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The Influence of Audiotapes on Patient Participation in the Cancer Consultation

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This study examined the effect of providing patients with an audiotape of a previous consultation on their level of participation during a subsequent consultation. 117 newly referred medical oncology patients randomised to receive a tape ($n = 63$) or not ($n = 54$) had two linked consultations which were both audiotaped. A content analysis revealed no significant differences between tape and control group in the mean number of questions asked during the second consultation. However, significantly more tape group patients (77%) asked for clarification of at least one piece of information compared to the control group (57%) ($P = 0.04$). A larger number of control group patients (61%) made at least one request for facts already provided in their first consultation compared to tape group patients (39%) ($P = 0.05$). Audiotapes appear to facilitate patients' requests for the clarification of previously given information and permit the re-absorption of complex information given when patients may have been too distressed for it to be assimilated.

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INTRODUCTION

RECENT RESEARCH has revealed that most patients with cancer wish to have as much information as possible about their diagnosis, prognosis and treatment options [1]. In order to acquire this information, it is vital that patients feel able to ask questions. Doing so facilitates the assimilation of knowledge necessary for those patients who wish to participate actively in decisions relating to the management of their disease. Feeling free to ask questions also provides an individual with some means of control over their predicament, and evidence suggests that active patients are more satisfied with their consultations than passive patients [2]. However, there are many factors that deter patients from asking questions, including discouraging behaviour from clinicians and patient anxiety. Reluctance to ask questions means that many patients leave their consultation uncertain of diagnosis and prognosis, unsure about the need for further diagnostic tests and wanting more information [3–5].

Various intervention techniques have been devised to encourage patients to ask more questions concerning their illness and treatment. For example, in one randomised controlled trial, conducted by Roter [2], the intervention was a 10-min session

with a health educator. Patient and health educator worked through a question-asking protocol to identify salient questions pertaining to the patient's medical condition. A content analysis of the 123 general practice consultations, audiotaped during the study, revealed that patients in the intervention group asked more direct questions and were more satisfied than those in the control group. Greenfield and colleagues [6] developed an intervention which involved coaching peptic ulcer patients to ask questions during regularly scheduled visits to an outpatient clinic. Patients were randomised to either the intervention group or a standard educational session. Content analysis of audiotapes of the 45 doctor–patient interactions showed that, although experimental group patients asked 25% more questions than control group patients, this was not statistically significant. However, the ratio of patient-to-physician utterances (an indicator of patient talk relative to the physician) in the experimental group was significantly higher (48%) than in the control group after the intervention. Neufeld and associates [7] developed an intervention strategy to foster patient involvement in breast/gynaecological cancer treatment decisions. The strategy involved assessing to what extent patients wanted to participate, helping them to identify questions and supporting them in obtaining the information they wanted. The method was incorporated successfully into a busy oncology clinic schedule. Recently, in

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another randomised study, Butow and colleagues [8] assessed the effect of a question prompt sheet versus a general information sheet. Consultations of 142 patients with cancer were content coded, and it was found that the question prompt sheet did not influence the total number of questions asked overall, but had a significant effect on the number of questions asked specifically concerning prognosis. Thirty-five per cent of those in the experimental group asked questions about prognosis compared to 16% of those receiving the information hand-out. The authors concluded that the question prompt sheet had a limited but important effect on patient question-asking behaviour in the cancer consultation.

The study reported in this paper was part of a larger project designed to test the psychological benefits of giving audiotapes to patients with cancer [9]. The effect that provision of an audiotape of a previous consultation had on patient participation in a subsequent cancer consultation was explored. The major hypotheses tested were:

1. Those patients provided with a tape of their first consultation would ask more questions based on the information already given to them and be more active in seeking clarification of this information (i.e. requesting further explanation) than those not receiving a tape.
2. Tape group patients would feel more 'empowered' and the ratio of patient-to-doctor talk in their second consultation would be higher than on their first visit, compared to patients not receiving a tape.

An investigation of patients' psychological state, sex, age and prognostic group in relation to their interaction behaviours was also carried out.

