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Chapter 9

PATIENT PARTICIPATION DURING DENTAL CONSULTATIONS: THE INFLUENCE OF PATIENTS' CHARACTERISTICS AND DENTISTS' BEHAVIOR¹

1 Introduction

The traditional paternalistic model of treating patients is based on the assumption that patients share their doctors' values (Wear, 1993). However, because of major societal and technological changes in the Western world, patients and physicians are now more likely to differ on their health values than before. Recognition of differing values is reflected in the increasing importance attached to patients' rights to be informed about, and to participate in, decisions about medical and dental care (Katz, 1992). Many countries, including the United States and the Netherlands, have passed legislation that protects and acknowledges these rights. In the Netherlands, respect for patients' autonomy has been manifested in the 1995 Medical Treatment Contract Act.

While most publications on this act have been displaying much optimism about its implementation (Berkel, 1995a; Berkel, 1995b; van der Horst, 1995; Leenen, 1991; Legemaate, 1991), the actual attitudes of clinicians and patients have been neglected so far. Results from a few studies indicate that physicians and dentists see numerous negative consequences for their practice and doubt that patients really want to be involved in decision-making (Schouten, Eijkman, Hoogstraten & den Dekker, 2001; de Haes, de Haan, Willems-Groot, Oosterveld & Spronk, 1998; Eijkman & Goedhart, 1996). Moreover, a recent study on dental patients' attitudes (Schouten, Hoogstraten & Eijkman, 2002) shows that patients

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find it important to decide whether or not to undergo treatment, but find it difficult to actually make these decisions themselves.

These results lead to the question whether patients really want to be involved in their own medical and dental care, and of equal importance, to what extent they actually are. Although several studies have demonstrated that many patients desire as much information about their condition as possible (Davis, Hoffman & Hsu, 1999; Adekoya-Sofowora, Lee & Humphris, 1996; Nease & Blair Brooks, 1995; Fallowfield, Ford & Lewis, 1995; Beisecker & Beisecker, 1990; Sutherland, Llewellyn-Thomas, Lockwood, Tritchler & Till, 1989; Ende, Kazis, Ash & Moskowitz, 1989), patients are rather passive when it comes to seek information. Also, a considerable number of patients do not seem to wish to participate in decision-making and prefer to leave treatment decisions to their clinician (Reaby, 1998; Wanless & Holloway, 1994; Roter & Hall, 1992; Beisecker & Beisecker, 1990; Sutherland et al., 1989; Waitzkin, 1985).

Prior research has tried to identify factors, which may explain variations in patients' information-seeking behavior and participating behavior, but some are conflicting. Krantz, Baum and Wideman (1980) found that patients with higher preferences for information and participation ask more questions, are more likely to spontaneously offer diagnoses and request specific medications more often than patients with lower preferences. On the other hand, Beisecker and Beisecker (1990) could not establish a relation between patients' desire for information and the number of information-seeking comments made. Obviously, more research is needed to assess the relation between patients' preferences for information and participation and their actual information-seeking and participating behavior.

Other factors explaining patients' behavior during medical and dental consultations seem to be more consistent. In general, it is found that a higher education, lower age, female gender and a less severe condition are associated with more active information-seeking behavior (Benbassat, Pilpel & Tidhar, 1998; Turk-Charles, Meyerowitz & Gatz, 1997; Street, Voigt, Geyer, Manning & Swanson, 1995; Breemhaar, Visser & Kleijnen, 1990; Waitzkin, 1985). Patients' copingstyle, that is, their tendency to seek out (monitoring) or avoid information (blunting) under threatening situations (Miller, 1987), is also related to their information-seeking behavior. Several studies have found that high 'monitors' have a higher need for information and ask their doctor more questions than low 'monitors' (Miller, 1995; van Zuuren & van Straten, 1991). In addition, a monitoring copingstyle was positively correlated with a preference for participation in medical decision-making among cancer patients (Ong, Visser, van Zuuren, Rietbroek, Lammes & de Haes, 1999).

