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Management of dental anxiety – a cross-sectional survey in private dental practices in the Swiss Romandy

KEYWORDS

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Dental anxiety

Anxiety management

Dental practice

SUMMARY

The main aim of the present study was to gain a better understanding of the management of dental anxiety reported by dental practitioners in western Switzerland. In 2013, an 18-item electronic questionnaire was sent to dental practitioners in the Swiss Romandy. A total of 140 (18.6%) questionnaires were included in the analysis. About four out of five practitioners (79.4%) involved with dental emergency service had at least one occurrence with dental phobic patients. The majority of the respondents stated that both dental anxiety and dental phobia increases stress in the dental practice with frequencies of 90.0% and 88.5%, respectively. Among the 119 respondents using anxiety reduc-

tion methods (85.0%), an overall of 51 (42.9%) reported using pharmacological methods while 89.9% (n = 107) used psychological methods. Female dentists were using psychological anxiety reduction methods three times more frequently than male dentists reaching borderline statistical significance (OR = 3.0, p = 0.0591). Out of 140 respondents, only 28 (20.1%) received education and training in dental anxiety reduction methods. The majority of these (66.4%; n = 83) stated that their education was inadequate and 55.8% (n = 77) requested further education and training. It can be concluded that more education and training of dental anxiety reduction methods are needed.

Introduction

Dental fear or dental anxiety is an emotional response to the perception of either danger or threat related to dental treatment (BERGGREN & MEYNERT 1984; MILGROM ET AL. 1996). With 20% of the population being affected, dental anxiety has been recognized as a public health concern (HAGGLIN 2000; HAKEBERG ET AL. 1992A; MILGROM ET AL. 1988; MOORE ET AL. 1993; NEVERLIEN 1990; OOSTERINK ET AL. 2009; SKARET ET AL. 1998). More severe dental fear classified as dental phobia thus potentially leading to the avoidance of professional dental care involves 5% of the population (HAKEBERG ET AL. 1992A; VASSEND 1993).

Even when dental anxiety and dental phobia were generally associated with a genetic predisposition they would still be considered as an emotional response to previous adverse events during dental treatment (BERGGREN & MEYNERT 1984). When compared to dental anxiety, dental phobia has been described as a much more complex emotional response resulting from a variety of experiences and circumstances.

Both the origin and the intensity of dental anxiety vary from one individual to another. A variety of self-reported psychometric tests such as Corah's Dental Anxiety Scale (DAS) may be used to assess the patient's level of dental anxiety (CORAH 1969; FRAZER & HAMPSON 1988).

The individual's use of professional dental care relies on a diversity of factors including health-beliefs, access to care, financial restrictions, dental satisfaction, or dental anxiety. A recent study by Armfield and colleagues evaluated the association of dental satisfaction with the level of dental anxiety in a Swiss population (ARMFIELD ET AL. 2014). One of the strongest findings of the study was the level of satisfaction with 96.5% of the responding population being satisfied with their dentists. These results are in coherence with the findings of Thomson and co-workers reporting that individuals with dental anxiety might be less satisfied with their dentists when previously experiencing dental visits as unpleasant and distressing (THOMSON ET AL. 1999).

Patients suffering from dental anxiety often report experiences with ineffective local anaesthesia, oral pain, loss of control, and loss of confidence (HAKEBERG ET AL. 1992B; WEINER & WEINSTEIN 1995). The consequences of dental anxiety such as missed appointments or late cancellations have been discussed as factors affecting stress for the dental practitioner (HAKEBERG ET AL. 1992B; HILL ET AL. 2008; MOORE & BRODSGAARD 2001; O'SHEA ET AL. 1984; WEINER & WEINSTEIN 1995). Consequently, Hakeberg and colleagues have demonstrated that severe dental anxiety was associated with poor oral health (AGDAL ET AL. 2008; ARMFIELD ET AL. 2009; BOMAN ET AL. 2010; HAKEBERG ET AL. 1993; HALLSTROM & HALLING 1984; MILGROM ET AL. 1996; NG & LEUNG 2008). Additionally, a more recent study by Gisler and colleagues has identified a strong association between dental anxiety and poor quality of life. Highly anxious patients were 3.55 times more likely to suffer from poor quality of life compared with less anxious patients (GISLER ET AL. 2012).

Treating patients with dental anxiety may cause irritation, anger, and frustration (WEINER & WEINSTEIN 1995). Therefore, the treatment of patients with dental anxiety is often considered time-consuming and economically unprofitable (HILL ET AL. 2008; MOORE & BRODSGAARD 2001; WEINER & WEINSTEIN 1995). An association between overall stress and dental anxiety has long been recognized and thus an increasing amount of research has been carried out to evaluate the level of stress within dental practitioners in such situations (MOORE & BRODSGAARD 2001; NEWTON ET AL. 2006). So far, there is only little knowledge on

either the dentists' competence concerning the management of dental anxiety, their current treatment strategies, or their need for further education.

In a British study dentists generally agreed to have a responsibility to help their patients with dental anxiety (HILL ET AL. 2008). However, these dentists reported that they were lacking the time necessary for the treatment of dental anxiety. Similar findings were first presented by a Scottish study in which the dentists reported lacking both the time and the confidence to treat patients with dental anxiety (ADAIR 2003). Most dentists in the latter study reported that their training was inadequate.

A more recent Swedish study aimed to explore the dentists' skills in the management of dental anxiety (BRAHM ET AL. 2013). The authors reported on the current strategies when treating patients with dental anxiety.

