

FACTORS INFLUENCING LOCUS OF PAIN CONTROL IN STUDENTS TREATED IN DENTAL OFFICES

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Abstract

Introduction. A holistic approach to patients enables a better understanding of their health-related ailments.

Aim. It seemed purposeful to determine factors responsible for the locus of pain control in patients undergoing dental treatment.

Material and methods. The study involved 280 students. Each of them filled in the Beliefs about Pain Control Questionnaire (BPCQ) individually.

Results. It was observed that in case of internal locus of pain control, higher values occur in students of Medical University. External factors were significant.

Conclusions. The locus of pain control in the girls depends more on external factors; there is no statistically significant correlation between the factors responsible for the locus of pain control and a profile of their universities.

Keywords: pain control, BPCQ, young adults.

Introduction

A holistic approach to patients enables a better understanding of their health-related ailments, their concerns and worries about diagnostic and therapeutic measures taken in the oral cavity, a reduction of dental fear and an assessment of patients' expectations towards both a health condition of hard and soft tissues in the oral cavity, as well as towards their aesthetic appearance and related mental comfort. Many patients associate dental treatment with interference into their intimate zone and pain as a kind of aggressor that rules their bodies. With these in mind, it is preferable to determine factors responsible for the locus of pain control in patients undergoing dental treatment [1,2].

Material and methods

The study involved 280 students from Lublin Universities: 122 patients were from the I Faculty of Medicine with Dentistry Division Medical University of Lublin, 79 from the University of Life Sciences in Lublin (ULS) and 79 from the Maria Curie-Skłodowska University in Lublin (MCSU). The mean age of the study subjects was 21 years and 8 months \pm 3.9 months. After initial explanation of the purpose of the study and an introduction, the subjects were asked to fill in a study questionnaire. The questionnaires were completed individually by each study subject in groups

formed by students attending the same school class. The subjects were informed about the purpose of the study and, after receiving a concise introduction, they were asked to fill in study questionnaires. The survey was performed in several groups of students, divided into their regular school classes. Each student filled in the Beliefs about Pain Control Questionnaire (BPCQ) individually.

In the Beliefs about Pain Control Questionnaire, the measurement of attitudes with a six-item Likert scale was used (Table 1):

- 1 – no, I totally disagree;
- 2 – I disagree;
- 3 – I rather disagree;
- 4 – I rather agree;
- 5 – I agree;
- 6 – yes, I totally agree.

Table 1. Beliefs about Pain Control Questionnaire

No.	Opinion	Patient's answer
1	Taking care of myself I can usually avoid pain	
2	Whatever I do, the amount of pain depends on the skills of the doctor	
3	When I experience pain it is usually the result of what I have or have not done	
4	Absence of pain is mostly the question of fortune	
5	If I am to suffer, I will suffer no matter what I do	
6	As a matter of fact, my pain depends on what the doctors do for me	
7	If I do not seek medical help, I cannot reduce my pain	
8	When I experience pain, I know that it has been caused by the lack of appropriate exercise or not eating appropriate food	
9	In reality, pain is caused by accidental events	
10	Pain is the result of my own carelessness	
11	I am directly responsible for my own pain	
12	Reduction of pain is mainly dependent on the doctors	
13	People who never experienced pain are fortunate	

The range of points that a person could potentially score (according to the provided key) was from 5 to 30 in case of internal locus of pain control and from 4 to 24 in case of doctor's involvement in pain control. Getting a higher score means that the patient is more convinced that pain can be reduced thanks to application of a single factor [3].

The following methods of statistical analysis were used in the statistical analysis of the survey results: for the quantitative features, mean measures (M) and result distribution measures (standard deviation – SD) were calculated. In some cases,

the measurable variables were characterized using mean value at the same time providing results range. Results comparison was based on hypotheses verification method – the Kruskal-Wallis test. The calculations were made using Statistica 10 program. Statistical significance was established at $p < 0.05$ [4].

Results

Mean values acquired from the analysis of the Beliefs about Pain Control Questionnaire are presented in Table 2 and Figure 1. It was established that there is a statistically significant correlation between the gender of the study subjects and the accidental effects influencing the locus of pain control. In the case of girls, the accidental effects had higher influence.

