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On the autonomy of dental patients

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Publication date
2002

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Citation for published version (APA):

Schouten, B. C. (2002). *On the autonomy of dental patients*. [Thesis, fully internal, Universiteit van Amsterdam].

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Chapter 10

DENTISTS' AND PATIENTS' COMMUNICATIVE BEHAVIOR AND THEIR SATISFACTION WITH THE DENTAL ENCOUNTER¹

1 Introduction

One of the most important issues established in the Medical Treatment Contract Act, which was introduced in 1995 in the Netherlands, is the principle of informed consent. This principle indicates the significance of good doctor-patient communication and reflects the internationally growing interest that is placed on the involvement of patients in the medical healthcare process. However, results from a well-known study by Roter (1977) indicated that physicians seem to be uncomfortable with patients who do participate actively in the health care process. This outcome may pose a problem for the implementation of the principle of informed consent. In addition, patients who were trained to increase the amount of questions they ask were less satisfied with the interaction than patients who did not receive this intervention. A limitation of Roter's study (1977), though, is that no distinction was made between patients' satisfaction with their own and the physicians' communicative behavior. It is possible that although more active patients are not satisfied with their providers' communicative behavior, they are satisfied with their own behavior. Support for this supposition comes from an early study by Stiles (1979), who found that patients' satisfaction was positively related to the quantity of information they communicate to their physicians.

¹ This chapter has been accepted for publication as: Schouten, B.C., Eijkman, M.A.J. & Hoogstraten, J. (in press). Dentists' and patients' communicative behavior and their satisfaction with the dental encounter. *Community Dental Health*.

Patient satisfaction with the consultation seems only partly determined by patients' own behavior. Numerous studies have shown that the communicative behavior of their health care provider is a major factor associated with patient satisfaction (Kress & Shulman, 1997; Buller & Buller, 1987; Roter, Hall & Katz, 1987). The most important predictor seems to be the amount of information patients receive from their physicians (Roter & Hall, 1992). The less information-provision, the less satisfied the patient.

Because of the lack of research within dentistry on the relation between dentists' and patients' communicative behavior and their satisfaction with the consultation, the purpose of this study was to gain more insight in this topic. In line with the findings from the studies mentioned above, it was hypothesized that more active patients are less satisfied with the communicative behavior of the dentists but more satisfied with their own communicative behavior than more passive patients. In addition, it is expected that patients' satisfaction with consultations is determined more strongly by the communicative behavior of the dentist than by their own communicative behavior. Furthermore, it was hypothesized that dentists' satisfaction with consultations will be lower when interacting with more active patients than with more passive ones. Finally, the relationship between dentists' satisfaction and their communicative behavior is explored, as well as the relative influence of both dentists' and patients' communicative behavior on the satisfaction of the dentist.

2 Material and methods

2.1 *Sample and setting*

Patients participating in this study were solicited in 13 different Dutch dental practices, located in different communities around the country. To be enrolled in the study, patients had to be older than 16 years, and had to be able to speak and read the Dutch language. Patients were visiting the dentist for emergency treatment. This patient group has been chosen because the information-provision by the dentist confines itself to this particular consultation, which may not necessarily be the case with regular patient contacts, and therefore, more reliable conclusions with regard to the amount of information-provision can be made. From each practice one dentist participated in the project. Mean age of the 13 dentists is 45.4 years ($sd=5.2$; range 38-60), they are practicing dentistry for on average 19.0 years (range 8-34), and work on average 32.9 hours a week (range 23-45). The mean number of patients visiting them at least once a year is 1903. Seven of the 13 dentists did follow some post-graduate courses on dentist-patient communication.

Ten of the 119 approached patients refused to participate. Six patients initially agreed but failed to fill out the post-appointment questionnaire. Furthermore, it turned out that 13 recordings were useless due to lack of quality. Thus, the final sample consisted of 90 patients, 49 men and 41 women, ranging in age from 17 to 72 years (mean=38.6). 65 Patients were visiting the dentist because of pain complaints, 25 patients were seeing the dentist for other dental problems, such as broken fillings, loose crowns and bridges, etceteras. Number of patients per dentist ranged from 1 to 18.