Similarly, the main aim of the present study was to gain a better understanding of the management of dental anxiety reported by dental practitioners in western Switzerland. Further aims included the assessment of their current treatment strategies and their need for further education.

Materials and Methods

Questionnaire

In 2013, an electronic 18-item questionnaire was created using Google Docs consisting primarily of check boxes to allow selection by the respondent. The following topics were included: 1) demographic information, 2) treatment of dental phobic patients during emergency service, 3) assessment of dental anxiety in the dental practice, 4) attitude towards patients with dental anxiety and dental phobia, 5) anxiety reduction methods, 6) education and training in anxiety reduction methods, and 7) dental care settings for patients with dental anxiety and dental phobia.

Identification of dental practitioners

A total of 754 dental practitioners in western Switzerland were identified from the contact database of the Swiss Dental Association (SSO). In January 2013, an e-mail circular containing an accompanying letter and a questionnaire was sent out to a total of 726 dental practitioners. A printed version of the questionnaire was sent by postal mail to a total of 28 dental practitioners where e-mail addresses were missing. Recipients were invited to reply by e-mail or postal mail, respectively. Up to three follow-up e-mails were sent.

Statistical analysis

Data were anonymised and entered into an Excel spreadsheet (Microsoft Corporation, Redmond, WA, USA). All analyses were conducted with IBM SPSS (Version 18.0.0, Polar Engineering and Consulting, Armonk, NY, USA). Descriptive statistics were used to generate means and percentages. Logistic regressions were used to determine the strength of association with binary variables. Distributions were evaluated using Pearson's chi square tests. A p-value of <0.05 was defined to be statistically significant.

Results

A total of 140 dental practitioners (18.6%) responding by e-mail or postal mail were included in the analysis (Tab. I).

Demographic information

A total of 35 females (25.0%) and 105 males (75.0%) responded to the survey (Tab. I). More than a third of the respondents

Tab. I Demographic information on n=140 dental practitioners responding the survey

	All surveys		
	n	% respondents	% responses
Total	140	100.0	100.0
Gender			
Female	35	25.0	25.0
Male	105	75.0	75.0
Year of graduation			
1960–1970	5	3.6	3.6
1971–1980	27	19.3	19.3
1981–1990	53	37.9	37.9
1991–2000	33	23.6	23.6
2001–2010	22	15.7	15.7
Type of working place			
Dental practice, one practitioner	101	72.1	67.8
Dental practice, more than one practitioner	37	26.4	24.8
Private clinic	4	2.9	2.7
Hospital	4	2.9	2.7
Other	3	2.1	2.0
Weekly working hours			
Less than 35 hours	23	16.4	16.4
Between 35–42 hours	83	59.3	59.3
More than 42 hours	34	24.3	24.3
Domains			
General dentistry	121	86.4	74.7
Pedodontology	11	7.9	6.8
Periodontology	7	5.0	4.3
Maxillo–facial surgery	2	1.4	6.2
Prosthetic dentistry	7	5.0	1.2
Orthodontology	10	7.1	4.3
Other (e.g. implant dentistry)	4	2.9	2.5
Agglomeration			
More than 100,000 inhabitants	48	34.3	34.0
Between 100,000 and 50,000 inhabitants	9	6.4	6.4
Between 50,000 and 10,000 inhabitants	54	38.6	38.3
Less than 10,000 inhabitants	30	21.4	21.3
Canton			
Fribourg (FR)	20	14.3	14.0
Genève (GE)	28	20.0	19.6
Jura (JU)	6	4.3	4.2
Neuchâtel (NE)	16	11.4	11.2
Valais (VS)	25	17.9	17.5
Vaud (VD)	48	34.3	33.6

Tab. II Treatment of dental phobic patients during emergency service

	All surveys		
	n	% respondents	% responses
Total	139		100
Number of occurrences			
None	21	15.1	14.8
1 occurrence	24	17.3	16.9
2 occurrences	30	20.9	21.1
3 occurrences	16	11.5	11.2
More than 3 occurrences	5	3.6	9.1
Not involved with dental emergency service	38	27.3	26.8
Other	8	4.4	26.8

(37.9%) graduated in the 1980s while almost three out of four (72.1%) reported working in a dental practice with one practitioner. The majority of the respondents stated working between 35 and 42 hours weekly (59.3%) as a general dentist (86.4%). About one out of five (21.4%) reported working in a rural area defined as an agglomeration with less than 10,000 inhabitants (Tab. I).

Treatment of dental phobic patients during emergency service

About one out of five respondents (20.9%) had two occurrences in their past when treating dental phobic patients during emergency services (Tab. II). When pooling the total number of occurrences, it was found that about four out of five practitioners (79.4%) involved with dental emergency service in their past had at least one occurrence with dental phobic patients (Tab. II).

Attitude towards patients with dental anxiety and dental phobia

The respondents' attitude towards dental anxiety is illustrated in Table III. A majority of the respondents agreed that dental anxiety both increases the number of missed appointments (88.6%; n = 124) and reinforces such disruptive behaviours (87.9%; n = 123).

The majority of the respondents stated that both dental anxiety and dental phobia increases stress in the dental practice with frequencies of 90.0% and 88.5%, respectively. Respondents generally reported a higher intensity of stress treating dental phobic patients in comparison to treating patients with dental anxiety (Fig. 1). However, when pooling those respondents reporting three or more occurrences with dental phobic patients in their past, no increase of their stress levels was found (OR = 0.9; p = 0.783).

