Concealment of Information in Clinical Practice: Is Lying Less Stressful Than Telling the Truth?

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**INTRODUCTION**

Despite international trends toward patient autonomy and shared decision making, concealment of diagnostic or prognostic information from cancer patients is still common in clinical practice.\(^1\)\(^,\)\(^2\) Studies conducted in different countries show that up to 60% of cancer patients are not aware of their diagnoses despite developments in cancer treatments and moves toward patient empowerment.\(^3\)\(^-\)\(^5\) Even in Western medical settings, oncologists are often hesitant to disclose the diagnosis directly, and often censor prognostic information favoring either nondisclosure or a conscious overestimate.\(^6\) In a study conducted in five United States hospices, physicians reported that they would provide frank disclosure of survival estimates only in 37% of cases.\(^7\) Similarly, a survey of 126 Australian cancer patients showed that 87% of physicians gave the prognosis to the family first.\(^8\)

When asked about their reasons for nondisclosure, physicians report that they do it primarily out of respect for the wishes of the family, or concern for the patient’s well-being.\(^9\)\(^,\)\(^10\) However, do the aforementioned reasons adequately explain the concealment practices observed? Fallowfield and Jenkins\(^11\) have suggested that physicians may conceal unpleasant information in an attempt to protect their own emotional well-being as much as the patients’. To date, no study has examined the extent to which physicians might benefit from concealing unpleasant information. In other words, is concealment of bad news less stressful than disclosure? Based on studies showing the beneficial role of perceived control, we hypothesized that concealment of cancer diagnosis would be less stressful than disclosure. To test whether our hypothesis had any empirical validity, we conducted a small experiment examining the emotional and physiological impact of disclosing versus concealing cancer diagnosis.

**EXPERIMENT**

To control for the confounding effects of clinical experience and sex, only male medical students attending preclinical education were included in the experiment. Students were recruited using an advertisement via the medical student newspaper. Students were excluded if they had a history of malignant disease in their immediate family. Of the 94 students who responded to the advertisement, 67 met all inclusion criteria and were invited to participate. The average age was 24 years (standard deviation = 2).

Participants were randomly divided into three groups: concealment, disclosure, and control. Participants in all groups were informed that they would have a 5-minute consultation with a 26-year-old woman with a nonoperable brain tumor and an expected survival time of 2 years. They were also given information about prognosis, treatment, and side effects.

"In the next 5 minutes you will meet Mary, who is coming to get the results of her tests. Mary has originally come to visit you complaining of recurring headaches, which she had attributed to stress. She is 26 years old, recently married, and currently trying for a baby. Her test results have shown an inoperable brain tumor. The suggested treatment is systemic chemotherapy for four to five courses at 4-week intervals. Her expected survival time after treatment is 2 years".

Following that, participants in the disclosure group (n = 22) were instructed to disclose complete information about diagnosis, prognosis, and treatment. In the concealment group (n = 22), participants were instructed to conceal the true diagnosis, but still refer the patient for treatment. Participants in a control group (n = 23) were simply asked to conduct a standardized interview about dietary habits. In all conditions, the same "medical actress" was used. She was given a list of specific questions, and was trained to respond in the same "neutral" way to all conditions, avoiding the display of overt emotional behavior. Consultations were audio recorded.

Psychological stress, and positive and negative mood, were assessed at baseline, after reading the instructions (anticipatory stress), and after the end of the consultation. Perceived threat and perceived control were assessed after reading the instructions (anticipatory appraisals) and after the end of the
consultation. Heart rate was assessed during the consultation in real-time, with recordings acquired from a digital pulse oxymeter measuring heart beats per minute. Psychological stress was assessed using the State Trait Anxiety Inventory.\textsuperscript{13} In addition, positive and negative moods were assessed with the Positive and Negative Affect Scale.\textsuperscript{14} Perceived threat control over the situation were assessed using a six-item Visual Analog Scale, which has been employed in previous studies assessing appraisals of stressful situations.\textsuperscript{15}

Data collection took place in April 2006, on weekdays between 17:00 and 20:00. After signing an informed consent, participants completed the baseline assessments of stress and mood (T1). They were then randomly assigned to one of the study groups. After reading the instructions of their group, they were asked to wait in a different room for 30 minutes. During the anticipation period, the use of mobile phones, electronic music devices, or any reading material was not permitted. After the end of the anticipation period (T2), they completed the measures of stress and mood, as well as the measures of perceived threat and control. They were then shown to the consultation room. Psychological stress, mood, and perceived threat and control were also assessed at the end of the consultation (T3). After the third assessment, a trained clinical psychologist debriefed participants.