PATIENTS AND METHODS

The subjects were 117 cancer patients newly referred to a medical oncology department at a university teaching hospital [9]. Inclusion criteria were: newly diagnosed patients receiving 'primary bad news' of the diagnosis itself; patients with an established diagnosis in whom initial treatment had so far been unsuccessful ('secondary bad news'); age between 21 and 75 years; English speaking; and no primary or secondary brain disease. Table 1 shows the sample characteristics. A diverse range of cancer diagnoses was included: gestational trophoblastic disease (GTD) (27.4%), testicular cancer (17.1%), breast cancer (12.8%), cancer of the bowel (6%) and cancer of the ovary (5.1%). Other diagnoses comprised 32.2% of the sample. Those

Table 1. Sample characteristics

Patient group	Tape group	Control group
Mean age (years)	45 (S.D. 15.8)	44 (S.D. 17.7)
Male	37%	46%
Female	64%	54%
Age (years)		
21–39	46%	52%
40–59	27%	17%
60–75	27%	32%
Married/cohabiting	71%	72%
No partner	29%	28%
Good prognosis	48%	50%
Poor prognosis	52%	50%

with good prognosis tumours, e.g. GTD, germ cell tumours and lymphomas, had a cure rate of more than 70%. Poor prognosis group tumours included 'high risk' cancers, i.e. node-positive, postoperative breast carcinoma and metastasised solid tumours. Patients gave written informed consent before entering the study.

In line with departmental practice, patients had two linked consultations with one of five clinicians (three consultants and two senior registrars). The second visit took place, on average, 1 month after the first. Both consultations involved the provision of information concerning diagnosis, treatment and prognosis.

Immediately prior to the first consultation, demographic data were collected and baseline measures of psychological morbidity were made. For this assessment, two instruments were administered: the General Health Questionnaire 30-item version (GHQ-30) [10] and the 14-item Hospital Anxiety and Depression Scale (HADS) [11]. These questionnaires were re-administered immediately prior to the second interview. Each patient was allocated to a tape group or no-tape (control) group by the Cancer Research Campaign Clinical Trials Centre (Kings College, London, U.K.). After both consultations, those patients randomised to the experimental group were given a copy of their audiotaped interview and encouraged to listen to it at home. Cassette players were provided if needed. The original audiotapes for both control and tape group patients were retained for subsequent analysis.

Content analysis of consultation tapes

Analysis of the consultation tapes was conducted using the Roter Interaction Analysis System (RIAS). This is a well documented and widely used system in the U.S.A. [12, 13] and The Netherlands [14]. Each discernable segment of speech known as a verbal utterance is the unit of analysis. Every utterance was coded into one of 34 mutually exclusive content categories. These categories are subdivided into two main types of behaviours for both doctors and patients: affective exchange (e.g. showing concern, giving reassurance, showing approval) and task-focused exchange (e.g. giving information, asking questions, giving instructions—clinician only). The categories of interest in this study were patients' questions relating to their medical condition, treatment and side-effects, patients' partnership building statements and emotional responsiveness, requests for clarification of previous information and statements and questions regarding lifestyle/psychosocial issues.

One researcher coded and analysed the original tapes and a random sample of 10% (n = 20) was double-coded by a second trained coder to assess intercoder reliability. Pearson correlation coefficients between the two coders were calculated for all categories with a mean frequency greater than 2. The overall average correlation was 0.78. Clinician categories had a mean correlation of 0.77 (range 0.60–0.92) and the average correlation for patient categories was 0.80 (range 0.46–0.92). These levels are similar to those reported by other researchers using RIAS [14, 15, 22] which are detailed elsewhere [16].

RESULTS

At baseline, there were no significant differences between tape and control groups in terms of age, sex and prognostic group. A total of 117 patients were recruited and randomised to either the tape or no tape group. After randomisation, 63 patients comprised the tape group and 54 the control group. However, during the first consultation there were four tape failures (three in the tape group and one in the control group). Eighteen sets of

data were also unavailable for the second consultation. This was mostly due to patient attrition: in the tape group 2 patients died, 4 refused to remain in the study, 2 were not re-interviewed (requiring no more treatment), 1 developed brain disease and there were three tape failures. Of the control group, 2 died, 3 required no more treatment and there was one tape failure. This left 48 patients in the tape group and 47 in the control group. There were no significant differences between tape and control groups in average length of consultation (30 min for both groups for the first consultation and 15 min for tape and 13 min for control group for the second consultation). 40 (83%) of the 48 tape group patients reported listening to the recording of their first consultation at least once.

