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Original Research

How do patients experience their participation in medical lessons? – a study of patients with tobacco-related diseases taking part in a lecture on smoking prevention to younger adolescents

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ABSTRACT

Patient participation is common in lectures on medical topics. However, very little is known about the impact of the lecture on the participating patient. We evaluated the psychological effects on patients with tobacco-related diseases of being interviewed in a lecture on smoking prevention given to 6th to 8th grade students by using a multiple-choice questionnaire. We found a high level of satisfaction with participating in a lecture and a low level of pre-lesson anxiety in our patients. A preparatory talk between interviewer and patient was rated as important by most of the patients. A high proportion of the patients felt that it was the right decision to participate and that they would participate again. Participation in a medical lesson may be a vulnerable moment for the patient where feelings of protection and safety provided by the interviewer are very important. In a preparatory talk a trusting atmosphere should be created in order to increase the willingness of the patient to offer personal information. Furthermore the assurance of protection against embarrassing questions is an essential part of the interviewer's role.

INTRODUCTION

Patient participation is very common in clinical training of medical students. It is widely recognized that direct patient contact is important for an optimal medical training in addition to the knowledge gained from textbook learning. Patients usually participate in direct patient-student contact in various forms of bedside teaching. In most medical schools patient participation in medical training is not restricted to the patient's room. Patients may be exposed to a large number of students during interviews or presentations, for example in lecture halls. In addition, patient participation in lectures is not restricted only to clinical training of medical students. In Germany several hospitals, mainly University Medical Centers have implemented lectures on smoking prevention to high school students on a regular schedule [1-3].

In clinical practice patients are usually informed about the contents of the lecture they participate in and are asked to give their consent.

The 2005 report of the National Audit Office 'Tackling cancer: improving the patient journey' introduces the section on hospital care as follows: "When patients enter hospital they rightly expect to be treated with dignity and respect and to be involved in decisions about their treatment and care" [4]. In primary care,

past experience of cooperation and expectation of continuing care from the physician have been found to be predictors of patient trust, and may influence the value of longitudinal aspects of the physician–patient relationship [5]. If a patient feels forced by a physician to talk about private things, it may have a detrimental effect on the therapeutic alliance. It also may influence adherence to treatment or general health behaviors such as smoking.

In isolated cases we were confronted with ethical concerns by teachers whether to integrate patients into the lecture. Little is known about the psychological or ethical consequences for patients participating in a medical lesson or the influence of participation on patients' general condition, especially in those patients with severe diseases. Therefore we evaluated the psychological effect on patients with tobacco-related diseases being interviewed in a lecture on smoking prevention given to 6th to 8th grade students (*see Patients and Methods*). On the basis of our experience in a high number of previous lectures we hypothesized that

- Participation in a lecture does not result in deterioration of patients' mood or mental state
- Patients do not experience a violation of privacy caused by the interviewer or the audience
- Patients may meet a need for sharing their experiences to adolescents
- Preparation and guidance of the patient by the interviewer is an important part for problem-focused coping

The study has been approved by the ethical committee of the University Medical Center Freiburg.

PATIENTS AND METHODS

Between January 2010 and July 2011, 6th to 8th grade students (in general age 11-13) were invited to attend lectures on smoking prevention at the University Medical Center Freiburg, Germany. In this time 29 lectures were held, with an average attendance of 118 students (maximum 150). The duration of each lecture was 2.5 hours including breaks.

The lecture included a number of presentations on general aspects of smoking (e.g. epidemiology, tobacco contents, advertising), tobacco related diseases and aspects of addiction. The lecture also included short films as well as small live behavioral experiments. At the end of the lecture a patient with tobacco-related disease was presented to the students and interviewed by the lecturer. During the 20-30 minute interview students had the opportunity to ask questions to the patients. The lecturer was a physician or psychologist not involved in the regular treatment of the participating patient. Questions followed a guideline and generally focused on the smoking career of the patient. Typical questions by the lecturer were:

When did you start smoking?

Who offered you your first cigarette?

Did your friends smoke?

What did your parents know about it?

How long have you smoked/did you smoke?

Specific questions on their underlying disease were discussed with the patient before the lecture and the patient was asked for his/her consent to be asked about the disease during the interview. The patient was informed that he can always refuse to answer specific questions posed by either the students or the lecturer. The patient could also stop the interview at any time.

Patients were recruited from the University Medical Center Freiburg, Germany. All patients had a past or ongoing history of tobacco addiction and an underlying tobacco related disease, and most of the patients suffering from carcinoma of the lung. Two days before the lecture patients were asked for their consent to participate in the lecture and to complete a questionnaire after the lecture.

