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STUDY ON THE IMPACT ON THE QUALITY OF LIFE OF PATIENTS WHO HAVE SUFFERED CRANIO-MAXILLOFACIAL TRAUMA

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Abstract: *The quality of life of patients who have suffered cranio-maxillofacial trauma is affected by the occurrence of anxiety and depression, largely because of the aesthetic consequences for patients on their social and professional life. Aim: This article aims at identifying the occurrence of anxiety or depression in patients who have suffered cranio-maxillofacial traumas, hospitalized in the Sibiu County Emergency Clinical Hospital, in 2020. Materials and methods:24 patients answered to a questionnaire that assessed their level of depression and anxiety after having suffered cranio-maxillofacial trauma. Results: These pathologies bring about a strong impact on patients' quality of life, but a reactively small number of the study patients presented depression symptoms. Anxiety was the dominant symptom in these patients with oro-maxillofacial trauma.*

INTRODUCTION

Post-traumatic stress disorder (PTSD) is a health problem that some people develop as a result of exposure to some tragic events, such as car accidents, interpersonal aggression, natural disasters, sexual abuse. The disorder is characterized by anxiety, nightmares, insomnia, flashbacks, concentration difficulty, irascibility, anger, isolation, sense of detachment, sadness, guilt, refusal to reintegrate into society.(1,2)

Although post-traumatic stress has been known for over 100 years, it was not until 1980 that persistent stress symptoms were recognized in psychiatric pathology.(2) A 2007 study of 336 patients with facial trauma, with post-traumatic stress disorder, found that 23% of them continued to experience significant PTSD symptoms 1 year after the trauma.(3)

AIM

This article aims at monitoring the occurrence of anxiety or depression in patients who have suffered cranio-maxillofacial traumas, and who were hospitalized in the Sibiu County Emergency Clinical Hospital during the year 2020.

MATERIALS AND METHODS

The study is a descriptive one, conducted between January and December 2020 and was based on a standardized questionnaire - HADS (Hospital Anxiety and Depression Scale), which assesses the degree of depression or anxiety of patients who have suffered cranio-maxillofacial trauma during 2020.

This questionnaire was applied to patients without psychiatric disorders, who suffered traumas in the cranio-maxillofacial area during 2020, in order to emphasize the influence of these types of pathologies on the quality of life of patients, respectively the degree of depression or anxiety.

The questionnaire includes 14 targeted questions that assess the degree of depression or anxiety, being structured with answers in two columns, each answer having a score from 0 to 3. At the end, the score is grouped into three intervals (0-7, 8-10, 11-21) and classifies the presence of depression or anxiety.

The questionnaire was answered by 24 patients, who presented in the oral and maxillofacial surgery service, and who were divided into two subcategories, respectively patients who presented nasal bone fractures and patients with mandibular fractures.

The aim of this questionnaire was to compare the repercussions of two common types of oro-maxillofacial fractures, and to observe the degree of anxiety or depression that the affected patients may experience.

The results obtained are correlated with data on patient gender, age and background.

RESULTS

Of the study group of 24 patients who answered the questionnaire, 19 patients were males and 5 were females.

The traumatic pathologies evaluated in this study were represented by the fractures of the mandible and the fractures of the nasal bones, these being the most frequent types of cranio-maxillofacial traumas (table no. 1).

Table no. 1. Repartition of the type of fractures according to sex

	Mandible fractures	Nasal bones fractures
Males	9	10
Females	1	4

Analysing the results of the HADS questionnaire, we observed a number of 15 patients in the analysed group who had the score for anxiety above the normal limit, of whom 12 were males and 3 females (table no. 2).

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We can conclude that these types of pathologies in the cranio-maxillofacial area produce an impairment in the quality of life and a strong impact on the patient, probably due to the fact that the cephalic extremity is a richly innervated area, which can often present scars or damages in the aesthetic, functional and cognitive functions that affect patients' quality of life.