The number of probable cases of psychiatric disorder, as measured by the GHQ-30 and HADS, are shown in Table 2. A GHQ-30 threshold score of 11, considered appropriate in physically ill patients [10, 17], was used to detect probable cases of psychiatric disorder and a HADS cut-off point of 10 was used to calculate probable cases of anxiety and depression [11]. There were no significant differences in numbers of probable cases of psychiatric disorder between tape and control groups.

No significant differences were found in the mean number of questions asked (across all topics) between tape and control groups either during the first or second consultation. The mean number of questions at the first consultation were: tape group 8.9 (S.D. 7.0), control group 7.3 (S.D. 7.3); at the second consultation they were: tape group 6.4 (S.D. 5.3), control group 6.0 (S.D. 5.7). During the second consultation, there were 5 control and 4 tape group patients who asked no questions at all. However, at least once during the second consultation 77% of those who received a tape asked for clarification/expansion of specific details they were unsure about compared with 57% of the control group ($\chi^2 = 4.1$, $P = 0.04$). There were no other significant differences between the numbers of tape and control group patients who asked at least one specific question (see Table 3). During their second consultation, 61% of control group patients requested information (all topics) regarding facts already supplied to them in their first consultation compared to 39% of tape group patients ($\chi^2 = 3.7$, $P = 0.05$).

Univariate analysis was carried out to test for differences between the numbers of patients who asked at least one question according to sex, age group, prognosis and anxiety (measured by the HADS). Eighty per cent of males asked at least one question concerning their medical condition compared to 59% of females ($\chi^2 = 4.8$, $P = 0.02$). Twenty-five per cent of 'non-cases' of anxiety asked at least one 'side-effect question' com-

pared to 5% of probable cases (Fisher's exact $P < 0.04$). The influence of HADS depression was not tested as the number of probable cases was very low (8 at first consultation and 6 at second consultation). There were no significant differences for either age or prognostic group.

Wilcoxon rank sum tests were carried out to examine possible differences between patient characteristics and mean number of all 'biomedical questions' asked by patients during both consultations (included were questions concerning the medical condition plus those relating to treatment and side-effects). No significant differences were found for any of these variables during the first consultation. During the second, males asked significantly more questions than females ($Z = -2.8$, $P < 0.01$). During the first consultation, 5.4% of patients' utterances were questions. This increased to 8.7% during the second consultation. The average number of questions for all categories was 7.5 during the first consultation and 6.1 for the second consultation.

Further analyses were carried out to examine variations in levels of psychosocial/lifestyle utterances (including questions asked and information offered), partnership building statements (checking for understanding and paraphrasing the other's previous statements) and emotional responsiveness (statements of concern and reassurance seeking). These results are shown in Table 4. During the first consultation, men engaged in significantly more psychosocial/lifestyle discussion than women ($Z = -2.7$, $P < 0.01$). This was biased towards lifestyle rather than psychosocial issues. Patients aged between 60 and 75 years showed more concern and sought more reassurance than those in the 21–39 years age group ($Z = -2.06$, $P < 0.05$). These patients also displayed more partnership building behaviour ($Z = -3.8$, $P < 0.001$). More partnership building behaviour was also shown by poor prognosis compared to good prognosis patients ($Z = -3.1$, $P < 0.01$), non-anxiety cases versus probable cases ($Z = -2.4$, $P < 0.05$) and 'non-cases' over probable cases on the GHQ-30 ($Z = -2.5$, $P < 0.05$). There were no other statistically significant effects at baseline and these disappeared at the second consultation. During the second consultation, those patients who qualified as probable cases on the GHQ-30 and HADS anxiety engaged in more psychosocial/lifestyle exchange than 'non-cases' ($Z = -1.9$, $P < 0.05$; $Z = -2.1$, $P < 0.01$, respectively). There were no other differences between patient characteristics and interaction behaviours during the second consultation.

