Review paper

Strategy for dealing with anxiety among adult patients of a dental office

Strategia radzenia sobie z lękiem przez dorosłych pacjentów gabinetu stomatologicznego

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Key words: stress, coping strategies, dental patient, anxiety/fear.

Słowa kluczowe: stres, strategie radzenia sobie, pacjent stomatologiczny, lęk/strach.

Abstract

Introduction: A visit to the dental office is described by many patients as a difficult situation.
Aim of the research: Evaluate of the adult patients' coping strategies with dental anxiety.
Methods: The Mini-COPE inventory was used in a study of 69 adults.
Results: No significant differences were found between age and the choice of stress coping strategies. People living in small towns obtained significantly higher results on the Planning and Turn to Religion scale than those living in a small town, and people with higher education – on the Dealing with Something Else scale than patients with a different level of education.
Conclusions: Adult dental office patients with dental anxiety/fear are most likely to use positive/constructive coping strategies. The use of the Mini-COPE inventory to assess stress coping strategies should be one of the elements of the patient's examination, contributing to increased personalisation of dental preventive and therapeutic care.

Streszczenie

Wprowadzenie: Wizyta w gabinecie stomatologicznym jest dla wielu pacjentów sytuacją trudną.
Cel pracy: Ocena strategii radzenia sobie przez dorosłych pacjentów z lękiem stomatologicznym.
Metody: W badaniach z udziałem 69 dorosłych osób zastosowano inwentarz Mini-COPE.
Wyniki: Nie stwierdzono istotnych różnic między wiekiem a wyborem strategii radzenia sobie ze stresem. Osoby mieszkające w małych miejscowościach uzyskiwały istotnie wyższe wyniki w skali Planowanie i Zwrot ku Religii niż mieszkańcy małego miasta, a osoby z wyższym wykształceniem – w skali Zajmowanie się Czymś Innym niż pacjenci z innym wykształceniem.
Wnioski: Dorośli pacjenci gabinetu stomatologicznego, którzy zmagają się z lękiem lub strachem stomatologicznym, stosują najczęściej pozytywne – konstruktywne strategie aktywnego radzenia sobie. Zastosowanie inwentarza Mini-COPE do oceny strategii radzenia sobie ze stresem u pacjentów zgłaszających lęk lub strach przed wizytą stomatologiczną powinno stanowić jeden z elementów badania pacjenta, co przyczynia się do zwiększonej personalizacji stomatologicznej opieki profilaktyczno-leczniczej.

Introduction

A visit to the dental office is described by many patients as a difficult situation, accompanied by high levels of anxiety, fear, and stress. The concepts of anxiety and fear of dental treatment are often used interchangeably in the literature, even though they constitute different psychological states [1, 2]. Anxiety is a diffuse, unpleasant, vague sense of apprehension. It is often a response to an imprecise or unknown threat. Fear is an emotional response to a known or definite threat. The danger is real, definite, and immediate. There is a clear and present object of the fear. Although the focus of the response is different (real vs. imagined danger), fear and anxiety are interrelated. When faced with fear, most people will experience the physical reactions that are described under anxiety [3, 4]. Dental anxiety affects patients of all ages. It is one of the most common anxieties in the population – it is estimated that it affects from 5% to 20% of people [5]. It is a frequent obstacle to oral health care, and avoiding dental visits by patients with dental anxiety ultimately leads to deterioration of oral health [6].

However, fear, unlike anxiety, is caused by a specific threat [7]. The fear of visiting the dentist in children is considered developmentally normative, but if it does not subside during adolescence, it may develop into severe dental anxiety or dentophobia [8].

There are 3 main mechanisms of dental anxiety. The first is related to dental factors, resulting from negative past experiences, the second mechanism results from negative information reaching the patient, and the third from the observation of negative behaviour of third parties during treatment. The last 2 mechanisms are based on external factors not directly related to the patient [9, 10]. Stress is defined as the adaptive response of an individual to a given situation or stimulus. When experiencing it, various types of behavioural and cognitive methods are used to return to a state of relative psychophysical homeostasis [11]. Stress can induce a state of anxiety and/or fear, and their presence may lead to unfavourable outcomes, worsening health, or mental disorders and somatic diseases. From the long professional experience of one of the authors, in the daily dental clinical practice of patients, apart from situations of obvious dentophobia, stress, anxiety, and fear are constantly present, and their levels vary.