Changes in psychological stress and mood were examined using analysis of variance for repeated measurements. Differences in perceived threat and control were assessed using univariate analysis of variance. The average heart rate during the initial 2 minutes of the consultation was compared with the average heart rate during the last 2 minutes of the consultation (total duration of consultation was 5 minutes) using a paired samples t test.

Compared with the control group, there was a significant increase in anxiety in both the concealment and the disclosure group from T1 to T2 (Fig 1). However, in the concealment group, anxiety significantly decreased from T2 to T3 and returned to baseline levels, while in the disclosure group, anxiety levels remained high in T3 ($P = .018$).

Similarly, compared with the control group, a significant increase was observed in negative mood in both experimental groups from T1 to T2 (Fig 2). However, in the concealment group, negative mood significantly decreased from T2 to T3 and returned to baseline levels, while in the disclosure group, negative mood remained high in T3 ($P = .019$).

The opposite pattern emerged for positive mood (Fig 3). Compared with the control group, positive mood significantly decreased in both experimental groups from T1 to T2. However, in the concealment group, positive mood significantly increased from T2 to T3 and returned to baseline levels, while in the disclosure group, positive mood remained decreased in T3 ($P = .002$).

The disclosure and the concealment groups perceived the consultation as significantly more threatening than the control group. This was true for anticipatory ($P = .014$) and postconsultation assessments ($P = .009$). However, the concealment group experienced higher control before ($P = .002$) and after the consultation ($P = .005$), compared with both the disclosure and the control groups.

Finally, in the disclosure and control groups, no difference was observed between heart rate at the beginning and the end of the consultation. However, in the concealment group, heart rate significantly decreased from the beginning to the end of the consultation ($P = .011$). So, the group who concealed the information felt both psychologically and physiologically better, and more in control.

**DISCUSSION**

*Is Concealing Bad News Less Stressful Than Disclosing?*

The results of this small study support the idea that the concealment of cancer diagnosis from patients is less stressful to physicians than its disclosure. Anticipation to consult with a terminally ill patient significantly increased anxiety and negative mood and reduced positive mood, in both the disclosure and the concealment groups. However, concealing the diagnosis during the consultation was associated
with decreased anxiety, decreased negative mood, and increased positive mood. Furthermore, concealing the diagnosis during the consultation was related to reduced sympathetic activity as indicated by heart rate.

The fact that no changes were observed in the control group, in any of the outcome measures, suggests that knowledge alone does not initiate stress. The stress reaction appears to be initiated by the need to interact with patients about their conditions. Although participants in the control group were aware of the patient’s medical condition, they did not have to deal with it since they were simply instructed to conduct a standardized interview about dietary habits. Previous studies have suggested that the stress of delivering bad news begins from the moment the physician becomes aware of the need to provide some diagnostic information, and lasts several days later.16

The results support the notion that anticipating interaction with terminally ill patients about their conditions is stressful, and that concealment helps to reduce the stress experienced. This finding highlights the fact that, in addition to patients’ preferences and family values, physicians’ coping skills and emotional reactions can influence truth-telling in clinical practice. Previous studies have shown that the more grave and distressful the information is, the less likely oncologists are to disclose it.17,18

**Why Is Concealing Bad News Less Stressful Than Disclosing?**

Consistent with our expectation, participants who concealed the diagnosis perceived the consultation as easier to control. This was true for anticipatory as well as postconsultation appraisals. Concealment of bad news may result in physicians feeling more in control of the situation since they do not have to deal with the unpredictability of patients’ reactions. Clinicians rarely feel confident when emotional distress occurs during consultations.12 Even though in this study the simulated patient did not display any overt emotional behavior, participants still perceived that the disclosure of the diagnosis as more stressful than its concealment. Concealing bad news protects the clinicians from having to deal with patients’ or their own emotional reactions, and increases the sense of controlling the outcome of a consultation. In a previous study, physicians perceived the breaking of bad news as involving a risk of losing control in different ways in terms of their emotions, themselves, confidence, professionalism, and patient trust.

**CONCLUSION**

Concealing diagnostic information from terminally ill patients seems to be less stressful than revealing the truth about the diagnosis. The message of this current project is not that disclosure is harmful, but rather that concealment is a response to a perceived stressor. When faced with a fight-or-flight situation, physicians may be likely to choose the option that will most effectively reduce their levels of stress. If the primary reason for physicians to conceal is the short-term benefit of increased control and avoidance of emotional reactions, then this emphasizes that stress management should be an integral part of clinical skills training. Better insight into the motivations for the existing differences in truth-telling practices is needed.

**AUTHORS’ DISCLOSURES OF POTENTIAL CONFLICTS OF INTEREST**

The author(s) indicated no potential conflicts of interest.

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