Moreover, the majority of the respondents assumed that for patients who suffer from dental anxiety the difficulty to access dental care is increased (96.4%; n = 134). Thus, they felt that dentists are responsible to help their anxious patients (92.6%; n = 125) (Tab. III).

Assessment of dental anxiety in the dental practice

The majority of the respondents (93.5%; n = 130) reported never using specific methods to assess dental anxiety in their dental

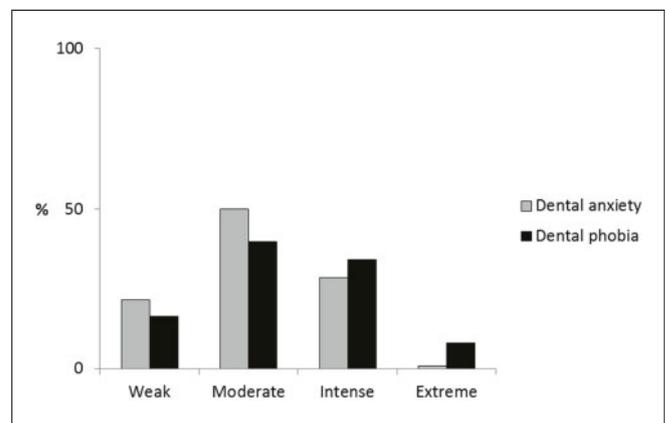


Fig. 1 Level of stress in the dental practice between patients with dental phobia and dental anxiety

practice while 6.5% (n = 9) claimed to specifically assess the level of dental anxiety with their patients (Tab. IV). Of these only two (2.2%) used written questionnaires.

A total of 42 of the respondents (31.6%) reported using non-specific means for the assessment of dental anxiety. The majority of these used conversational (40.5%; n = 17) and observational (23.8%; n = 10) methods while some of the respondents reported instead of providing information about dental care, to be calm, or to experiment using common sense with their patients (Tab. IV).

Anxiety reduction methods

A total of 21 practitioners responding to this survey (15.0%) never used any anxiety reduction method (Tab. V). Among the 119 respondents using anxiety reduction methods (85.0%), overall 51 (42.9%) reported using pharmacological methods while the majority (89.9%; n = 107) used psychological methods. About a third (32.8%; n = 39) stated using both.

The most preferred psychological methods were "tell, show, do" (64.8%; n = 68) and "relaxation" (48.6%; n = 51). Furthermore, the most frequently used pharmacological method prescribed by 78.4% (n = 41) of the respondents applying pharmacotherapy was oral sedation with benzodiazepine (Tab. V).

Tab. III Attitude towards patients with dental anxiety and dental phobia

	All surveys		
	n	% respondents	% responses
Total	140		100
Dental anxiety increases the number of missed appointments			
Yes	124	88.6	88.6
No	16	11.4	11.4
Dental anxiety reinforces disruptive behaviours			
Yes	123	87.9	87.9
No	17	12.1	12.1
Dental anxiety increases stress in the dental practice			
Yes	126	90.0	90.0
Level of increase			
Weak	26	21.6	20.2
Moderate	63	50.0	48.8
Intense	36	28.6	27.9
Extreme	1	0.8	0.7
Other	3	2.4	2.3
No	14	10.0	10.0
Dental phobia increases stress in the dental practice			
Yes	123	88.5	88.4
Level of increase			
Weak	20	16.3	16.2
Moderate	49	39.8	39.8
Intense	42	34.2	34.2
Extreme	10	8.1	8.1
Other	2	1.6	1.6
No	16	11.5	11.5
Dental anxiety increases difficulty to access dental care			
Yes	134	96.4	96.4
No	5	3.6	3.6
Dentists are responsible to help their anxiety patients			
Yes	125	92.6	88.0
No	17	12.6	12.0

Tab. IV Assessment of dental anxiety in the dental practice

	All surveys		
	n	% respondents	% responses
Total	139		100
Use of specific dental anxiety assessment method			
Yes	9	6.5	6.5
No	130	93.5	93.5

Tab.IV Assessment of dental anxiety in the dental practice continued

	All surveys		
	n	% respondents	% responses
Written questionnaires			
Yes	2	2.2	2.2
No	89	97.8	97.8
Use of non-specific means			
Yes	42	31.6	31.6
No	91	62.4	62.4
Type of means			
Conversation (discussion, dialogue)	17	40.5	30.9
Active listening (interviewing)	6	14.3	10.9
Targeted questioning	2	4.8	3.6
Patient history (anamnesis, dental history)	7	16.7	12.7
Visual analogic scale (VAS)	1	2.4	1.8
Observation (behavioural observation, body language)	10	23.8	18.2
Deterioration of oral status	1	2.4	1.8
Providing information about dental care	4	9.5	7.3
Being calm (experimenting using common sense)	3	7.1	5.5
Other	4	9.5	7.3

Tab.V Anxiety reduction methods

	All surveys		
	n	% respondents	% responses
Total	140	100	100
Anxiety reduction method			
No	21	15.0	15.0
Yes	119	85.0	85.0
Type of method			
Pharmacological	51	42.9	42.8
Psychological	107	89.9	89.9
Only pharmacological	14	10.1	10.1
Only psychological	71	57.1	57.1
Pharmacological and psychological	37	32.8	32.8
Psychological			
Cognitive Behavioural Therapy (CBT)	22	21.0	11.6
Eriksonian hypnodontia	13	12.4	6.9
Eye Movement Desensitization and Reprocessing (EMDR)	3	2.9	1.6
Relaxation	51	48.6	27.0
Iatrosedation	3	2.9	1.6
Tell, show, do	68	64.8	36.0
Biofeedback	4	3.8	2.1
Others	25	23.8	13.2