Aim of the research

The aim of the study was to evaluate adult patients' coping strategies with dental anxiety.

Methods

The study included 69 adult patients under the preventive and therapeutic care of a dental office located in a small town in the Lublin Voivodeship, who reported fear of dental visits. A Mini-COPE inventory, assessing 14 stress management strategies, was used to evaluate dental anxiety management strategies. Each strategy is assigned 2 statements from the form, and each statement is rated by the respondent on a scale from 0 (I almost never do it) to 3 (I almost always do it). The higher the score a patient receives on a given scale, the more often he or she uses a particular type of strategy. This inventory is a simplified version of the Multidimensional Inventory for Measuring Coping with Stress – COPE. The strategies assessed in the Mini-COPE inventory are as follows: active coping, planning, positive reinterpretation and growth, acceptance, sense of humour, turning to religion, seeking emotional support, seeking instrumental support, mental disengagement, denial, venting of emotions, psychoactive substance use, restraint, and self-blame [12]. The inventory questionnaire included questions regarding sociometric data: gender, age, place of residence, and level of education.

Statistical analysis

The results of the surveys were prepared using Statistica 3.1 and Microsoft Excel 2013. Significant differences and correlations were observed at $p \leq 0.05$.

Table 1. Mini-COPE tool – results of examined patients

Scale name	Mean	Median
Active Coping	2.17	2.00
Planning	1.93	2.00
Positive Reinterpretation and Growth	1.59	1.50
Acceptance	1.63	1.50
Sense of Humour	0.74	0.50
Turn to Religion	1.28	1.50
Seeking Emotional Support	1.82	2.00
Seeking Instrumental Support	1.69	1.50
Mental Disengagement	1.59	1.50
Denial	0.86	1.00
Venting of Emotions	1.33	1.50
Use of Psychoactive Substances	0.57	0.00
Restraint	0.94	1.00
Blaming Yourself	1.38	1.50

Results

The results of tests conducted on 41 women (59.42% of the total) and 28 men (40.58% of the total) were analysed. The study participants were divided into 3 groups as follows: age – 18–34 years, 35–54 years, and over 54 years old; place of residence – residents of the town of Piaski, people from the municipality of Piaski living outside the town, and residents from neighbouring municipalities; and education – basic, secondary, and higher.

Based on the collected data, mean values obtained by patients in particular scales, and medians of results were calculated. Results obtained by study participants in each of the 14 scales of Mini-COPE are presented in Table 1. The highest mean values were observed in the following scales: active coping, planning, and seeking emotional support. The lowest mean values were found in psychoactive substance use, sense of humour, and denial.

Mean values obtained in relation to gender did not differ statistically significantly. However, it can be seen that women achieved higher scores on the active coping and positive reinterpretation and growth scales, while men had higher scores on the restraint, psychoactive substance use, and self-blame scales (Table 2).

In each age group, patients had the highest average scores on a different scale. For people aged 18–24 years – it was the turn to religion scale, for people aged 34–54 years – it was the acceptance scale, and for people over 54 years old – it was the restraint scale. However, the lowest mean values in all age groups

Table 2. Differences in strategies for coping with stress taking into account the gender of patients

Scale name	Women	Men	Test M-W	
			Z	*P*-value
Active Coping	2.305	1.964	1.69247	0.090558
Planning	2.037	1.768	1.15479	0.248178
Positive Reinterpretation and Growth	1.720	1.411	1.79023	0.073418
Acceptance	1.720	1.50	1.29532	0.195211
Sense of Humour	0.829	0.607	1.15479	0.248178
Turn to Religion	1.366	1.161	0.91039	0.362618
Seeking Emotional Support	1.915	1.679	1.23422	0.217122
Seeking Instrumental Support	1.780	1.554	1.24033	0.214855
Mental Disengagement	1.598	1.589	0.23829	0.811657
Denial	0.927	0.768	0.82485	0.409458
Venting of Emotions	1.415	1.214	0.98982	0.322263
Use of Psychoactive Substances	0.488	0.696	–1.59471	0.110779
Restraint	0.817	1.125	–1.77190	0.076412
Blaming Yourself	1.280	1.51	–1.20367	0.228719

M-W test – Mann-Whitney test, Z – normal distribution, Z test result, p – significance level, probability (≤ 0.05).