Another often overlooked but important variable related to patients' behavior is the communicative behavior of the clinician. Patients seem more involved in

the clinician-patient interaction when their clinicians encourage and facilitate patient participation. Behaviors, such as encouraging the patient to express questions, opinions, feelings and concerns, are positively correlated with more expressiveness and assertiveness of patients (Street et al., 1995; Klages, Sergi & Burucker, 1992; Street, 1991). Moreover, patients themselves indicate that favorable impressions of dentists' personality and the ability to relate to them as individuals encourage both treatment acceptance and willingness to participate in the decision-making process (Redford & Gift, 1997).

All in all, the amount of information-seeking behavior of patients and their participation in the decision-making process may be influenced by a) patients' preferences for information and participation, b) patients' copingstyle, c) patients' socio-demographic characteristics, and d) features of dentists' communicative behavior. In contrast with previous research, which rarely examined all these variables within the same study, this study aimed at examining the relative contribution of these variables on the information-seeking and participating behaviors of dental patients. Furthermore, the relation of some other background variables, such as the reason of the visit and perceived invasiveness of the treatment, with patients' behavior is also explored.

2 Material and methods

2.1 Sample and setting

Patients participating in this study were recruited among emergency patients in thirteen different Dutch dental practices, located in different communities around the country. The reason for the use of this group of patients was that it was expected that in most of these consultations decisions with regard to the treatment must be taken, and this is not always the case in regular consultations. Furthermore, because the information-provision by the dentist confines itself to this particular consultation, which is not necessarily the case with regular patient contacts, more reliable conclusions with regard to the amount of information-provision can be made. We may add that most dentists are not too willing to let the regular consultations be videotaped.

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. When these criteria were met, patients were approached in the waiting room before undergoing treatment, and they were asked to participate in the study. All patients agreeing signed consent forms indicating their willingness to participate and their understanding of the procedure and general aim of the study.

In the dental examination room, a video camera was placed in a corner. Taping began at the moment the patient entered the room and was terminated when the patient left the room. After the consultation, the patients filled out a questionnaire in the waiting room. A second questionnaire was taken home and had to be returned within two weeks.

A total of 119 patients were asked to participate in the study, ten refused, 13 initially agreed but failed to return one or both post-appointment questionnaires. Thus, the sample with regard to the questionnaires consisted of 96 patients (for some questionnaires less, due to missing data). Furthermore, it turned out that 15 consultations could not be used due to poor quality of the videotapes. Due to some overlap between respondents who failed to return the questionnaire and low quality videotapes, the final sample with regard to the behavior data consisted of 83 patients, 44 men and 39 women, ranging in age from 17 to 72 years (mean=38.7). 58 Patients had pain complaints while 25 patients had other dental problems, such as broken fillings, loose crowns and bridges.

From each practice one dentist participated. The mean age of the thirteen dentists was 45.4 years (range 38-60), they had been practicing dentistry for an average of 19.0 years (range 8-34), and worked on average 32.9 hours a week (range 23-45). The mean number of patients visiting them at least once a year was 1903. Seven of the 13 dentists reported that they had attended some post-graduate courses on dentist-patient communication.

2.2 Questionnaires

The questionnaire filled out immediately after consultation assessed the following variables: patients' age, gender and education, the reason for their visit, the perceived invasiveness of the treatment, the self-perceived dental health, dental attendance within the past twelve months, and if they could financially afford the (proposed) dental treatment.

The second questionnaire administered after treatment assessed patients' copingstyle and their need for information and participation. The time gap between the patient's visit and completion of the second questionnaire was deemed necessary in order to minimize possible influences of the patient's visit to the dentist on their responses.

The second questionnaire included the following scales: the Threatening Medical Situations Inventory (TMSI) (Miller, 1987) to assess patients' copingstyle, the subscale 'Information' of the Krantz' Health Opinion Survey (HOS) (Krantz, Baum & Wideman, 1980) and the subscale 'Information-seeking preference' of the Autonomy Preference Index (API) (Ende et al., 1989) to assess patients' need for information: part of the subscale 'Decision-making preference' of the API and the Deber-Kraetschmer 'Problem-Solving Decision-Making' scale

(PSDM) (Deber, Kraetschmer & Irvine, 1996) were administered to assess patients' need for participation in medical decision-making. Patients were also asked on a 5-point Likert scale to indicate how important it is to them to be informed about costs of dental treatment, and costs of routine check-up (ranging from 1 'very unimportant' to 5 'very important').