The day before the lecture, the patient was visited by the interviewing physician or psychologist to explain what would happen during the lecture. On the day patients were accompanied to and from the lecture hall by hospital personnel.

Following the lecture, patients were asked to fill in a questionnaire consisting of multiple choice questions, yes/no questions or questions rated on a Likert scale (Table 1). Questionnaires were filled in anonymously, with no personal data included. The questionnaire was administered by an independent person involved in neither the lecture nor the interview, in order to avoid biased answers due to a possible personal relationship between patient and interviewer.

RESULTS

Pre-Intervention

Twenty-one patients participated in the 29 lectures, with 4 patients participating more than once. Nineteen patients returned the questionnaire, a return rate of 90.5%.

Patients were 60.7 (31-72, SD 11.1) years old on average, and 57.9% were male. Most (88.9%) of the patients had no or little experience with lectures. All but one (18/19) explained that delivering a message to

the young people was the main reason that they agreed to take part in the lecture (Fig. 1).

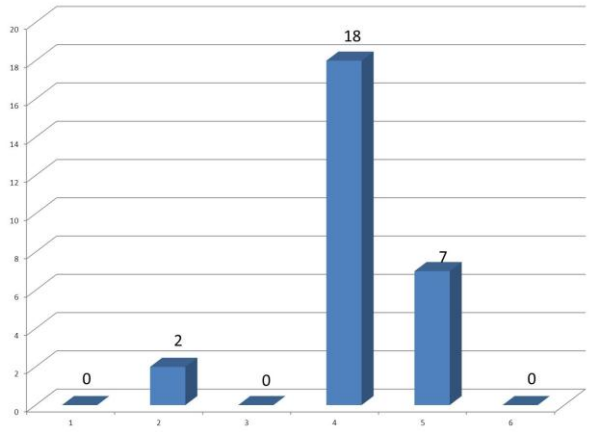

Figure 1. What were the main reasons for your participation?

1) I was persuaded to do so
2) I wanted to do the doctor a favor I was worried about negative consequences in case I refused to participate
3) I wanted to deliver a message to the young people
4) I was interested in the topic of the lecture
5) Other reasons

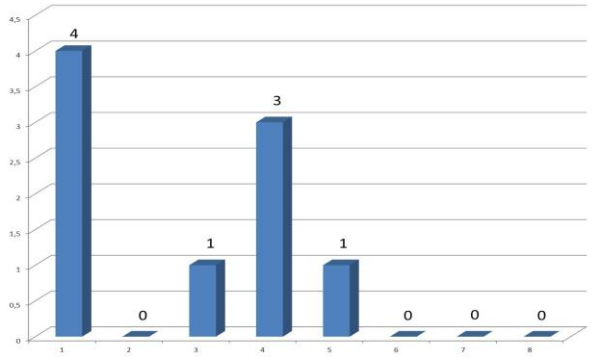

Figure 2. What was the main reason you were afraid of participating in the lecture?

1) The large crowd
2) Embarrassing questions/ to be shown up
3) Having to talk about my disease
4) Not being able to give good enough answers
5) Not being able to understand the questions/to be asked too difficult questions
6) Physical distress during the lecture
7) Not being able to say anything during the lecture
8) Other reasons

Patients' degree of anxiety associated with taking part in the lecture was rated on a six-point Likert scale. Almost two-thirds (63.2%) of the patients had no fear of taking part in the lecture. Two patients said they were very much afraid of taking part in the lecture (Table 1a)

When asked what the reasons were for their anxiety, most of the patients reported fear of the large crowd or fear of not being able to give good enough answers (Fig. 2).

Patients were asked to rate the importance of the preparatory talk with the interviewer that occurred 1 day before the lecture. Most patients (88.8%) rated its importance between 3 and 5, on a six-point Likert scale (Table 1b). When asked what important information they received from the preparatory talk, all patients checked "Information on content and course of action". However, a large proportion of patients gave more than one reason why the preparatory talk was of importance to them (Fig. 3).