Table 3. Differences in stress coping strategies depending on the age of patients

Scale name	18–34 years	35–54 years	Over 54 years	Test K-W	
				H	*P*-value
Active Coping	2.227	2.130	2.150	0.339	0.844
Planning	1.977	1.926	1.87	0.257	0.879
Positive Reinterpretation and Growth	1.705	1.444	1.675	2.039	0.361
Acceptance	1.432	1.833	1.575	3.918	0.141
Sense of Humour	0.795	0.630	0.825	1.224	0.542
Turn to Religion	1.545	1.111	1.225	4.183	0.124
Seeking Emotional Support	1.864	1.722	1.90	0.612	0.737
Seeking Instrumental Support	1.727	1.648	1.70	0.104	0.950
Mental Disengagement	1.750	1.463	1.60	1.598	0.450
Denial	1.045	0.796	0.750	1.362	0.506
Venting of Emotions	1.523	1.333	1.125	2.785	0.249
Use of Psychoactive Substances	0.659	0.574	0.475	0.049	0.976
Restraint	0.864	0.815	1.20	4.403	0.111
Blaming Yourself	1.318	1.463	1.325	0.902	0.637

K-W test – Kruskal-Wallis H test, p – significance level, probability (≤ 0.05).

were obtained by patients on the psychoactive substance use scale. No significant differences were found between age and the choice of stress coping strategies (Table 3).

People living outside the town obtained significantly higher results on the planning and turn to religion scales. However, they obtained the significantly lowest results on the restraint scale (Table 4).

People with higher education achieved significantly higher results on the mental disengagement scale than patients with other education. In other cases, no significant differences were found in the results

Table 4. Differences in stress coping strategies taking into account patients' place of residence

Scale name	City of Piaski	Piaski municipality outside the city	Other municipalities	Test K-W	
				H	*P*-value
Active Coping	2.348	1.956	2.417	5.496	0.064
Planning	1.913	1.750	2.458	7.558	0.023
Positive Reinterpretation and Growth	1.761	1.397	1.833	4.842	0.089
Acceptance	1.543	1.618	1.833	0.917	0.632
Sense of Humour	0.630	0.676	1.125	2.10	0.350
Turn to Religion	1.152	1.132	1.958	10.73	0.005
Seeking Emotional Support	1.783	1.721	2.167	3.908	0.142
Seeking Instrumental Support	1.804	1.515	1.958	4.335	0.115
Mental Disengagement	1.391	1.574	2.042	4.699	0.095
Denial	0.696	0.824	1.292	3.997	0.136
Venting of Emotions	1.217	1.353	1.50	1.209	0.546
Use of Psychoactive Substances	0.326	0.676	0.750	4.599	0.10
Restraint	0.674	1.162	0.833	7.025	0.030
Blaming Yourself	1.348	1.441	1.250	0.485	0.785

K-W test – Kruskal-Wallis H test, p – significance level, probability (≤ 0.05).

Table 5. Differences in stress coping strategies with consideration patients' education

Scale name	Primary	Secondary*	Higher	Test K-W	
				H	*P*-value
Active Coping	2.250	2.146	2.175	0.210	0 .90
Planning	2.0	1.854	2.050	0.876	0 .645
Positive Reinterpretation and Growth	1.625	1.537	1.70	0.753	0 .686
Acceptance	1.563	1.683	1.550	0.756	0 .685
Sense of Humour	0.750	0.756	0.70	0.074	0 .964
Turn to Religion	0.813	1.293	1.450	4.057	0 .132
Seeking Emotional Support	1.625	1.732	2.075	4.524	0.104
Seeking Instrumental Support	1.750	1.622	1.80	0.506	0.776
Mental Disengagement	1.688	1.415	1.925	7.833	0.020
Denial	0.813	0.744	1.125	2.170	0.338
Venting of Emotions	1.50	1.220	1.50	2.214	0.331
Use of Psychoactive Substances	0.625	0.561	0.575	0.446	0.80
Restraint	0.938	1.073	0.674	4.323	0.115
Blaming Yourself	1.938	1.244	1.425	3.595	0.166

** secondary and basic vocational, K-W test – Kruskal-Wallis H test, p – significance level, probability (≤ 0.05).*

of the Mini-COPE tool depending on place of residence (Table 5).