In the dental examination room, a video camera was placed in a corner, which taped the patients from the moment the patient entered the room until the patient had left the room. After the conclusion of the consultation, the patients filled out a questionnaire in the waiting room, assessing their satisfaction with the dental encounter as well as several other variables, including their age, gender and education, the reason of the visit, the perceived invasiveness of the treatment, the perceived health of the teeth, if the patient had visited his own dentist the past twelve months, and if he could financially permit the (proposed) dental treatment. The dentist also filled out a short questionnaire assessing his satisfaction after each consultation.

2.2 *Questionnaires*

Patients' satisfaction was measured by means of 19 items; four items assessed patients' satisfaction with the information-provision by the dentist (e.g. 'After having spoken with this dentist today, I am more aware of the condition of my teeth'), six items assessed their satisfaction with the affective behavior of the dentist (e.g. 'I had the feeling today that this dentist accepted me as a person'), four items assessed the satisfaction with the patient's own information-seeking behavior (e.g. 'I asked all questions I wanted to ask'), and five items assessed satisfaction with the patient's own involvement in the dental health care process (e.g. 'I have left the decisions about the treatment to the dentist too much'). Except for a few self-constructed items, items were mainly derived from existing satisfaction scales (e.g. the Medical Interview Satisfaction Scale, Wolf, Putnam, James & Stiles, 1978; The Dental Visit Satisfaction Scale, Corah, O'Shea, Pace & Seyrek, 1984; the Dutch version of the Dental Visit Satisfaction Scale, Stouthard, Hartman & Hoogstraten, 1992). The 19 statements had to be answered on a 5-point Likert-scale, ranging from 1 ('totally disagree') to 5 ('totally agree'). Furthermore, a general satisfaction item was added, which asked respondents to indicate their overall satisfaction with the visit (range 1 'totally unsatisfied' to 5 'totally satisfied').

Dentists' satisfaction was measured by means of the same kind of items used to assess patients' satisfaction. The total scale consisted of just eight items

though, because of the limited time available between consultations. A general satisfaction item to assess dentists' overall satisfaction with the consultation was added as well.

2.3 Behavior coding

Two coders (first author and a graduate research assistant) independently coded all recordings. Patients' information-seeking behavior was analyzed by counting the number and nature of questions patients asked. Mean interrater reliability was .74 (range .59-.95). The mean intrarater reliability was .82 (range .63-.94).

Patient participation in dental decision-making was assessed by recording whether patients had attempted to self-diagnose (interrater reliability=.80; range intrarater reliability=.84-.95), whether patients had requested a specific treatment (interrater reliability=.87; intrarater reliability=1) and whether patients had proposed alternative treatment options (interrater reliability=.96; intrarater reliability=.95). Furthermore, it was recorded who made the ultimate decision concerning whether or not to undergo treatment. The following categorizations were made: the patient made the decision himself, the dentist made the decision, the patient explicitly handed the decision over to the dentist, and no decision has been taken yet (interrater reliability=.65; range intrarater reliability=.63-.68).

Dentists' communicative behavior was coded by means of a translation and adaptation of the Communication in Dental Settings Scale (CDSS; Newton & Brenneman, 1999). This scale was used for two reasons. Firstly, there are almost no other scales developed specifically to assess dentists' communicative behavior. Secondly, a number of items of this scale correspond strongly with the requirements of the principle of informed consent. The original scale comprises 13 items, which refer to consultation tasks of the dentist, such as 'discuss treatment options and plan', and are recorded on a 4-point response format which consists of the categories unacceptable ('0'), poor ('1'), acceptable ('2'), good ('3'). Response categories correspond with a behavioral definition, listing specific criteria that should be met for that rating to be given. Reported interrater reliability is satisfactory (Cohen's kappa>0.65). Based on observations of dental emergency treatment prior to this study, as well as on the specific research aims, it was decided to make use of seven items of this scale. Furthermore, some items were slightly rewritten in order to be applicable to the consultation of emergency patients. Mean interrater reliability, using Cohen's kappa, is .62, intrarater reliability ranges from .62-.73.

2.4 Data analysis

Cronbach's alpha for the scale measuring dentists' satisfaction was .74 and for the scale measuring patients' satisfaction .85. Reliability of the CDSS scale is

Cronbach's alpha .70. Because there were no significant differences between the dentists on the patient variables, data could be combined for further analyses. In order to investigate whether patients' and dentists' satisfaction is related to patients' - and dentists' communicative behavior, correlation coefficients were calculated and linear regression analyses were performed.