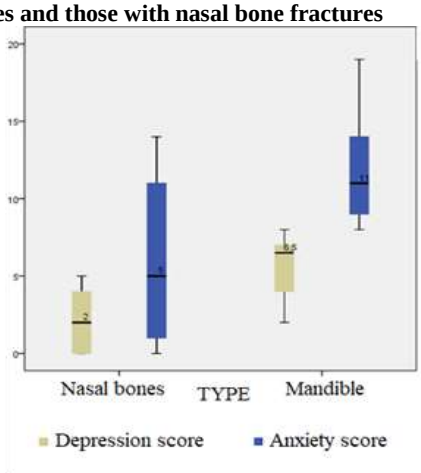
Table no. 2. Number of patients who developed anxiety or depression related to the type of fracture

	Anxiety	Depression
Mandible fractures	10	0
Nasal bones fractures	5	0

The higher number of patients who developed anxiety after mandibular fractures, compared to fractures of the nasal bones, can be explained by the fact that the mandible participates in addition to aesthetic function, to shaping the patient's physiognomy, to the function of chewing, phonation and swallowing so that trauma at this level can have a much greater impact than in the case of nasal bones fractures.

Analysing the scores obtained for the two subscales of the HADS questionnaire, an average of 3.62 (SD = 2.72) for the depression scale and 8.42 (SD = 5.35) for the anxiety scale are observed (figure no. 1). The values obtained for the depression scale as well as the central tendency indicator are less than or equal to the value 8 which is at the limit of normal values, while over 50% of the values obtained for the anxiety scale exceed the limit of normal.

Figure no. 1. Scores for depression and anxiety scale, comparative analysis between patients with mandibular fractures and those with nasal bone fractures



The correlation analysis between the score obtained for the depression scale and the score obtained for the anxiety scale indicates the existence of a statistically significant direct link (r = 0.652, p = 0.001) between the two scales, at the level of the whole group. Thus, it can be said that patients who have low values on the anxiety scale also have small values on the scale of depression (patients who are not anxious nor depressed), respectively patients who have high values on the scale of anxiety also have high values on depression scale (patients who are anxious are also depressed).

Analysing this correlation in the case of patients with nasal bone fracture, respectively in the case of patients with mandibular fracture, it can be noticed that the direct, statistically significant relationship is maintained only in the case of patients with nasal bone fracture (r = 0.646, p = 0.012).

The matrix obtained by rotating the benchmark of the factorial axes indicates the degree of correlation coefficients between the analysed items and the obtained factors. It can be observed that the first and fourth factors correlate with the items corresponding to the depression scale (i2, i4, i6, i8, i10 and i12, i14 respectively) and the factors 2, 3 and 5 correlate with the items corresponding to the anxiety scale (i5, i9, i11 respectively i1, i3, i7 respectively i13) (table no. 3). From the table of the explained total variant it is observed that all the factors have values over 1, the extracted variants of the first two factors being of 41.29%, 14.77%, respectively.

Comparing the two types of fractures, it is observed that in the case of patients with mandible fracture, the scores for both depression and anxiety are significantly higher than in the case of patients with nasal bone fractures (depression score: 5.80 ± 1.99 vs. 2.07 ± 2.02, p = 0.000; anxiety score: 12.00 ± 3.50 vs. 5.86 ± 5.02, p = 0.000) (table no. 4).

Table no. 4. Descriptive analysis of the two subscales, for the whole group, respectively for the two types of fractures

		N	%	M±SD	Nasal bones	Mandible
Depression score	0	5	20,83	3.62± 2.72	2.07±2.02	5.80±1.99
	1	1	4,17			
	2	4	16,67			
	3	1	4,17			
	4	3	12,5			
	5	4	16,67			
	6	1	4,17			
	7	3	12,5			
	8	2	8,33			
Anxiety score	0	3	12,5	8.42± 5.35	5.86±5.02	12.00±3.50
	1	1	4,17			
	3	1	4,17			
	4	1	4,17			
	5	3	12,5			
	8	2	8,33			
	9	1	4,17			
	10	1	4,17			
	11	5	20,83			
	13	1	4,17			
	14	3	12,5			
	15	1	4,17			
	19	1	4,17			