The TMSI consists of four scenarios of threatening medical situations, namely having to undergo uncertain heart surgery, having to undergo examination because of headaches and dizziness, suffering from high blood-pressure and having to undergo surgery because of acute appendicitis. These scenarios were followed by three monitoring and three blunting alternatives, for example 'I decide to ask the specialist as many questions as possible' (monitoring alternative), and 'I do not worry too much' (blunting alternative). Each of these alternatives had to be answered on a 5-point Likert scale, ranging from 1 ('not at all applicable to me') to 5 ('strongly applicable to me'). Total monitoring - and blunting scores are obtained by adding up the relevant items (range for both scales 12-60).

The subscale 'Information' of the HOS consists of seven items, which measure a patient's desire to be informed about the treatment (e.g. 'It is better to trust your dentist than to ask what he is doing'). Responses are rated in a binary, agree-disagree format. A high score indicates an active attitude toward being informed about the treatment. The reported reliability of the subscale is good (Kuder-Richardson reliability around .75). The subscale 'Information-seeking preference' of the API includes eight items (e.g. 'It is important to know all risks of the treatment'). Response choices range from 1 ('strongly disagree') to 5 ('strongly agree'). Total scores are linearly adjusted to range from 0 to 100, where 0 indicates no desire for information and 100 the strongest possible desire for information. The reported test-retest reliability is .83, whereas the internal consistency coefficient (Cronbach's alpha) is .82.

Finally, part of the subscale 'Decision-making preference' of the API (e.g. 'Important dental decisions should be taken by the dentist, not by yourself'), and the PSDM scale were used to measure patients' need for participation. The PSDM scale uses three brief vignettes, followed by six series of tasks, four of them relating to problem-solving activities, and two relating to decision-making activities. The four problem-solving tasks encompass determining the diagnosis, treatment options, risks and benefits and probability of risks and benefits. The two decision-making tasks refer to deciding about accepting the risks and benefits and selecting the treatment option. Respondents are asked to indicate on a 5-point scale who should decide for each task. Answer possibilities are 1, the doctor alone; 2, mostly the doctor; 3, both equally; 4, mostly me; 5, me alone. Reported internal consistency of the scales is satisfactory (Cronbach's alpha > .70).

For the purpose of the present study two vignettes were used. The first vignette reads, 'Suppose you had mild tooth pain for some days during tooth brushing. Besides that, the tooth doesn't trouble you. You decide to visit your dentist about this', and corresponds to a minor dental problem, requiring non-invasive treatment. Vignette two reads, 'Suppose that, for the last couple of days, one of your teeth is becoming increasingly looser. You decide to visit your dentist about this', and corresponds to a more serious dental problem, most likely necessitating more invasive treatment.

2.3 Behavior coding

Two coders (first author and a graduate research assistant) independently coded all videotapes. Patient information-seeking behavior was analyzed by counting the number and nature of questions patients asked. A distinction was made between direct questions by the patient to gain information, and indirect questions asking the dentist for clarification. The questions were grouped according to topic: nature and purpose of the treatment; treatment options, risks, benefits; condition of teeth and prognosis; costs and insurance coverage; miscellaneous topics. 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 to undergo treatment or not: the patient himself; the dentist; the patient explicitly handed over the decision to the dentist; no decision has yet been taken (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 & Brennehan, 1999). The original scale comprises thirteen items, grouped into three phases of the consultation: opening phase (four items), examination and treatment phase (six items), and closing phase (three items). These items refer to consultation tasks of the dentist, such as 'discuss treatment options and plan', and are recorded on a 4-point scale: 0=unacceptable, 1=poor, 2=acceptable, 3=good. Response categories correspond with a behavioral definition, listing specific criteria that should be met for that rating to be given. For example, when discussing the treatment options with a patient, dentists who behave unacceptable according to the CDSS do not present alternative options or involve the patient in the discussion. In contrast, when the final action plan is determined jointly by the

dentist and patient, with patients being actively involved. dentists' behavior is scored as good. Reported interrater reliability is satisfactory (Cohen's kappa>0.65).