3 Results

3.1 Satisfaction of dentist and patient

Total score on the dentists' satisfaction scale is 33.9 (sd=5.04; range 5-40). Table 1 shows the mean scores on the items of the dentists' satisfaction scale. Items are rephrased in such a way that higher scores indicate more satisfaction.

Table 1 Mean item scores on dentists' satisfaction scale

Item	N	Mean	sd
• I've given this patient all relevant information about the condition of his mouth and possible treatment options	109	4.3	0.84
• I've succeeded in making clear to the patient what is the matter with his teeth	109	4.3	0.94
• I didn't find it difficult to take the problems of this patient seriously	109	4.5	0.88
• I had a lot of sympathy for this patient	109	4.2	0.87
• I didn't think this patient wanted to know too much	109	4.5	0.83
• I felt this patient was interested in the condition of his teeth	109	3.6	1.1
• I felt that the patient and I have worked out a solution for his problems together	108	4.4	0.76
• I didn't think this patient was too passive	109	4.2	0.93

The mean score on items regarding the satisfaction with dentists' own behavior is slightly, though significantly, higher (item one to four) than the mean score on items regarding dentists' satisfaction with the behavior of the patient (item five to eight) (paired t-test, $t(3.9)$, $p=.000$). Mean score on the general satisfaction item is 4.4 (sd=.68, range 1-5), and correlation between the total scale score and the general item score is Pearson's $r=.48$ ($p<.001$).

Total score on the scale assessing patients' satisfaction is 78.6 (sd=9.0; range 19-95). The mean score regarding the satisfaction of patients with the dentists' communicative behavior is significantly higher than the mean score regarding their satisfaction with their own communicative behavior (paired t-test, $t(6.3)$; $p<.001$). Mean score on the general satisfaction item is 4.6 (sd=.83; range 1-5), and the correlation between the total scale score and the general item score is Pearson's $r=.51$ ($p<.001$). Older patients are somewhat more satisfied than younger patients ($r=.27$, $p=.011$). Correlation coefficients between the different scores assessing patients' satisfaction and dentists' satisfaction showed that these two variables are unrelated (range $r=-.09$ to $.003$).

3.2 *Communicative behavior of dentist and patient*

Mean score on the CDSS is 9.6 (sd=3.1; scale range 0-21).² The majority of dentists score somewhere in the middle of the scale, indicating that their communicative behavior towards their patients is neither very good nor unacceptable. Background variables significantly associated with dentists' communicative behavior are dentists' age ($r=-.21$; $p=.048$) and the number of patients visiting them at least once a year ($r=-.35$; $p=.001$).

The mean number of questions patients asked per consultation is 3.9 (sd=3.6).³ Table 2 shows how the number of questions is distributed among patients. Patient characteristics were not related to the number of questions they asked.

Table 2 Number of questions asked per consultation

Number of questions	Frequency	%	Cumulative %
0-1	25	27.8	27.8
2-3	28	31.1	58.9
4-5	19	21.1	80.0
6-10	14	15.6	95.6
11-20	4	4.4	100.0
Total	90	100.0	

The majority of the patients did attempt to self-diagnose ($n=68$). However, only eight patients did request a specific treatment and only three of them did propose

² Scores of first author are reported and used in further analyses with regard to the CDSS, because there were only minor differences in scores between the two observers on this scale.

³ The mean of both scores of the two observers is reported and used in further analyses.

alternative treatment options to the one offered by the dentist. In about half of the consultations the patient himself decided to undergo the recommended treatment (n=42), the other half of the decisions was made by the dentist (n=45). Two patients handed the decision over to the dentist and in one case no decision was made yet. Because of the low number of patients that requested a specific treatment or proposed alternative treatment options, no additional analyses could be made with regard to these variables. The variable 'who made the ultimate decision' was dichotomized into 'patient' or 'dentist' for further analyses.⁴

3.3 *Relationship between communicative behavior and satisfaction*

Patients who ask more questions during their visit to the dentist are slightly, though not significant, more satisfied with the communicative behavior of the dentist than patients who ask less questions ($t(-1.8)$; $p=.07$). No difference in satisfaction with patients' own behavior could be established as a function of number of questions they asked. The satisfaction of the dentist was also unrelated to the number of questions patients asked.

