, Beckman H, Suchman AL, Chapman B, Mooney CJ, et al. Association of an educational program in mindful communication with burnout, empathy, and attitudes among primary care physicians. JAMA 2009;302:1284–93.
26. Trufelli DC, Bensi CG, Garcia JB, Narahara JL, Abriao MN, Diniz RW, et al. Burnout in cancer professionals: a systematic review and meta-analysis. Eur J Cancer Care 2008;17:524–31.
27. Fukui S, Ogawa K, Fukui N. A randomized study assessing grams, could alleviate oncologist burden.

...
28. Gysels M, Richardson A, Higginson IJ. Communication training for health professionals who care for patients with cancer: a systematic review of effectiveness. *Support Care Cancer* 2004;12:692–700.

29. Fallowfield L, Lipkin M, Hall A. Teaching senior oncologists communication skills: results from phase I of a comprehensive longitudinal program in the United Kingdom. *J Clin Oncol* 1998;16:1961–8.

30. Wallance JE, Lemarire JB, Ghali WA. Physician wellness: a missing quality indicator. *Lancet* 2009;374:1714–21.

31. Dougherty E, Pierce B, Ma C, Panzarella T, Rodin G, Zimmermann C. Factors associated with work stress and professional satisfaction in oncology staff. *Am J Hosp Palliat Care* 2009;26:105–11.

32. Strong V, Waters R, Hibberd C, Murray G, Wall L, Walker J, et al. Management of depression for people with cancer (SMART oncology): a randomised trial. *Lancet* 2008;372:40–8.

33. Bakitas M, Lyons KD, Hegel MT, Balan S, Brokaw FC, Seville J, et al. Effects of a palliative care intervention on clinical outcomes in patients with advanced cancer: the Project ENABLE II randomized controlled trial. *JAMA* 2009;302:741–9.

34. Zwarenstein M, Goldman J, Reeves S. Interprofessional collaboration: effects of practice-based interventions on professional practice and healthcare outcomes. *Cochrane Database Syst Rev* 2009;3:CD000072.

35. Bruera E, Neumann CM, Gagnon B, Brenneis C, Kneisler P, Selmsr P, et al. Edmonton Regional Palliative Care Program: impact on patterns of terminal cancer care. *CMAJ* 1999;161:290–3.

36. Jordhøy MS, Fayers P, Saltnes T, Ahlner-Elmqvist M, Jannert M, Kaasa S. A palliative-care intervention and death at home: a cluster randomized trial. *Lancet* 2000;356:888–93.