The CDSS was adjusted to be suitable for the specific population and research questions of the study. Based on observations of dental emergency treatment prior to this study, as well as on the specific research aims, three items referring to the treatment itself and three items concerning the opening phase were excluded. Furthermore, some items were slightly rewritten in order to be applicable to the consultation of emergency patients. Thus, seven items remained. Total scores are obtained by summing up the scores on those seven items (range 0-21). Mean interrater reliability, using Cohen's kappa is 0.62, intrarater reliability ranges from .62-.73.

2.4 Data analysis

Reliability analysis showed that the KR-20 reliability of the HOS 'Information subscale is .61 in the present study, and Cronbach's alpha for the 'Information seeking preference' scale of the API is .73. Internal consistency of the 'Decision making preference' subscale of the API is .57 in the present study, and for the Deber-Kraetschmer PSDM scale .74. Finally, internal consistency of the CDSS scale is Cronbach's alpha .70.

In order to investigate whether patients' behavior is related to patients' demographic variables, copingstyle, need for information and participation and dentists' communicative behavior, correlation coefficients were calculated and lineair regression analysis performed.

3 Results

3.1 Patients' desire for information and participation in decision-making

The scores obtained on the HOS 'Information' subscale and the subscale 'Information-seeking preference' of the API are summarized in table 1. The mean score on the HOS 'Information' subscale was 3.8 (sd=1.9; range 0-7), and mean score on the API 'Information-seeking preference' subscale was 88.7 (sd=8.6). Distribution of scores on the API subscale is skewed strongly to the right, indicating that patients have a strong desire for information. Patients' need for information about costs of dental check-up and dental treatment turned out to be moderate (resp. mean=3.2 and mean=3.7; range 1-5).

Table 1 Distribution of scores on the HOS and API 'information' scales

Scale score	Frequency	%
HOS	Desire to be informed	
0-2	25	26.1
3-4	34	35.4
5-7	37	38.5
Total	96	100.0
API	Information-seeking preference	
0-50	0	0
51-60	0	0
61-70	3	3.2
71-80	21	22.1
81-90	30	31.6
91-100	41	43.1
Total	95	100.0

Tables 2 and 3 show the distribution of scores on the API 'Decision-making preference' subscale and the Deber-Kraetschmer PSDM scale. (The higher number of respondents in table 3 is the consequence of taking the results of both vignettes together). Results indicate that patients' desire for participation is substantially lower than their desire for information. Mean score on the API 'Decision-making preference' subscale was 68.3 (sd=14.2). All differences between PS-scores and DM-scores on the Deber-Kraetschmer PSDM scale were significant (paired samples t-test; $p < .001$), indicating that patients wish to hand over control with respect to problem-solving tasks, but desire to share responsibility for decision-making tasks with the dentist.

Table 2 Distribution of scores on the API 'Decision-making preference' scale

Scale score	Frequency	%	Cumulative %
0-50	10	11	11
51-60	18	19.8	30.8
61-70	23	25.2	56.0
71-80	27	29.7	85.7
81-90	6	6.6	92.3
91-100	7	7.7	100.0
Total	91	100.0	

Table 3 Distribution of PSDM scale scores on two vignettes together

Task	N	Mean	sd	(Mainly) the dentist (score<3) %	Dentist and patient together (score=3) %	(Mainly) the patient (score >3) %
Problem-solving						
• diagnosis	189	2.1	.84	62.4	36.5	1.1
• options	190	2.0	.81	69.5	28.9	1.6
• risks/benefits	190	2.1	.83	69.5	28.4	2.1
• probabilities	190	1.9	.76	79.5	19.5	1.1
Decision-making						
• accepting risks	190	3.1	1.04	23.7	43.2	33.2
• what is done	190	3.1	.85	15.3	66.8	17.9

3.2 *Dentists' communicative behavior*

Table 4 shows the mean scores on the CDSS items (item range 0-3).² The lower number of observations for the last item ('concluding remarks') was due to the fact that some consultations ended outside the treatment room, and therefore, could not be recorded. As can be seen from table 4, all mean scores are around 1 or 2, which indicates that dentists' communicative behavior towards their patients is neither very good nor unacceptable, though the mean score on the item 'putting patient at ease' and to a lesser extent on the item 'clarifying patient's problem' are

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.

quite low. Mean scale score was 9.9 (sd=3.0; scale range 0-21). Distribution of scale values was skewed and, therefore, it was decided to dichotomize these data for further statistical analyses into scores 0-1 and 2-3.