Whether patients did or did not attempt to self-diagnose made no difference for their satisfaction with their own or the dentist's communicative behavior. Dentists' satisfaction with their own and patients' communicative behavior was higher when interacting with patients who did attempt to self-diagnose though, as compared with patients who did not offer diagnoses ($t(2.1)$; $p=.04$; $t(2.7)$; $p=.01$ respectively).

Patients who made the decision about the treatment themselves, were significantly more satisfied with their communicative behavior (but no difference was found regarding their satisfaction with dentists' communicative behavior) than patients who didn't decide themselves ($t(3.6)$; $p=.001$). The satisfaction of the dentist was not influenced by whether or not patients made the decision themselves. Patients' satisfaction with their own and the dentists' communicative behavior was positively related to dentists' communicative behavior ($r=.32$; $p=.002$; $r=.34$; $p=.001$ respectively). Dentists' own satisfaction with the consultation, though, was unrelated to their communicative behavior.

To determine the relative influence of dentists' communicative behavior and patients' behavior, four linear regression analyses were performed, with the following dependent variables: patients' satisfaction with their own communicative behavior, patients' satisfaction with the communicative behavior of the dentist, dentists' satisfaction with patients' communicative behavior and dentists' satisfaction with their own communicative behavior. The results are shown in table 3. As can be seen from the table, the variance in patients' satisfaction with

⁴ Consensus between both observers was reached with regard to these data.

both their own and the dentist's communicative behavior, is mainly explained by dentists' communicative behavior. None of the studied variables did explain any variance in dentists' satisfaction, except for the variable 'self-diagnosis', but only for a very small amount.

Table 3 Stepwise regression analysis of patients' and dentists' behavior on patients' and dentists' satisfaction

Dependent variables	R ²	Beta	p
• Independent variables			
Patients' satisfaction with own behavior			
• Communicative behavior dentist	0.19	0.36	.000
• Decision about treatment	0.25	-0.25	.001
Patients' satisfaction with dentists' behavior			
• Communicative behavior dentist	0.16	0.40	.000
Dentists' satisfaction with own behavior			
• Self-diagnosis	0.05	-0.23	.032
Dentists' satisfaction with patients' behavior			
• Self-diagnosis	0.08	-0.29	.006

4 Discussion

The results of this study show that patients as well as dentists are very satisfied with dental emergency consultations. High patient satisfaction, in particular among older patients, is consistent with findings from other studies aimed at regular medical and dental patients (Harteloh & Verweij, 1995; Broomhaar, Visser & Kleijnen, 1990; Hall & Dornan, 1990; Handelmann, Fan-Hsu & Proskin, 1990). However, patients in this study did not engage in a lot of information-seeking behavior. Besides, most patients did not ask the dentist for a specific treatment, nor did they propose alternative treatment options to the one offered by the dentist. It must be kept in mind though, that the nature and size of the study sample limits the generalizability of the results and conclusions must be drawn cautiously. The fact, though, that the average number of questions patients asked in this study is consistent with the average number of information-seeking comments of patients in some other studies, does increase the credibility of the outcomes (Beisecker & Beisecker, 1990; Roter, 1977).

Contrary to our expectations, active patients were not more satisfied with their communicative behavior, nor were they less satisfied with the dentist's communicative behavior than passive patients. Although patients who made the decision about the treatment themselves were more satisfied with their communicative behavior than patients who let the dentist decide, there was a trend for patients who asked more questions to be more satisfied with the communicative behavior of the dentist. Perhaps the reason is that more question-asking leads to more information-giving by dentists, but it could also be the case that nowadays dentists are used to more assertive patients and react more positively to questions of patients than they used to do. Another hypothesis of this study was that dentists' satisfaction would be lower when communicating with more active patients than with more passive patients. The results did not support this hypothesis. On the whole, dentists' satisfaction with emergency consultations was hardly explained for by any of the studied variables. The etiology of dentists' satisfaction thus remains unclear.

In line with our expectations, results from a regression analysis showed that patients' satisfaction with emergency consultations is determined for the greater part by the communicative behavior of dentists. This finding is consistent with the literature (Buller & Buller, 1987; Roter, Hall & Katz, 1987) and once again points to the importance of good communication between dentists and patients. However, scores on the CDSS showed that dentists' communicative behavior towards dental emergency patients is rather neutral. In view of the legal requirements with regard to the information-provision to patients and the positive relationship between dentists' communicative behavior and patients' satisfaction with emergency consultations, training dentists in communicative skills remains of vital importance.

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