Table 2. Mean values acquired from the analysis of the Beliefs about Pain Control Questionnaire in relation to gender

Pain control	Girls	Boys	Total	Statistical significance
	M ± SD	M ± SD	M ± SD	
Internal control	17.74±3.67	17.10±4.45	17.62±3.82	H=0.82 p=0.773
Doctor's Influence	15.20±3.53	14.66±4.68	15.11±3.76	H=0.513 p=0.473
Accidental events	12.65±3.75	11.26±4.17	12.41±3.86	H=0.5106 p=0.238

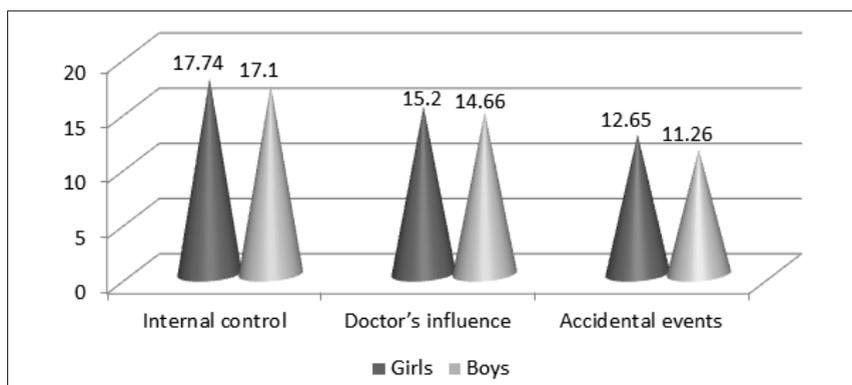


Figure 1. Mean values acquired from the analysis of the Beliefs about Pain Control Questionnaire in relation to gender

It was observed that in the case of internal locus of pain control, higher values occur in students of the Medical University of Lublin (17.93 ± 3.23) comparing with students of the University of Life Sciences in Lublin, as well as MCSU students (17.68 ± 5.18). The level of Doctor's Influence on internal locus of pain control was – 15.21 ± 3.17

(Students of the Medical University of Lublin), ULS – 14.55 ± 3.14 (students of the University of Life Sciences in Lublin), MCSU students – 15.49 ± 4.97 . At the same time, no statistically significant correlation was found, neither between the doctor's influence on pain control nor the influence of accidental events on pain control and the students from different Universities (Figure 2).

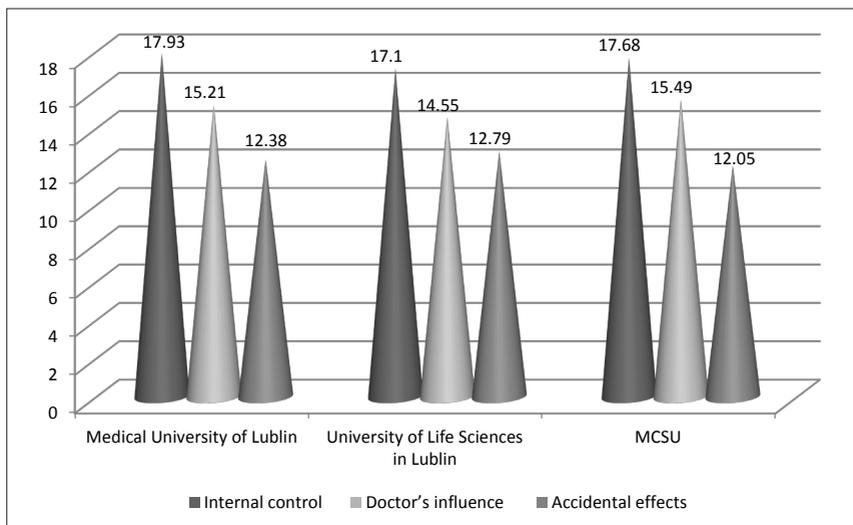


Figure 2. Mean values acquired from the analysis of the Beliefs about Pain Control Questionnaire in relation to the University

Discussion

In the available literature no papers were found concerning the locus of pain control in students. Many factors may influence young adults' approach to treatment. On the one hand, it is patients' dental fear, but on the other hand it is their confidence in doctors, cultural factors and the environment, i.e. their families and people around them – their schoolmates or friends, as well as their accompanying general diseases. Larsson *et al.* stated that the influence of factors should be carefully studied [5]. Al-Harthy *et al.*, in their studies, found no significant correlation between the approach to dental treatment and factors influencing locus of pain control [6]. Simultaneously, Jones *et al.* claim that the impact of pain control factors is determined by socio-economic conditions [7]. Our study shows the correlation between the locus of pain control and external factors, therefore one of the most important one is the impact of environmental factors. The investigation by Galli *et al.* shows that mental quality of life is important for the therapy of soft and hard dental tissues [8]. The research results indicate that diagnostic and therapeutic results are impacted by the approach to the control of pain control factors [9].

Conclusions

Our study seems to justify the following conclusions: the locus of pain control in the girls depends more on external factors; there is no statistically significant correlation between the factors responsible for the locus of pain control and a profile of their universities.

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