Tab. V Anxiety reduction methods

continued

	All surveys		
	n	% respondents	% responses
Barriers towards psychological methods			
Not enough time	8	34.8	18.2
Not necessary	7	30.4	15.9
No proper education in that domain	13	56.5	29.6
Do not feel confident	3	13.0	6.8
Do not feel safe	0	0	0
Inadequate fee	3	13.0	6.8
Not interested	3	13.0	6.8
Equipment	0	0	0
Cost	1	4.4	2.3
Difficulty in getting staff	4	17.4	9.1
Other	2	8.7	4.5
Pharmacological			
Oral sedation	41	78.4	60.6
Deep sedation (IV)	2	3.9	3.0
Nitrous monoxide (N ₂ O)	9	17.7	13.6
Nitrous oxide and oxygen (N ₂ O+O ₂)	1	2.0	1.5
Narcosis	7	13.7	10.6
Other	4	13.7	10.6
Barriers towards pharmacological methods			
Not enough time	7	11.5	5.5
Not necessary	24	39.3	17.1
No proper education in that domain	31	50.8	23.3
Do not feel confident	8	13.1	5.5
Do not feel safe	14	23.0	10.3
No demand	16	27.9	13.0
Inadequate fee	3	4.9	2.1
Not interested	3	4.9	2.1
Equipment	10	16.4	8.2
Cost	6	9.8	4.1
Difficulty in getting staff	7	11.5	6.2
Other	3	4.9	2.7
Refer anxiety patient			
Yes	84	61.8	61.8
No	52	38.2	38.2
Type of preferred method			
Pharmacological (narcosis, deep sedation, N ₂ O)	61	76.3	54.5
Psychological	25	31.1	22.3
Pharmacological and psychological	19	23.8	17.0
Other	7	8.8	6.1

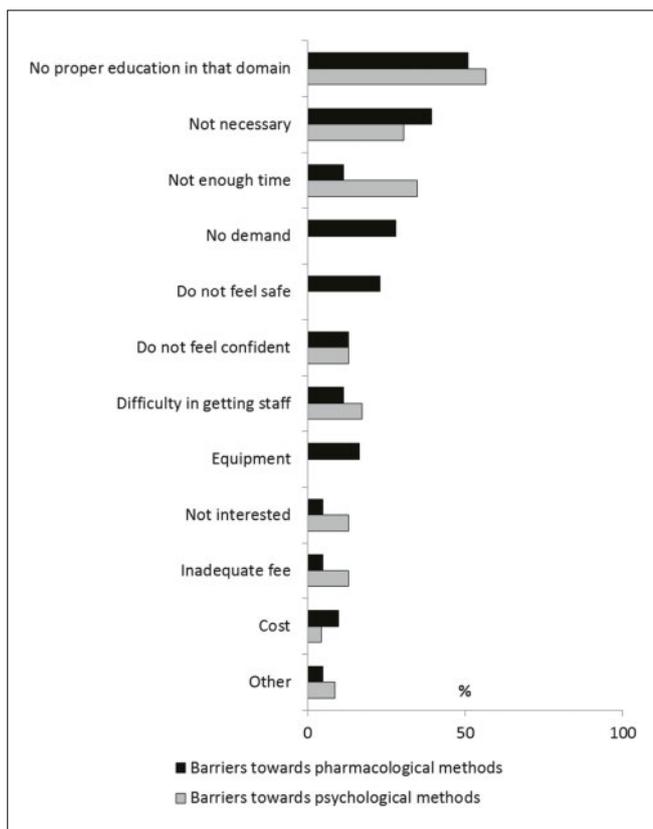


Fig. 2 Barriers towards psychological and pharmacological methods

Evaluating potential barriers towards the use of either psychological or pharmacological methods respondents mainly reported lacking adequate education and training in this specific field. Concerning pharmacological methods, up to 36.1% ($n = 22$) of the respondents admitted lacking confidence and safety while 39.3% ($n = 24$) judged that pharmacological anxiety reduction methods were not necessary (Fig. 2).

Overall, less than two-thirds of the respondents (61.8%; $n = 84$) referred their patients with dental anxiety while the majority of these (76.3%; $n = 61$) were referred for pharmacological sedation (Fig. 3).

The use of both psychological and pharmacological anxiety reduction methods was further associated with the demographic variables collected in this study. Logistic regression revealed positive associations with both gender of the respondents and the practice's location in the agglomeration. No associations were found with the number of weekly working hours and the anxiety reduction methods used. However, female dentists compared with their male colleagues were using psychological anxiety reduction methods three times more frequently than male dentists reaching borderline statistical significance (OR 3.0, $p = 0.0591$). Concerning the ratio between gender and the category of "not using any anxiety reduction method (psychological or pharmacological)" an OR of 3.6 ($p = 0.07$) was found indicating that the proportion of males was much predominant in that group, however, without reaching statistical significance.

Furthermore, a statistically significant association was found between the location of the practice in smaller agglomerations (less than 50,000 inhabitants) and those respondents never using any anxiety reduction method (OR = 4.8, $p = 0.0115$).