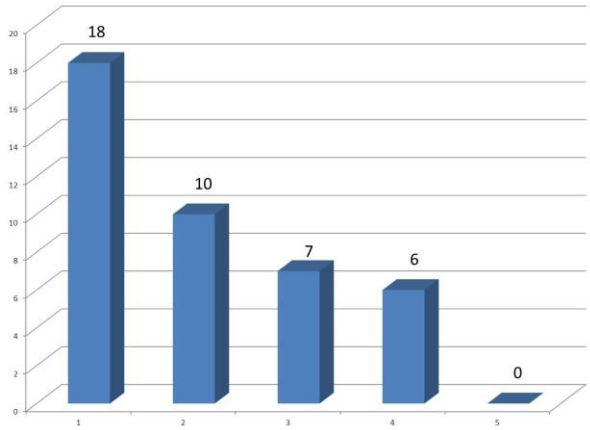

Figure 3. Which of the following information from the preparatory talk was important to you?

1) Information on content and course of action
2) Personal contact with the Interviewer
3) Assurance that questions can be refused during the interview
4) Assurance that I would not be left by myself during the interview
5) Other reasons

Patients were asked to rate on a six-point Likert scale to what degree the preparatory talk gave them certainty about the upcoming lecture. Two-thirds (64.7%) rated this as 4-5 on the six-point Likert scale, and no patients rated it as 0-1, indicating that the preparatory talk provided at least some degree of certainty to all of the patients (Table 1c)

Patient experiences during the lecture

To evaluate the physical distress associated with the lecture, patients were asked to rate on a six-point Likert scale to what degree they were exhausted by the lecture. Half of the patients did not find the lecture to be exhausting at all, and the other half rated it only slightly exhausting (between 1 and 3 on the scale, Table 1d). Most patients found the 20-30 minute

interview to be rather short; none of the patients found it too long for them (Table 1i). All but one patient found the interviewer's questions 'not at all' displeasing or embarrassing, with the other rating this item as 1 on the six-point Likert scale (Table 1e). Although a few patients found that they received embarrassing questions from the audience (Table 1h), none refused to answer a question during any of the interviews. On the important question of whether patients felt that their privacy was protected by the interviewer, almost all (94.4%) rated this as 4 or 5 (very much) (Table 1g).

Patients were asked whether the questions of the interviewer were easy or difficult to understand. Most (88.9%) found the questions easy to understand (scale 0-1, Table 1j). Most patients agreed that they had enough opportunity to talk about themselves, with 'Very much – 5' the most frequent response on the 6-point Likert scale (Table 1f).

Although up to 150 students attended each lecture, none of the patients indicated that the session was too loud (mean value of 1.28 on the 6-point scale; Table 1l). No patients reported significant difficulties understanding the audience's questions (Table 1k). Patients also typically felt that the audience seemed to be interested in their problem or their story; all patients rated this item 3 or above on the 6-point scale, with a mean value of 4.5.

Table 1. Questions on a six-point Likert scale on patient's expectations and experience before and during the lesson

	0 = not at all (%)	**1 (%)**	**2 (%)**	**3 (%)**	**4 (%)**	**5 = very much (%)**	**Mean value**
a) Were you afraid to take part in the lecture? (n=18)	63.2	21.1	10.5	0	0	5.3	0.68 (± 1.25)
b) How much did the preparatory talk help you? (n=18)	5.6	5.6	0	27.8	16.7	44.4	3.78 (±1.48).
c) To what extent did the preparatory talk give you certainty about the lecture? (n=17)	0	0	0	17.6	35.5	29.4	3.76 (±1.09)
d) Did you find the lecture exhausting? (n=18)	50	16.7	11.1	22.2	0	0	1.06 (±1.26)
e) Did you find the questions of the interviewer displeasing or embarrassing? (n=18)	94.4	5.6	0	0	0	0	0.06 (±0.24).
f) Did you get the opportunity to talk about yourself? (n=18)	0	5.6	5.6	11.1	33.3	44.5	4.06 (±1.16).
g) Did you feel your privacy was protected by the interviewer? (n=18)	0	5.6	0	0	27.8	66.7	4.5 (±0.99)
h) Did you get embarrassing questions from the audience? (n=18)	77.8	16.7	0	5.6	0	0	0.33 (±0.77)
	0 = too long (%)	**1 (%)**	**2 (%)**	**3 (%)**	**4 (%)**	**5 = too short (%)**	
i) How did you find the timing of the interview? (n=18)	11.1	22.2	50	16.7	0	0	1.72 (±0.89)
	0 = very easy to understand (%)	1 (%)	2 (%)	3 (%)	4 (%)	5 = very difficult to understand (%)	
j) Were the questions by the interviewer expressed in a way you could understand? (n=18)	72.2	16.7	0	5.6	0	5.6	0.61 (±1.33).
k) Were the questions by the audience expressed in a way you could understand? (n=18)	66.7	33.3	0	0	0	0	0.33 (±0.49)
	0 = too soft (%)	**1 (%)**	**2 (%)**	**3 (%)**	**4 (%)**	**5 = too loud (%)**	
l) How do you rate the volume of the session? (n=18)	38.9	16.7	22.2	22.2	0	0	1.28 (±1.23)
	0 = not at all interested (%)	**1 (%)**	**2 (%)**	**3 (%)**	**4 (%)**	**5 = interested very much (%)**	
m) How would you rate the interest of the audience in your problem? (n=18)	0	0	0	11.1	33.3	44.4	4.5 (±0.71)