Table no. 3. Items correlation matrix

Correlation Matrix														
	i1	i2	i3	i4	i5	i6	i7	i8	i9	i10	i11	i12	i13	i14
i1	1,000	,423	,809	,526	,411	,416	-,144	,521	,175	,608	,216	,234	-,178	,138
i2	,423	1,000	,406	,807	,605	,528	,281	,733	,435	,750	,425	,581	-,128	,212
i3	,809	,406	1,000	,373	,335	,485	-,262	,472	,158	,624	,311	,232	-,162	,094
i4	,526	,807	,373	1,000	,417	,620	,231	,772	,455	,729	,168	,474	-,285	,097
i5	,411	,605	,335	,417	1,000	,181	,439	,528	,295	,394	,502	,453	-,181	,210
i6	,416	,528	,485	,620	,181	1,000	,247	,753	,270	,650	,009	,452	-,043	,126
i7	-,144	,281	-,262	,231	,439	,247	1,000	,198	,127	,255	,264	,316	,247	-,041
i8	,521	,733	,472	,772	,528	,753	,198	1,000	,310	,678	,052	,522	-,303	,045
i9	,175	,435	,158	,455	,295	,270	,127	,310	1,000	,217	,289	-,087	,100	-,066
i10	,608	,750	,624	,729	,394	,650	,255	,678	,217	1,000	,330	,594	-,095	,136
i11	,216	,425	,311	,168	,502	,009	,264	,052	,289	,330	1,000	,503	,288	,476
i12	,234	,581	,232	,474	,453	,452	,316	,522	-,087	,594	,503	1,000	-,016	,616
i13	-,178	-,128	-,162	-,285	-,181	-,043	,247	-,303	,100	-,095	,288	-,016	1,000	,202
i14	,138	,212	,094	,097	,210	,126	-,041	,045	-,066	,136	,476	,616	,202	1,000

DISCUSSIONS

It is interesting to note that according to the results of this questionnaire, no patient developed symptoms of depression after these traumas in the cranio-maxillofacial area, which can be explained by the relatively small number of patients with these types of pathologies that we were able to analyse during this period.

We can also focus on the fact that these types of traumas rather affect the patient's quality of life bringing about fear, anxiety about the possibility to repeat this type of traumas.(4,5,6,7)

These results may be useful to train the health units that deal with the treatment of these types of pathologies, in order to also provide the psychiatric and psychological support that some patients with these types of pathologies may require.

Anxiety is an important factor today and refers to excessive and uncontrollable worries about everyday life events. In 2017, this disorder affected3,4% of the global population, and the incidence is twice as high in women as in men.(8,9)

People with generalized anxiety present major challenges in all segments of daily life as well as in the performance of work or home tasks.(8)

Traumas in oro-maxillofacial area represent a health problem in both developed and developing countries. In general, most of these injuries bring about long-term disabilities with social and psychological outcomes. Numerous studies have shown that such patients are prone to psychological issues on short- and on long term and a poor quality of life after having suffered such type of traumas.(10)

The psychological consequences of oro-maxillofacial trauma have drawn much attention in recent years; however, there is insufficient comparative data between different populations in relation to the prevalence of psychological anxiety and depression following this type of pathology.(11) Still, there are some significant similarities in the epidemiology of maxillofacial injuries all over the world. These injuries especially affect young men and the most common etiologic factors are traumas due to fights, road accidents, sports injuries and industrial accidents.(12)

CONCLUSIONS

In this study, the analysed group of patients registered a low percentage of symptoms of depression after trauma in the oro- maxillofacial area.

Anxiety was the predominant symptom in these patients with traumas in the oro-maxillofacial area.

Most of the patients who had anxiety according to this study were males. Mandible fractures had a much higher frequency than nasal bone fractures.

Mandible fractures were predominant in male patients.

Mandible fractures caused anxiety in a higher percentage than nasal bone fractures.

The majority of female patients had fractures of nasal bones and a small percentage had mandibular fractures.

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