Table 4 Mean scores on items of the CDSS

Item	N	Mean	sd
• identifying patient's problem	83	1.8	0.45
• putting patient at ease	83	0.8	0.45
• clarifying patient's problem	83	1.1	0.52
• discuss treatment options and plan	83	1.4	1.04
• summarize consultation	83	1.7	0.82
• check patient's understanding	83	1.4	0.88
• close consultation	72	1.7	1.10

3.3 Patients' information-seeking behavior and participation in decision-making

The mean number of questions patients asked per consultation was 3.8 (sd=3.6).³ The median was 3.5. The number of questions ranged from 0-16 per patient, but 30.7% of the patients did ask no or only one question during the interaction. Table 5 gives the mean number of questions, distinguished by nature of the question. As can be seen from this table, patients asked more direct than indirect questions to the dentist, and most questions concerned the condition of the teeth and/or prognosis.

Finally, the results show that the majority of the patients did attempt to self-diagnose (n=68). However, only nine patients did request a specific treatment and only three of them did propose alternative treatment options to the one offered by the dentist. Furthermore, in about half of the consultations the patient himself decided about undergoing the treatment or not (n=44), the other half of the decisions was made by the dentist (n=47). Two patients handed the decision over to the dentist and in one case no decision was made yet.⁴ 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.

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

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

Table 5 Mean number of questions per patient

Questions	N	Mean	sd	Range frequencies
Direct				
• nature/purpose treatment	83	0.63	1.08	0-4
• treatment options/risks	83	0.42	0.76	0-4
• condition of teeth /prognosis	83	0.85	1.15	0-6
• costs	83	0.21	0.45	0-2
• miscellaneous topics	83	0.54	0.76	0-3
Indirect				
• nature/purpose treatment	83	0.20	0.62	0-3
• treatment options/risks	83	0.17	0.55	0-3
• condition of teeth/prognosis	83	0.38	0.78	0-4
• costs	83	0.04	0.21	0-1
• miscellaneous topics	83	0.33	0.75	0-5

3.4 Relations of antecedent variables on patients' behavior

The correlation of scores on the HOS 'Information' subscale and the API 'Information-seeking preference' subscale with the number of questions patients asked was respectively 0.05 and 0.09. Thus, patients' need for information was not associated with the number of questions they actually asked during consultations. Correlations between patient's age, education, the perceived invasiveness of the treatment and self-perceived dental health, and number of questions asked were also weak and did not reach significance. Furthermore, t-tests revealed no significant differences in number of questions asked as a result of patients' gender, dental attendance within the past twelve months, if they could financially afford the (proposed) dental treatment, and the reason of the visit (pain/other reason). Results from a stepwise linear regression analysis with number of questions asked as the dependent variable, revealed that only one variable entered the regression equation, that is, dentists' scores on the CDSS. This variable explained 11% of the variance in patient question-asking (Beta=-.32). Thus, lower scores on the CDSS are associated with a greater number of questions asked by patients.

Using χ^2 tests no significant associations were found between 'self-diagnosis' and 'decision-making' (dentist/patient) on the one hand, and patients' need for participation on the other hand, but there was a trend for patients with

scores below the median on the Deber-Kraetschmer PSDM scale to offer diagnoses more often than patients with scores above the median ($\chi^2=3.6$; $p=.057$). No significant relationship was found between dentists' communicative behavior and self-diagnosis or decision-making by patients. Furthermore, χ^2 analyses revealed only one significant association between the above mentioned background variables and self-diagnosis or decision-making: patients visiting the dentist for pain complaints were more likely to offer diagnoses than patients who visited the dentist for other reasons ($\chi^2=5.1$; $p=.024$).

4 Discussion

This study tried to investigate the influence of several variables on patients' information-seeking and participating behavior in a dental setting. It must be kept in mind though, that the nature and size of the study sample limits the generalizability of the results. Fortunately, some of the results found in this study are highly comparable with the results of other studies with the same objectives but different (dental) patient samples, thereby increasing the credibility of the outcomes. In spite of this, it is clear that conclusions must be drawn cautiously, and it is strongly recommended to replicate this study with different samples.