Feedback on feelings about the lecture

Post-lecture, patients were asked to rate their feelings about the lecture on bipolar items on a scale from 1 to 5. Most patients reported positive feelings after the lecture when asked about exhaustion, sadness, satisfaction or pride (Table 2)

We asked the general question of whether patients believed that they felt better or worse after participation in the lecture (0=much worse, 5=much better). None of the patients rated this item between 0-2, and the mean value was 3.81 (±0.91), indicating that the interview had an overall positive effect on the patients (Fig. 4).

Patients were asked to rate on a 6-point Likert scale whether they personally felt that they did a good job. Most (82.4%) rated this as 4-5, with no patients rating this item as less than three (Table 3a). In addition, most of the patients considered it very important to hear that the interviewer was satisfied with their participation (Table 3b).

Since the focus of the event was to deliver a message to young people not to start smoking, patients were specifically asked about the importance of their participation. Most patients felt it very important to deliver this message to the students (Table 3c) and rated the importance of their participation in the lesson highly (Table 3d). Most of the patients felt that they had made the right decision to participate in the interview with a mean value of 4.88 (Table 3f).

However, when asked whether they would again participate in the interview (yes/no), 83.3% (16/19) indicated that they would. When asked to comment on why they would or would not participate again, 5 patients declined to comment. Patients noted that they hoped to help the students with the interviews, felt that it is important to enlighten students on the health risks of smoking or that the description of personal experience would add to theoretical knowledge. Four patients noted that it was fun for them to participate in the interview. Patients who indicated that they would not participate again said that the lecture was too far from home, and simply that they found that "they told everything they know".

Table 2. Questioning the patient: How did you feel after the session?

	0 (%)	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)		Mean value
exhausted (n=15)	6.7	0	13.3	33.3	33.3	13.4	active/energetic	3.27 (±1.28)
sad (n=12)	8.3	0	8.3	50	8.3	25	happy	3.25 (±1.42)
dissatisfied (n=17)	0	11.8	0	0	29.4	58.8	satisfied	4.24 (±1.30)
disappointed (n=13)	15.4	0	0	30.8	38.5	15.4	proud	3.23 (±1.59)

Table 3. Questions on a six-point Likert scale on patient's expectations and experience after the lesson

	0 = not at all (%)	1 (%)	2 (%)	3 (%)	4 (%)	5 = very much (%)	Mean value
a) Do you feel you did a good job? (n=17)	0	0	0	17.6	42.1	42.1	4.24 (±0.75)
b) How important was it for you to hear from the interviewer that he was satisfied with your participation? (n=17)	0	0	0	11.8	23.5	64.7	4.53 (±0.72)
c) How important was it for you to deliver a message to the students? (n=17)	0	0	0	0	11.8	88.2	4.88 (±0.33).
d) How important do you feel your own participation was for the audience? (n=15)	0	0	0	20	26.7	53.3	4.33 (±0.44)
e) Did you like participating in the interview? (n=17)	0	0	0	0	23.5	76.5	4.76 (±0.44)
f) Do you feel it was the right decision to participate in the interview? (n=17)	0	0	0	0	11.8	88.2	4.88 (±0.33)

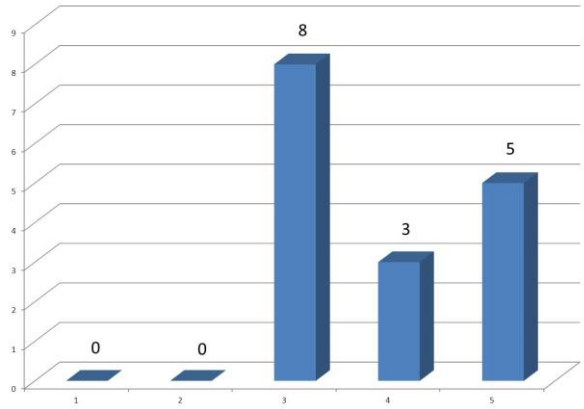

Figure 4. Do you think you feel better or worse because of having participated in the interview?