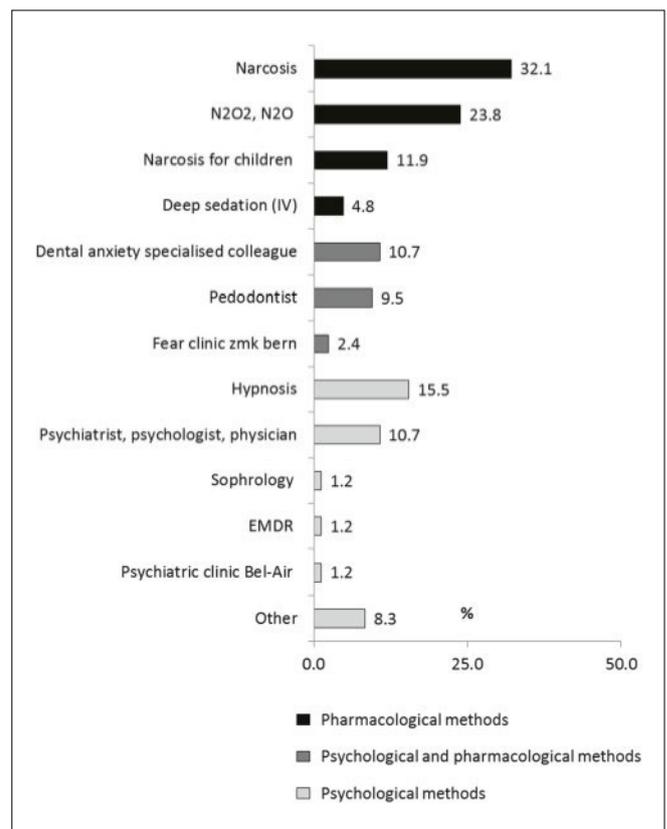


Fig. 3 Frequencies of referrals as reported by $n = 84$ dental professionals, (N2O2: dinitrogen dioxide. N2O: nitrous oxide. IV: intravenous. EMDR: Eye Movement Desensitization and Reprocessing).

Education and training in anxiety reduction methods

Out of 140 respondents, only 28 (20.1%) received education and training in dental anxiety reduction methods (Tab. VI). The majority of these (66.4%; $n = 83$) stated that their education and training was inadequate and 55.8% ($n = 77$) requested further education and training in these methods.

The request for further education and training was also associated with the demographic variables collected from this sample. Logistic regression revealed that female dentists less likely requested further training than their male colleagues (OR = 0.5, $p = 0.54$).

Dental care settings for patients with dental anxiety and dental phobia

More than half of the respondents (63.6%; $n = 82$) requested a fear clinic in western Switzerland (Tab. VII). The majority of these argued that 1) oral health of dental phobic patients deteriorated intensely (73.5%; $n = 97$), claimed that 2) current dental care settings for patients with dental anxiety and dental phobia is/was inadequate (62.5%; $n = 75$), and judged that 3) the issues raised are a public concern (76.5%; $n = 62$).

Further logistic regression revealed that specialists in comparison to general dentists were about three times less likely to feel responsible to be involved with the management of dental anxiety in their dental practice (OR = 0.3, $p = 0.1309$).

Discussion

The majority of dental practitioners (79.4%) responding to this survey had at least one occurrence in their past with a dental phobic patient during emergency service. While anxiety reduc-

Tab. VI Education and training in anxiety reduction methods

	All surveys		
	n	% respondents	% responses
Total	140		100
Education and training of anxiety reduction methods			
Yes	28	20.1	20.1
No	111	79.9	79.9
Types of education and training			
Hypnosis	15	53.6	41.7
Therapies (CBT and others)	9	32.1	25.0
Post-graduate training at the University of Geneva	5	17.9	13.9
Pharmacological	5	17.9	13.9
Various	2	7.1	5.6
Adequacy of previous education and training			
Yes	45	36.0	35.2
No	83	66.4	64.9
Type of means			
Yes	77	55.8	55.4
No	62	44.9	44.6

Tab. VII Dental care settings for patients with dental anxiety and dental phobia

	All surveys		
	n	% respondents	% responses
Total	140		100
Oral health deterioration of the phobic patients			
Weak	6	4.5	4.0
Moderate	30	22.7	19.9
Intense	97	73.5	64.2
Extreme	14	10.6	9.3
Other	4	3.0	2.7
Adequacy of dental care setting and infrastructure of care			
Yes	53	44.2	41.4
No	75	62.5	58.6
Public health concern			
Yes	62	76.5	76.5
No	19	23.5	23.5
Request of a fear clinic in western Switzerland			
Yes	82	63.6	62.6
No	49	38.0	37.4

tion methods were used frequently by all the respondents (85.0%), female dentists used psychological methods three times more frequently than their male colleagues. Interestingly, only 20.1% of the respondents have received education and training in dental anxiety reduction methods. The majority of these (66.4%) stated that their education and training was inadequate and thus requested further education and training in these methods.

The variables evaluated in this study were frequently used in other trials in the past assessing the management of dental anxiety in the dental practice including specific assessment methods, various means for dental anxiety reduction therapy, and further needs for education and training.

With an overall response rate of 18.6%, the data analysed in the present study appear to be limited in comparison with three other studies on this topic whose response rates were 73% with the study of Hill, 84% with the study of Dailey and 69% with the study of Brahm (BRAHM ET AL. 2013; DAILEY ET AL. 2001; HILL ET AL. 2008). However, since all the contact information for the present study was derived from the Swiss Dental Association (SSO) database, the data collected could still be interpreted as representative. Simultaneously, the response rate of 18.6% may reflect some of the current diversity in Switzerland related to the topic investigated.