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 (Beisecker & Beisecker, 1990; Roter, 1977). Even though emergency patients expressed a strong desire for information about their dental condition, their preference for information was not reflected in the engagement of information-seeking behavior. This result is consistent with the results of the study by Beisecker and Beisecker (1990), which also failed to establish a relationship between patients' preferences for information and their actual information-seeking behavior.

Other variables hypothesized to be associated with patients' information-seeking behavior during dental emergency consultations, such as female gender and a monitoring copingstyle, also failed to predict patients' question-asking, though almost all correlations were in the expected direction. This was not the case for dentists' communicative behavior, however, which was negatively (but weakly) correlated with the number of questions patients asked, and which was the only variable that entered the regression equation. This means that more elaborate communication of dentists is associated with less information-seeking behavior by patients during emergency consultations. Perhaps this could be due to the fact that the more informative the dentist, the less need for patients to ask questions themselves because information needs are sufficiently met by the dentist's behavior alone. A related explanation may be that it is mainly dentists'

affective behavior that positively influences patients' information-seeking behavior, as some other studies have indicated (Street et al., 1995; Klages, Sergi & Burucker, 1992; Street, 1991). Since the CDSS mainly measures the amount of information dentists give and to a much lesser extent their affective behavior, this could explain the lack of a positive relationship between the two variables (cf. Street et al., 1995; Klages, Sergi & Burucker, 1992; Street, 1991). Future studies on this topic should therefore assess both dentists' cognitive and their affective behavior, but at the moment an adequate instrument is still lacking.

The results from this study furthermore indicate that dental emergency patients' desire to participate in the decision-making process is not as strong as their desire for information. However, it seems that the distinction between decision-making tasks and problem-solving tasks as two different dimensions of patient participation, as is suggested by Deber (1994), is a valid one, since the results clearly show a difference between patients' preference to participate in those two tasks. Patients clearly wish to be involved in decisions about whether or not to undergo treatment, and this result is consistent with the observation that patients do ultimately decide themselves about the treatment in a great number of cases. Thus, conclusions about patients' preferences for participation in medical decision-making should be drawn carefully, and a distinction should be made between various aspects of patient participation.

The expected relations between patients' need for participation and their actual behavior in emergency consultations could not be established. Patients with stronger desire for participation in decision-making did not express more assertiveness, as reflected in the offering of diagnoses or making the final decision about undergoing treatment. The lack of significant associations between dental emergency patients' need for information and participation and their actual behavior could be due to the fact that emergency patients differ fundamentally from the group of regular dental patients. Since there is no history of rapport-building between dentists and emergency patients, this group of patients could have been more reluctant to ask questions and to participate in the dental decision-making process. As mentioned before, it would be worthwhile to replicate this study with a sample of regular dental patients, to find out if the absence of a relationship between patients' preferences and their behavior is the result of the specific sample in question or not.

Patients' right to information obligates dentists and other health care practitioners to adequately educate and inform their patients. However, scores on the CDSS show that there still is a discrepancy between the legal prerequisites of information-giving and dental emergency practice. For example, in a majority of the consultations patients are not offered alternative treatment options, despite the legal requirement to do so. It could however, very well be the case that CDSS

scores would have been higher when treating regular dental patients, because in these relationships more trust between dentist and patient is present. The fact that this study made use of a non-random group of dentists, all interested in the topic of dentist-patient communication, makes it likely though, that results may be more favorable than they would have been using a more representative sample of dentists, at least with regard to the treatment of emergency patients. Furthermore, results may have been positively biased because of the presence and attention of observers during the consultation, also known as the Hawthorne-effect (Forsyth, 1990). In order to gain more insight in possible gaps and shortcomings in the information provision by dentists to their patients it is, therefore, important to assess dentist' behavior in other, less invasive ways in the future. Yet, it is already clear from the results of this study that dentists' communicative behavior still could be improved and training is needed to help them in communicating with their patients more adequately. Even though it is questionable that improving dentists' behavior alone does suffice in encouraging patients to become more assertive and active information-seekers, patients do have a fundamental right as well as the desire to make informed decisions about the treatment. Keeping dentists aware of this right should be a continuous task within the dental curriculum.

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