THE EFFECTS OF THE PAIN ENDURED DURING DENTAL TREATMENT

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INTRODUCTION

It has been acknowledged for many years that human pain perception is made up of multiple dimensions, including a sensory aspect and an emotional/affective quality aspect (Price, 1988). Researchers have shown that some "pain" stimuli are associated with high levels of emotionality/affect (for example, cancer pain), whereas other "pain" stimuli can produce relatively low levels of emotional distress (for example, labour pain) (Price et al., 1987). These findings indicate that people can experience very different emotional responses to very similar levels of stimuli intensity, depending on their perception of the event (Gracely, Kwilosz, 1988). Assessment of clinical pain response requires the use of measurement scales designed to capture the different dimensions of pain perception (Logan, 1995).

The dental treatments usually are associated by the patient with pain and anxiety. Is proved that painful therapeutic procedures are the most important reason of generating pain and anxiety during a dental treatment.

An early negative dental experience is probably the most stated single cause for dental anxiety (Locker et al., 1996, 1999). However, a negative dental experience does not necessarily lead to dental anxiety. The 'latent inhibition' theory, for instance, states that a history of positive or neutral dental experiences may serve as a buffer against the development of traumatic associations or experiences (Davey, 1989). As a consequence, high levels of anxiety or fear are developed less easily. Conversely, an early negative dental experience can serve as a one-shot conditioner and may leave a patient with feelings of anxiety. Fear of dental pain is a highly relevant concept in dental pain research and, moreover, in dentistry (van Wijk and Hoogstraten, 2003). Whereas anxiety and fear can be seen as a state of distress in anticipation or in the presence of a perceived danger, respectively, fear of pain can be seen as a state of distress related to a very specific type of stimulus, namely, pain (Gower, 2004). Research suggests that anxious people tend to overestimate anticipated pain. Moreover, individuals tend to overestimate the intensity of aversive events in general, including such events as fear. Therefore, people who are predisposed to respond fearfully to pain are at an increased risk of ending up in a vicious circle of anxiety, fear of pain, and avoidance of dental treatment (van Wijk, Hoogstraten, 2005).

The target of this study is to prove the connection between previous pain and anticipating pain. This study is a part of a larger research project , and the results presented here are only preliminary, they can modify with the advancement of the study (ex. rising patient number).

MATERIAL AND METHOD

This study is based on a questionnaire created by us, which includes general data's about the patient (age, sex, studies), and also contains four questions , which are helping us to determine, if the patient had any painful experiences during the dental treatment, if he's anticipating the

pain, or if he is avoiding the appointments because of pain.

At the same time we determined the patient's anxiety level using the Dental Anxiety Scale (DAS) questionnaire. DAS contains four questions about different situations which are occurring during the dental treatment. Every question is rated between 1 (no anxiety) and 5 (very anxious), the final score can alternate between 4 and 20. A result higher than 15 is the proof for a high level of anxiety.

The patient's selection was based on the next criteria's:

1. patients older than 18
2. patients who had contact with one or more dentist's before the start of the study
3. we used only the fully completed questionnaires

After a selection made using this criteria's it resulted a lot of 247 persons with age between 18 and 79 (M = 38,03), 179 (72,47 %) female and 69 (27,53%) male.

Using the DAS we confirmed that the majority of the patients with painful experiences in the past are subject of high or even severe level of anxiety.

RESULTS

The questionnaire carry out by us presents questions with closed answer (yes, no), codified by entering them in statistical analysis charts, done by GraphPad InStat 3 and NCSS software's.

Out of 247 questioned patients 60 % said that they endured painful dental treatments in the past and also 60|% said that they during a dental treatment are waiting for the appearance of the pain. For statistical analysis we used the Fisher test and the results showed that is a very significant association between pain in the past and anticipating pain ($p< 0,0001$) The association is significant both statistically and scientifically to (OR = 3.951, CI = 95%, 2,298 – 6,794) (fig. 1).