Gender

Dailey and colleagues reported that male dentists in comparison to their female colleagues were more likely to use psychometric tests to assess the level of dental anxiety before treating their patients (DAILEY ET AL. 2001). Additionally, Brahm and colleagues in their study stated that female dentists used anxiety-reducing methods more frequently than their male colleagues (BRAHM ET AL. 2013).

The findings of this study are in alignment with the latter indicating that female dentists were using psychological anxiety reduction methods three times more likely in comparison with their male colleagues. Furthermore, male dentists were 3.6 times more often not using any anxiety reduction method. Interestingly, even if not reaching statistical significance, female dentists in this study were less likely to request further education and training. Thus, it may be assumed that female dentists feel more confident through their experience and in turn less likely feel the need of extra training in this specific field.

Weekly working hours

A number of studies suggested that dentists working higher numbers of weekly hours suffer increased stress levels and thus spend less time with their anxious patients (O'SHEA ET AL. 1984; RADA & JOHNSON-LEONG 2004; TURLEY ET AL. 1993). Therefore, it was evaluated in this study whether dentists with lower numbers of weekly hours were more likely to apply time consuming *psychological* methods in comparison to their colleagues working higher numbers of weekly hours thus preferring *pharmacological* methods such as oral sedation with benzodiazepine. However, no positive association was found between the number of weekly hours and the type of anxiety reduction methods used. One explanation of this finding may be the flexibility of the Swiss dental reimbursement system which allows the billing of treatment time spent at each appointment hereby not affecting the selection of anxiety reduction therapy in this study.

Domains (specialisation)

Current evidence suggests that a higher degree of specialisation in the dental field may decrease the dental practitioner's empa-

thy (DISEKER & MICHIELUTTE 1981; HOJAT ET AL. 2001; HOJAT ET AL. 2004; MARCUS 1999; SHERMAN & CRAMER 2005). In this study, specialists were indeed about three times less likely to feel responsible to help anxiety patients when compared to general dentists, however, without reaching a statistically significant difference.

Agglomeration

Heaton and colleagues concluded in their study that patients in rural areas seek more dental emergency service but did not experience increased dental fear (HEATON ET AL. 2004). In alignment with Heaton's findings, dentists from rural areas in this study as defined by agglomerations with less than 50,000 inhabitants were about five times less likely to use dental anxiety reduction methods when compared with their colleagues from urban area reaching statistical significance.

Educating their patients against barriers towards good oral health is the final statement of Heaton and colleagues (HEATON ET AL. 2004). In addition, evidence has shown that behavioural modification of health beliefs allowing better application of dental anxiety reduction methods could help both the rural population and the dental practitioner.

Treatment of dental phobic patients during emergency service

With patients suffering from dental phobia it can be assumed that the intensity of their oral pain must counterbalance the intensity of their dental fear in order for these patients to schedule a dental emergency appointment. Dental emergency services in Switzerland are a legal requirement. Consequently, the chances of encountering a dental phobic patient specifically within this framework are increased. From both the patient's and the dentist's point of view, the framework of dental emergency services in Switzerland may not allow for a more comfortable dental care setting. The current setting may result in a higher level of stress for both the patient and the dentist. However, with this study it was not confirmed that dental practitioners reporting a higher number of occurrences with dental phobic patients claimed to be more stressed when compared to their colleagues with fewer occurrences.

Stress

In their study, Hill and colleagues reported that 91% of their responding dentists felt stressed by treating their anxiety patients (HILL ET AL. 2004; VASSEND 1993). In the present study, similar frequencies were found with the treatment of patients with both dental anxiety (90.0%) and dental phobia (88.5%). Furthermore, dentists in this study reported that stress was more intense when treating patients with dental phobia when compared to treating dental anxiety patients.

Responsibility

In a survey of British dentists assessing the needs of dental anxiety therapy, 85% of the respondents overall agreed that dentists had the responsibility to help dental anxiety patients (HILL ET AL. 2008). In this study, with 92% of the respondents feeling responsible to help their patients with dental anxiety, similar results were found.

Assessment of dental anxiety in the dental practice

Dailey and colleagues in their study found that only 20% of the dental practitioners reported using written dental anxiety as-

assessment questionnaires (DAILEY ET AL. 2001). In this survey, only 2.2% of the respondents indicated that they were using written questionnaires. Moreover, only one of them reported to use the current psychometric test for the assessment of dental anxiety.

About one third of the respondents in the present study claimed using other means of assessing dental anxiety with their patients. Interestingly, Dailey and colleagues stated that “many dentists believe that they can reliably recognize dental anxiety in their patients based on clinical impression alone” (DAILEY ET AL. 2001). As Dailey further mentions, however, current evidence indicates that this was not always the case and that there were discrepancies between patients’ self-reports and clinicians’ assessments of patients’ dental anxiety (DAILEY ET AL. 2001). Moreover, according to Dailey, patients “attempt to mask their dental anxiety so as to prevent disruption to the dentists’ treatment schedule” (DAILEY ET AL. 2001).