0 = much worse, 5 = much better

DISCUSSION

The principal aim of the investigation was to evaluate experiences of patients with a tobacco related disease who were interviewed as part of a medical lecture on harms of smoking attended by up to 150 students. We found a high level of satisfaction with participating in a lecture. Most patients felt happy, satisfied and proud after the lecture. A high proportion of the patients felt that it was the right decision to participate and that they would participate again.

Although stage-fright is a common problem even among those experienced in speaking in front of a large audience [6], we found a low level of pre-lesson anxiety in our patients. Patients were asked to talk about private things in front of a large crowd of young people and therefore had to face potentially unexpected or embarrassing questions. Patients reported that either the large crowd or not being able to give good enough answers were the main reasons to be worried before participating in the interview. However, after the interview few patients found that they had been asked embarrassing questions by the audience. Moreover, patients found that their privacy was protected by the interviewer, and found it helpful to know that they may refuse to answer any question if they wished.

All of the patients were prepared in a preparatory one-on-one talk with the interviewer. The influence of interactions between doctors and patients on patients' behavior and well-being has been widely described [7,8]. Good doctor-patient communication may help regulate patients' emotions and allow for better identification of patients' needs, perceptions and expectations [9,10]. However, doctors often overestimate their communication skills. Studies have demonstrated patient discontent even when many doctors considered the communication adequate or even excellent [11,12]. Good communication skills practiced by doctors allow patients to perceive themselves as a full participant during discussions relating to their health [13], a patient-centered liaison results in better patient satisfaction [14].

In contrast, doctors' avoidance behavior may result in patients being unwilling to disclose problems [15]. Patient satisfaction can be achieved through a low discrepancy between expectations and experience. Therefore expectations should be met or even exceeded [16,17]. A preparatory talk may help to ensure patients' expectations about what will happen during the lecture are realistic, thus leaving the patient satisfied with the outcome. In this context the preparatory talk between interviewer and patient was rated as important by most of the patients.

Besides the personal contact with the interviewer, providing information about the content of the lesson and what would happen were also important features of the preparatory talk with the patients. Although doing the doctor a favor was not an important reason to participate, most patients were glad to hear from the doctor that they did a good job after completion of the interview.

The main reason that patients took part in the lecture was the opportunity to deliver a message to young people. Despite their illness and knowledge of their individual prognosis, most patients felt better after completing the interview. This may be explained by a possible internal need for an (ex) smoker with a severe smoking-related disease to use their own experience to educate others to lead a healthier lifestyle. Delivering a message to a younger generation may be seen as a reappraisal of the person-environment relationship and thus a form of cognitive coping, that may reduce patients´ stress and negative affect [18]. Statements of confidence in one's ability to make lifestyle changes may offer new opportunities to increase a patient's adherence to medical treatment. The 'health belief model' may help to explain the relationship between treatment effectiveness, patient engagement and readiness to change [19]. According to this model, participation in a medical lesson that focuses on behavioral aspects of the disease and its treatment could influence perceived seriousness of the illness and the perceived benefits of compliance with treatment [20]. Delivering a message in front of an audience may shape the patient's thinking. Therefore, taking part in a medical lesson may be more beneficial for patients than simply educating them about their illness.

The results of this study are limited by the exploratory nature of the investigation. Data is presented in a simple, descriptive manner. Further statistical analysis of data from the small sample would be possible, but

may also bring incorrect conclusions. Besides the small sample size, there was no comparison group of patients suffering from non-tobacco related illnesses or lectures on topics other than harms of smoking. This strongly limits the generalization of the results in this ad hoc population of lung cancer patients. Because we did not assess all patients that were asked to participate in the study, we cannot draw conclusions about patients who declined to participate.

More detailed information was collected when open ended questions were asked in addition to rating questions. Nevertheless it is known that it is more difficult to answer open-ended questions than multiple choice questions [21]. When given the opportunity, at least one patient added an 'other' free text response on each question.

Participation in a medical lesson may be a vulnerable moment for the patient where feelings of protection and safety provided by the interviewer are very important. In a preparatory talk a trusting atmosphere should be created in order to increase the willingness of the patient to offer personal information. Furthermore the assurance of protection against embarrassing questions is an essential part of the interviewer's role. Further studies may add focus groups and should include patients with specific diseases and lessons on different topics, as well as questions such as how participation influences patients' health promoting behavior, general state of health and coping strategies.

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DECLARATION OF INTEREST

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