Multiple stepwise regression analyses were performed to explore predictors of the above patient behaviours. Most of the

Table 2. Numbers of probable cases of psychological morbidity—tape versus control group

	Tape group		Control group	
	% Non-cases	% Cases	% Non-cases	% Cases
Consultation 1				
GHQ-30	70	30	70	30
HADS anxiety	71	29	78	22
HADS depression	94	6	93	7
Consultation 2				
GHQ-30	80	20	76	24
HADS anxiety	79	21	82	18
HADS depression	96	4	92	8

Table 3. *Median number and categories of questions asked by tape group versus control group*

Question categories	Tape group		Control group	
	% Asking	Median	% Asking	Median
Consultation 1				
Medical condition	77	4	70	3
Treatment	78	4	86	4
Side-effects	23	1	19	2
Lifestyle/psychosocial	31	2	25	2
Clarification	80	3	76	3
Consultation 2				
Medical condition	51	3	50	3
Treatment	52	3	47	3
Side-effects	25	2	17	2
Lifestyle/psychosocial	17	1	9	1
Clarification	77*	2	57	2

$^*P = 0.04.$

Table 4. *Mean number and ranges of responses by different patient groups*

	(n)	Biomedical questions		Lifestyle/psychosocial		Emotional responsiveness		Partnership building	
		Mean	Range	Mean	Range	Mean	Range	Mean	Range
Consultation 1									
Age 21–39 years	(56)	3.7	0–20	7.3	0–115	2.7	0–22	3.1	0–23
Age 40–59 years	(24)	3.6	0–14	6.7	0–36	3.6	0–19	3.7	0–10
Age 60–75 years	(33)	2.5	0–09	7.3	0–39	5.3*	0–27	4.7‡	1–24
Female	(66)	3.2	0–20	5.6	0–36	1.5	0–14	3.1	0–23
Male	(47)	3.4	0–16	9.4†	0–115	1.4	0–14	4.5	0–24
Good prognosis	(55)	3.9	0–20	7.5	0–115	1.2	0–12	3.2	0–23
Poor prognosis	(58)	2.8	0–11	6.8	0–39	1.7	0–14	4.1†	0–08
GHQ-30 non-cases	(78)	3.7	0–20	7.4	0–115	1.3	0–14	4.3†	0–24
GHQ-30 probable cases	(35)	2.4	0–16	6.6	0–29	1.8	0–14	2.3	0–11
Anxiety non-cases	(83)	3.3	0–20	6.2	0–39	1.3	0–14	4.1*	0–24
Anxiety probable cases	(30)	3.2	0–15	9.6	0–115	1.9	0–12	2.5	0–11
Consultation 2									
Age 21–39 years	(52)	2.3	0–11	3.4	0–14	3.0	0–15	1.6	0–11
Age 40–59 years	(21)	2.8	0–15	3.1	0–09	3.4	0–20	2.3	0–08
Age 60–75 years	(22)	2.3	0–10	4.7	0–27	3.6	0–13	3.2	0–15
Female	(54)	1.9	0–15	4.0	0–27	3.3	0–15	2.1	0–08
Male	(41)	3.1†	0–10	3.2	0–15	3.2	0–20	2.3	0–15
Good prognosis	(53)	2.5	0–11	3.4	0–14	3.6	0–20	1.9	0–11
Poor prognosis	(42)	2.4	0–15	4.0	0–27	2.7	0–12	2.5	0–08
GHQ-30 non-cases	(72)	2.3	0–15	2.9	0–15	3.2	0–20	2.3	0–13
GHQ-30 probable cases	(21)	2.7	0–11	6.0*	0–27	3.2	0–15	1.2	0–06
Anxiety non-cases	(75)	2.4	0–15	2.8	0–15	3.1	0–20	2.3	0–15
Anxiety probable cases	(19)	2.3	0–11	7.1†	0–27	3.6	0–15	1.7	0–06

$^*P < 0.05. \dagger P < 0.01. \ddagger P < 0.001.$

significant results found in the previous Wilcoxon analyses disappeared. Age was predictive of emotional responsiveness during the first consultation ($P < 0.01$, variance 4%) and partnership building at the second consultation ($P = 0.02$, variance 4%). High GHQ-30 scores were also predictive of partnership building behaviour during the first consultation ($P = 0.02$, variance 3%). Patients in the 60–75 years age bracket sought more reassurance and expressed more concerns and offered more partnership building behaviour. Those patients who were classified as probable cases on the GHQ-30 showed less partnership building behaviour, i.e. they checked for understanding and paraphrased less.