Dental anxiety reduction methods

Dental anxiety reduction can be treated using psychological and pharmacological methods or a combination thereof (DE JONGH ET AL. 2005; MILGROM ET AL. 1988). Psychological methods are used to establish both rapport (patient-practitioner relationship) and self-confidence in order to maintain the patient’s self-control during the dental treatment. Pharmacological support, including orally administered sedation, nitrous oxide sedation, and intravenously administered sedation may be used in situations of increased stress during a given dental treatment. Further coping strategies consist of different methods that are taught to the patient to reduce anxiety such as distraction, relaxation, and hypnosis. In a prospective clinical study by Wannemueller and colleagues, the authors have investigated the following anxiety reduction methods in patients suffering from dental phobia: 1) cognitive behavioural therapy (CBT), 2) individualised hypnosis, 3) standardised hypnosis, and 4) general anaesthesia (GA) (WANNEMUELLER ET AL. 2011). While CBT was provided by postgraduate clinical psychologists in two sessions lasting 60 and 50 minutes, respectively, both methods of hypnosis were performed during dental treatment using audio CDs playing instructions for either hypnosis or relaxation. Interestingly, both standardised and individualised hypnosis demonstrated greater anxiety reduction scores in comparison to CBT and GA one week following the last dental appointment. Since both methods for hypnosis did not require further training of the dental professionals, these methods may become valuable in case dentists do not have access to education and training in anxiety reduction methods.

Brahm and colleagues in their Swedish study pointed out that some 77% of their respondents used benzodiazepine medication for anxiety reduction (BRAHM ET AL. 2013). In turn, 29.3% of the respondents to the present survey reported to use oral sedation for the reduction of dental anxiety. Concerning psychological methods, in Brahm’s study, 86% of their respondents used “tell, show, do” and 68% used “relaxation”. The respective frequencies of the present study were 48.5% for “tell, show, do” and 36.4% for “relaxation”. However, these results still confirm Brahm’s statement that “(i)n general, anxiety-reducing methods were used more often by dentists trained in Sweden compared with their colleagues trained in other countries”.

Regarding the choice of dental anxiety reduction methods, Berggren advises in his well-worded report that “dental status, time, cost, and the patient’s preferences all are taken into account when a specific therapy is planned” (BERGGREN 2001). An

evaluation of the patient’s personality and psychological resources is included, albeit seldom in a structured way. However, this process is by no means ‘objective,’ but is influenced by the dentist’s skills, interests, and preferences, and his or her awareness and knowledge about each of the above-mentioned factors” (BERGGREN & MEYNERT 1984).

Barriers towards the use of anxiety reduction methods

In Hill’s study on the management of dental anxiety in the UK, dentists were asked to share their reasons for not using any anxiety reduction methods in their dental practice (HILL ET AL. 2008). Most dentists in that study reported the lack of both time and reimbursement as well as a shortage of confidence in using these methods. In this study, respondents mainly claimed a lack of proper education followed by a lack of time in particular for the use of psychological methods. Interestingly, however, both inadequacy of their reimbursement or treatment costs – possibly due to the flexibility of the Swiss dental reimbursement system – were not seen as a relevant factor.

Education and training in anxiety reduction methods

Brahm and his colleagues reported in their survey that 61.4% of their respondents were educated and trained in dental anxiety reduction methods during their postgraduate education (BRAHM ET AL. 2013). Further studies revealed frequencies of education and training at 63.4% in Sweden (HAGGLIN 2000) and at 31.2% in other countries (ARMPFIELD ET AL. 2009; MILGROM ET AL. 1988; MOORE ET AL. 1993; NEVERLIEN 1990). In the present study, only 20.1% of the respondents had received education and training in this field.

In their study, Hill and colleagues evaluated the dentists’ attitudes on the quality of education and training (HILL ET AL. 2008). Some 65% admitted that the teaching was less than adequate concerning the use of psychological methods whereas 44% indicated that they would be interested in further training of these methods. Respondents to the present survey shared similar opinions: some 66% admitted that their education and training was inadequate whereas 56% requested further education and training.

Dental care settings for patients with dental anxiety and dental phobia

Hakeberg and colleagues and other groups elaborated a vast amount of clinical evidence on the negative impact of dental anxiety on oral health by comparing individuals with dental phobia and those without dental anxiety (BERGGREN 1993; HAKEBERG ET AL. 1993; KAUFMAN ET AL. 1992; LOCKER & LIDDELL 1992). Furthermore, Kent and colleagues presented social and psychological effects of patients with severe dental anxiety (dental phobia) (KENT ET AL. 1996). Moreover, a number of additional studies report that both dental anxiety and dental phobia have an impact on the number of cancelled or missed appointments and on late arrivals (HAGGLIN 2000; HAKEBERG ET AL. 1992A; MILGROM ET AL. 1988; MOORE ET AL. 1993; NEVERLIEN 1990; SKARET ET AL. 1998).

In alignment with this evidence, in the present study, the majority of dental practitioners reported that oral deteriorations of phobic patients were severe. Almost two thirds admitted that the Swiss dental system was inadequate for phobic patients and thus claimed that the instalment of a fear clinic (institution providing both pharmacological and psychological treatment) may be indicated.

Conclusion

While both female and male dentists reported to have experienced patients with dental phobia and increased stress levels when treating these patients, female dentists were more frequently using dental anxiety reduction methods. In agreement with the requests from the respondents to this survey it can be concluded that more education and training of dental anxiety reduction methods are needed.

Aiming for a better management of dental anxiety in the dental practice may both reduce stress for patients with dental fear and give benefits to the members of the dental team. Further improvements in dental education that specifically address both the assessment of dental anxiety and the provision of anxiety reduction methods may help to improve the dental care setting and the quality of life with their patients.