Discussion

In our own study, the respondents (adult patients with dental anxiety) most often chose problem-focused strategies: active coping, planning, seeking instrumental support, active coping, and seeking instrumental support are treated as strategies focused on the problem and its solution. They involve changing the stressful situation by modifying the whole situation or the way the patient interprets it, while planning covers all possible strategies undertaken to control the problem and reduce the negative effects

of the experienced stressor [12, 13]. Attempting to solve a problem actively is considered to be the most health-promoting style [14]. The most popular strategy for coping with stress related to a dental visit among the patients covered by our study was active coping, which consisted of taking actions aimed at improving the situation, in this case health problems. In such cases, the next step for patients is to come for a dental visit despite anxiety, and willingness to deal with the situation with the help of a dentist. This is confirmed by research results, which show that people exhibiting the above-mentioned way of reacting to stress will report for a dental visit despite having a high level of anxiety [15]. In addition, research indicates that people who score higher in active coping have high levels of emotional intelligence, which is defined as the ability to recognise one's own and others' emotional states and using them effectively to deal with the experienced emotions. This is important because emotions, when properly directed, allow for effective decision-making and problem-solving [16]. It should also be noted that the fear associated with a dental visit occurs regardless of the type of procedure to be performed during the visit – it arises from the very fact of the visit. Moreover, dental anxiety may cause and intensify pain before, during, and after treatment [17], and this, in turn, may increase the level of stress experienced and influence the effectiveness of treatment and the level of patient satisfaction.

People with higher education were significantly more likely than those with other education levels to use one of the avoidance strategies to deal with stress, namely mental disengagement. It involves redirecting thoughts to events other than those that cause stress [12] and taking steps not to avoid dental visits [18]. It should be noted that this strategy is intentionally suggested to patients in dental offices. It can be implemented by distracting patients' attention using audiovisual and sound methods by watching movies and listening to music to put them in a state of relaxation [19, 20]. People with higher education have greater knowledge about the need for regular visits to the dentist's office [21]. Other studies have also found that as the education and knowledge of the specifics of treatment increase, patients are less likely to abandon dental treatment [22].

According to our own research, people living outside the Piaski municipality relied significantly more often on the planning strategy, i.e. they tried to think about what they could do to avoid a stressful situation. Moreover, the second dominant strategy in this group was the turn to religion. For patients, faith, prayer, and meditation increased their motivation to overcome a stressful situation, and became a way to transform an anxiety-inducing situation into a positive experience necessary to improve their health. In this group, the fewest patients reported experiencing dental anxiety. It should also be noted that rural residents more often use stress coping strategies aimed at religious support [23]. Therefore, subsequent research should include information on the duration of residence in a given place, as the strategies used by the patient may have resulted from many years of living in the countryside or in the city – and not the current place of residence – which influenced the state of his/her mental health [24, 25]. Our own study did not demonstrate any significant differences in the results of the Mini-COPE tool, taking into account the age of the examined patients. It should be noted, however, that patients aged 18–24 years were characterised by a predominance of the turn to religion style, which is associated with focusing on experienced emotions and overcoming the experienced tension through prayer. The results of studies by other authors have shown that religious rituals (one of which examined the effect of reciting the rosary) can have a beneficial effect on believers when used as one of the elements of therapy for depression and anxiety [26] or anxiety itself [27].

Conclusions

Adult dental office patients with dental anxiety/fear are most likely to use positive/constructive coping strategies, planning and seeking emotional and instrumental support, and least likely to use a negative one – psychoactive substance use. The use of the Mini-COPE inventory to assess stress coping strategies in patients reporting anxiety/fear of a dental visit should be one of the elements of the patient's examination, contributing to greater personalisation of the preventive strategy and planning of therapeutic procedures.

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Ethical approval

The authors obtained consent from the Bioethics Committee at the Medical University of Lublin (No. KE-0254/22/2019) and obtained written informed consent from the patients to conduct the survey study.

Conflict of interest

The authors declare no conflict of interest.

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