A ratio of patient versus clinicial talk was calculated for control and tape groups for both consultations. This is obtained by dividing total patient utterances by total clinicial utterances. During the first consultation this ratio was 0.90 for the tape group and 0.92 for the control group. This ratio increased by 21% to 1.14 for the tape group and by 5% to 0.97 for the control group. An independent t-test found that the difference between these two ratios (0.17) was not significant, but the change for the tape group from the first to the second consultation was significant ($\Delta = 0.24, t = -2.0, P < 0.05$). This indicates that tape group patients were generally more talkative during their second consultation as they uttered more than clinicians, unlike control group patients who still spoke slightly less than clinicians.

DISCUSSION

The provision of an audiotaped consultation had no significant effect on patients' behaviour in terms of increasing the numbers of questions they asked. However, 77% of patients who received a tape asked for clarification of information (i.e. a clearer explanation of previous details) at least once compared to 57% of control group patients. As predicted, the ratio of patient/ physician talk was significantly higher for tape group patients in the second consultation. This suggests that, although the number of questions from patients who received a tape did not increase after the intervention, they still became more 'empowered' during their second consultation and overall uttered more in relation to their clinicians.

One explanation for the lack of a significant increase in patient question-asking in this study, is that by listening to their tapes and refreshing their memories with some of the details which they may have forgotten after the consultation, tape group patients had less need to ask questions. This idea is supported by the fact that a greater number of control group patients (61 versus 39%) made at least one request for details which they had already been told in their first consultation. Furthermore, there is evidence to suggest that distressing information (such as that delivered in a 'bad news' cancer consultation) is often poorly registered [18]. Previous studies, including our own [9], have reported that tapes have a positive effect on information recall. North and colleagues [19] demonstrated an increase in information retention in tape group patients, and Hogbin and colleagues [20] found the provision of a tape recording gave patients a better understanding of their treatment. In our original study [9], tape group patients correctly recalled more of the facts they had been given in their cancer consultations than controls. This was significant for five main categories of information: tests and results, name of treatment, other treatments, side-effects and instructions about self-care. This would also explain why tape group patients were more talkative during the second consultation as they had the benefit of being able to mentally refer to more of the details discussed in their first consultation.

Previous studies have reported that younger patients [8] and females [21] ask more questions. This study does not support these findings. There appear to be no reports of the relationship between patients' psychological state and their interaction behaviour other than Butow and associates [8] who found no relationship between the number of questions patients asked and their psychological health. In the current study, there were differences in the numbers of patients who asked at least one question in a specific category. Twenty-five per cent of 'non-anxious' patients asked at least one 'side-effect question' compared to 5% of probable HADS anxiety cases. Eighty per cent of

males asked at least one question relating to their medical condition compared to 59% of women. Univariate predictive effects were found for sex and psychosocial/lifestyle, diagnostic group, anxiety and partnership building behaviour. However, these were not significant in the multivariate analyses. Significant multivariate effects were found for older patients and those classified as probable 'cases' of psychiatric disorder. Patients aged between 60–75 years sought more reassurance, expressed more concerns and showed more partnership building behaviour. Those classified as probable 'cases' on the GHQ-30 showed less partnership building behaviour.

In our main paper [9], we reported that 6 months after the first consultation, there was no difference between the tape and control group in terms of psychological health (as measured by the GHQ-30 and HADS). On the basis of this finding, we have no grounds for supposing that patient 'empowerment' during a consultation enhances psychological well-being. We, and others [20], have also provided evidence which suggests that whilst audiotapes improve information recall and are found helpful by patients, issuing them to patients with a poor prognosis who use repressive coping strategies, such as cognitive distraction, may actually be detrimental to psychological health. Re-exposure to distressing information may interfere with an individual's ability to employ such adaptive strategies thus increasing distress. For this reason, audiotapes should not be issued routinely to patients with a poor prognosis without closer scrutiny of their methods of coping.

However, the results from this study show that by re-informing patients of facts which they had either forgotten or not absorbed, audiotapes had two main beneficial effects on patient interaction behaviour. Firstly, the number of requests made by patients for previously supplied information was reduced and secondly, they were reminded of details needing further clarification which had not been clearly understood during an emotionally charged consultation.

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