Zusammenfassung

Einleitung

Das Ziel dieser Studie war es, mehr über das Management von Angstpatienten durch Zahnärzt/innen in der französischsprachigen Schweiz zu erfahren. Insbesondere wurde untersucht, welche Methoden hierfür verwendet werden und ob es die Befragten als nötig erachteten, diesbezüglich besser ausgebildet worden zu sein.

Material und Methoden

Im Jahre 2013 wurde ein Fragebogen mit 18 Fragen an 726 Praktiker/innen versandt, die aufgrund einer Liste der Schweizerischen Zahnärztesgesellschaft (SSO) identifiziert worden waren. Eine gedruckte Version dieses Bogens wurde an 28 Neuenburger Zahnärzt/innen, von denen keine E-Mail-Adresse ausfindig gemacht werden konnte, per Post versandt. Die Zielgruppe wurde dreimal aufgefordert, an dieser Befragung teilzunehmen.

Resultate

Ein Total von 143 Praktiker/innen nahm an der Umfrage teil. 140 (18,6%) Fragebögen konnten schliesslich für die Analyse verwendet werden. Ungefähr vier Fünftel dieser Allgemeinpraktiker/innen hatten Erfahrungen mit Patienten mit Zahnarztphobie gemacht. Die Mehrheit der Teilnehmenden gaben an, dass Zahnarztangst und Zahnarztphobie das Stressniveau in der Praxis anheben (90% bzw. 88,5%). Unter den 119 Teilnehmenden (85%), die etwas gegen Zahnarztangst unternahmen, gaben 51 (42,9%) an, dies mithilfe von Arzneimitteln zu tun. Demgegenüber bevorzugte es eine Mehrheit von 107 (89,9%), psychologische Mittel anzuwenden. Hierbei gaben Zahnärztinnen dreimal häufiger als ihre männlichen Kollegen an, Angst mittels Psychologie zu bekämpfen. Dieser Unterschied war aber statistisch nur marginal signifikant (OR = 3,0, p = 0,0591). Unter den 140 Teilnehmenden hatten gerade einmal 28 (20,1%) eine strukturierte Ausbildung zur Bekämpfung der Zahnarztangst erhalten. Eine Mehrheit (66,4%; n = 83) gab an, dass ihre Ausbildung diesbezüglich mangelhaft gewesen sei, und 55,8% (n = 77) würden eine Zusatzausbildung in diesem Zusammenhang begrüssen.

Diskussion

Die Mehrheit der Befragten Zahnärzt/innen hat Erfahrungen mit Angstpatienten gemacht und dadurch selbst Stress erlebt. Frauen nutzten häufiger psychologische Methoden, um die Zahnarztangst ihrer Patient/innen anzugehen, als ihre männlichen Kollegen. Schliesslich hat diese Befragung auch ergeben,

dass eine Notwendigkeit zur besseren Ausbildung bezüglich der Bekämpfung der Zahnarztangst besteht.

Résumé

Introduction

Le but principal de cette étude est d'améliorer la connaissance de la gestion de la peur des soins dentaires pratiquée par les médecins-dentistes romands, l'évaluation de leurs méthodes habituelles de réduction anxieuse et leur besoin en formations supplémentaires dans ce domaine.

Matériels et méthodes

En 2013 un questionnaire informatisé de 18 questions a été distribué aux 726 praticiens identifiés par la base de données de la SSO (Société suisse des médecins-dentistes). Une version imprimée du questionnaire a dû être envoyée par courrier postal à 28 praticiens neuchâtelois dont les adresses électroniques manquaient. Les destinataires ont été invités à répondre par e-mail ou, respectivement, par courrier postal classique. Ces envois ont été répétés à trois reprises.

Résultats

Un total de 143 praticiens dentistes a répondu à cette enquête. 140 (18,6%) questionnaires ont été validés et sélectionnés pour l'analyse. Environ quatre cinquièmes des généralistes incorporés dans le service de garde ont vécu, au moins une fois, la prise en charge d'un patient phobique dentaire. La majorité des répondants ont constaté que l'anxiété dentaire, aussi bien que la phobie dentaire, augmentait le stress au cabinet (90% resp. 88,5%). Parmi les 119 répondants utilisant une méthode de réduction de l'anxiété dentaire (85%), un total de 51 (42,9%) précisait qu'il s'agissait de méthodes pharmacologiques, alors qu'une majorité de 107 (89,9%) préférait les méthodes psychologiques. Les dentistes de sexe féminin ont indiqué pratiquer trois fois plus fréquemment les méthodes psychologiques (de réduction de l'anxiété) que leurs collègues masculins. Cette différence n'a que peu de signification statistique (OR = 3,0, p = 0,0591).

Sur 140 répondants, seuls 28 (20,1%) ont été formés et entraînés aux méthodes de réduction de l'anxiété dentaire. Une majorité d'entre eux (66,4% ; n=83) ont déclaré leur formation inadéquate et 55,8% (n = 77) demandaient des formations supplémentaires dans ce domaine.

Discussion

Bien que la majorité des dentistes, aussi bien hommes que femmes, rapportait avoir expérimenté un accroissement de stress lors du traitement dentaire chez des patients phobiques, les femmes utilisaient plus fréquemment les méthodes psychologiques de réduction anxieuse que les hommes. Finalement, ce sondage a également révélé la nécessité d'une meilleure formation dans le domaine des méthodes de réduction de l'anxiété dentaire.

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