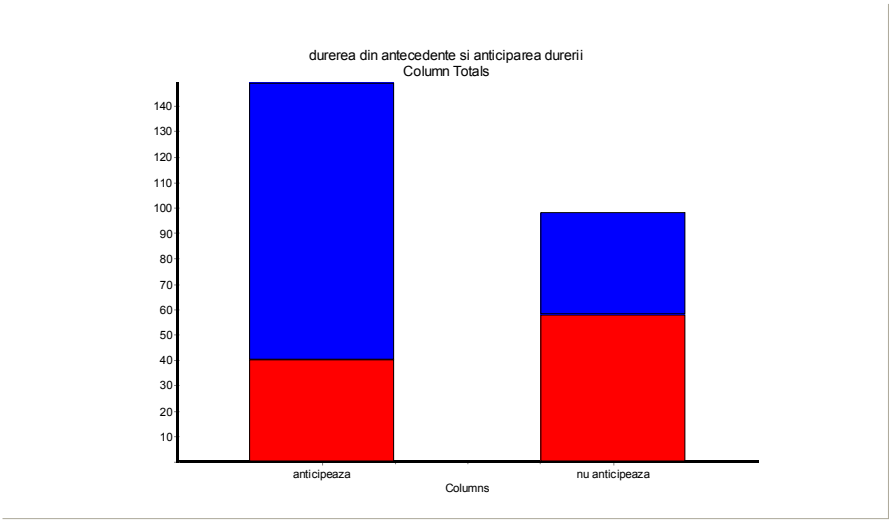

Fig. 1 Correlation between pain in the past and anticipating pain

After dividing on age groups we observed a extremely significant positive association, both from statistically or scientifically points of view , between pain in the past and anticipating pain at patients with ages between 18 -30 (n= 81) years and 41 – 50 (n= 47) years with p=0,0005 (OR = 5.600 95% CI: 2,088 to 15,017), or in case of p=0,0006 (OR = 12 95% CI:2,685 to 53,636). At patients with ages between 18 and 30 years we could prove statistically significant correlation between anticipating pain and avoiding dental treatment (p=0,0024) (Fig. 2).

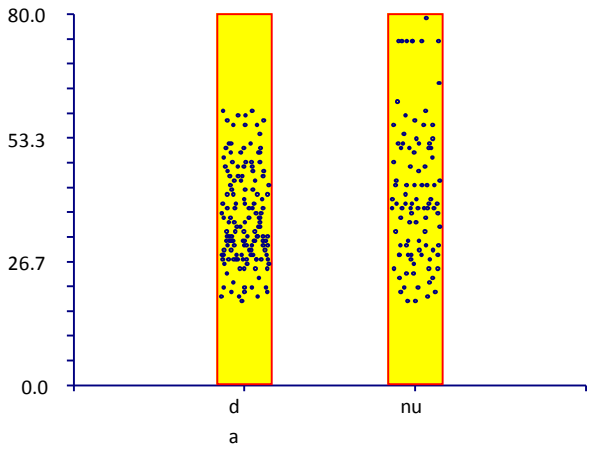

Fig. 2 Pain anticipation and ages

The statically reading of the results showed that between pain in the past and avoiding dental treatments exists a positive association, but statistical insignificant (p=0,08 OR = 1,743 95% CI: 0,9635 to 3,151). This helped us to conclude that to obtain accurate results we need a larger lot of patients.

CONCLUSIONS

In 1984 Wall and Melzack said " Pain always is one-sided. Every individual is learning the signification of this word by the experiences he starts to have from his first years. Without doubts is a sensation with organic origins, but this sensation always is apprehended like an unlike one, which makes from this an emotional experience"

For many patients, fear of dental pain and avoidance of dentistry are synonymous (Freeman, 1991). Moreover, clinicians report that managing some patients' pain and distress can be a frustrating task (Lindsay, Jackson 1995).

From this lot of patients 60% (n=149) had in the past dental treatments involving pain. This result has to put the practitioners to think how they can avoid pain, because pain could be the starting or the aggravating factor of the dental anxiety.

The high number of patients who had a positive answer to the first question from our questionnaire shows us that practitioners are not giving enough significance to the symptom of pain, resulting an absence of interest in trying to challenge the pain. Between pain in the past and avoiding dental treatments exists a positive association, but to determine the statistically and scientifically magnitude we have to rise the number of questioned patients. We can claim that any pain endured during the dental treatment remains printed in the patients memory, making them to think on possible pain at their following appointment. 73% (n=109) out of the patients who experienced painful dental treatments , are believing that at the next appointment pain can show up again. A number of 40 patients are waiting for pain to show up at their next appointment, even they never experienced painful dental treatments. This situation is making us to associate pain with the dental treatment.

It often is assumed that aging results in loss of pain sensitivity. Although some efforts have been made to study the effects of aging on pain perceptions, the results are not conclusive. Experimental studies of acute pain responses do not show significant age-related alteration in the pain perceptions of healthy elderly subjects (Harkins et al., 1994). It has been proposed that differences in acute pain responses between younger and older

patients (Lash et al., 1997) may be a result of changes in pathophysiology (for example, neural conductivity) rather than changes in the pain perception itself (Harkins et al., 1990; Heft et al., 1996). It is not clear, however, from the literature whether these changes in pathophysiology influence both affective pain and sensory intensity in the elderly.

During our study we observed that patients with age between 18 – 30 years are avoiding dental treatments because of the pain which can show up during the dental treatment. Patient older than 50 years are not avoiding dental treatments. One of the main reasons of this can be that painful experiences are fading during the years in patients memory.

New evidence suggests that there are differences in pain perceptions between men and women (Riley et. al. 1998, Unruh et al. 1999). Although, most studies suggest that women have greater pain sensitivity than men, there are inconsistencies in the literature (Eli et al., 1996). These inconsistencies suggest that the type of pain stimuli may influence perceived pain differences between men and women (Fillingim, 1998). In addition, the influence of aging on these reported sex differences has yet to be clarified.

In our study because of the lower number of questioned male patients we couldn't determine a precise correlation between pain in the past , anticipating pain and avoiding dental treatments.

Our own experience is showing that the majority of patients are favoring different methods to fight pain showing up during the oral rehabilitation treatments.

Patients avoiding dental treatments usually presents a poor oral health, and at the end they will need elaborate oral rehabilitation treatments.

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