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QUALITY OF LIFE IN ADULTS WITH OROFACIAL PAIN: A LONGITUDINAL APPROACH

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ABSTRACT

Aim: was to relate orofacial pain and TMD with a high negative impact on quality of life indices, to observe and report the possible reduction of the impact in these same indexes with the initial treatment. A longitudinal and quantitative study was developed in a sample of 48 patients previously screened for Orofacial Pain and/or TMD who were starting treatment at the Center for Diagnosis and Treatment of TMJ (CDATM) at Tuiuti University of Paraná. They were evaluated in relation to the negative impact on quality of life using the OHIP-14 questionnaire. The same patients were evaluated 30, 60, 90 and 120 days after starting treatment, to verify the positive impact, related to treatment, on quality of life. **Results**: The mean impact on quality of life before treatment started was 23.40 (± 11.38). In relation to the OHIP-14 domains, "physical pain" (96.8%), "psychological discomfort" (93.5%) and "psychological incapacity" (93.5%) were the most frequent and prevalent factors. **Conclusion**:The negative impact of pain and TMD on the quality of life of the patients was verified, as well as a statistically significant difference in relation to the mean of this index after the beginning of the treatment.

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INTRODUCTION

Thousands of people throughout the world suffer from pain, being defined by the IASP as a unique, unpleasant and subjective experience (Carrara, 2010 and Rodrigues, 2015). Orofacial pain affects a relative share of the citizens causing injury and is considered a significant public health problem of the population (Correia *et al.,* 2014 and Novaes *et al.,* 2018). Orofacial pain (OP) is all pain associated with soft and mineralized tissues of the oral cavity and face. This pain can usually be referred to in the head and/or neck region or even associated (Kuroiwa *et al.,* 2011) and may alter quality of life (QoL) more than other systemic conditions (Oliveira, 2003). Temporomandibular disorders (TMD) are a subgroup of orofacial pain characterized by a set of craniofacial alterations of multifactorial etiology (Lemos *et al.,* 2015). It is accepted by the American Academy of Orofacial Pain that Temporomandibular Disorder is a set of disorders involving the masticatory muscles, the temporomandibular joint (TMJ) and adjacent structures (Kuroiwa *et al.,* 2011). Some authors have shown that TMD and other painful conditions on the face have a great impact on QoL (Alencar Júnior, 2005 and Montini, 2012). QoL is related to the subjective perception that the individual has about his or her position of life in the context of system of values and culture in which he lives, and in relation to his goals, expectations and concerns (Novaes *et al.,* 2018). Chronic pain is directly related to the state of quality of life. The TMD leads to chronic pain, thus generating a great impact on the individual's QoL, since they produce effects not only on the body, but also on the state psychological and social coexistence (Correia *et al.,* 2014 and John, 2007). Considering the context presented, this study aimed to relate orofacial and TMD pain with a high negative impact on quality of life indices and to observe and report the possible reduction of the impact in these same indices with the initial treatment of this debilitating condition with 120-day follow-up.

MATERIALS AND METHODS

This study has a longitudinal and quantitative character and was carried out at the Center for Diagnosis and Treatment of

ATM (CDATM) of the Tuiuti University of Paraná, located in the city of Curitiba-PR. According to Resolution No. 466 of the National Health Council, of December 12, 2012, the research began after the approval of the Research Ethics Committee of the Tuiuti University of Paraná with CAAE number: 56608016.2.0000.8040 and registration of document number 1684.888. Data were collected by two previously trained researchers. A sample of 67 patients, previously screened for the presence of Orofacial Pain and/or TMD, who were initiating treatment at the Center for Diagnosis and Treatment of TMJ (CDATM), at the Tuiuti University of Paraná, were obtained. Patients were evaluated for negative life impact, using the OHIP questionnaire. OHIP is one of the oral health assessment instruments reported to measure the impact on quality of life due to oral affections in its well-being, also applied to individuals with oral dysfunction.12 The OHIP-14 (Afonso *et al.,* 2017) is composed of 14 questions, (items 1 and 2), physical pain (items 3 and 4), psychological discomfort (items 5 and 6), disability (items 7 and 8), psychological incapacity (items 9 and 10), social incapacity (items 11 and 12) and social disadvantage (items 13 and 14). The questions will be scored on a Likert scale (0 indicates never, 1 rarely, 2 sometimes, 3 constantly, and 4 always). All ordinal responses will be summed to produce a total OHIP-14 score, which may range from zero to 56, with higher scores indicating a more negative impact on oral health (Lemos, 2015). Regarding the inclusion criteria, patients who were present and initiating treatment for TMD and Orofacial Pain were invited to participate in the study and, upon accepting, signed the Informed Consent Term-TCLE. The OHIP-14 questionnaire was then explained, showing the questions and their respective response options: 0 (never), 1 (rarely), 2 (sometimes), 3 (constantly) or 4 (always). In the form of an interview, the volunteer responded and at the end, provided his age and sex. The same patients were evaluated 30, 60, 90 and 120 days after the start of the treatment, with the same questionnaire to verify impact in relation to pain and TMD in quality of life. Data were tabulated and submitted to statistical analysis using the SPSS 20.0 IBM Statistics program. Frequency and distribution analyzes were performed in the groups. In the statistical analysis to compare the mean values of quality of life index in the before and after treatment groups, Student t-test was used for paired data with a significance level of 5%.

RESULTS

We examined 67 patients with TMD Pain and Dysfunction,but only 48 met the inclusion criteria and were evaluated during the 4 evaluation moments, 4 males and 44 females. The mean age was 38.69 years (± 10,185). The mean impact on quality of life before treatment started was 23.40 (± 11.38). In association with the negative impact on the OHIP-14 domains, prior to initiation of treatment (Table 1) Regarding the answers, "physical pain" (96.8%), "psychological discomfort" (93.5%) and "psychological incapacity" (93.5%) were the most frequent and prevalent factors. Regarding gender, OHIP values before the start of treatment did not present a statistically significant difference (Table 2). OHIP-14 scores had normal distribution (OHIP-14 before Shapiro-Wilk p = 0.070, OHIP-14 30 days Shapiro-Wilk p = 0.431, OHIP-14 60 days Shapiro-Wilk p = 0.237 OHIP-14, 90 days Shapiro-Wilk p = 0.086 and OHIP-14 120 days Wilber-Wilk p = 0.231). The Student t-test was then performed for paired data (OHIPa-OHIPd30 days, OHIPa-OHIPd60 days, OHIPd90 days, and OHIPd120 days).

Table 1. Distribution of the impact in ohip-14 domains before the treatment begins. n = 48 - curitiba/pr 2018

Domain		n	%
Functionallimitation	No	26	54.2
	Yes	22	45.8
Physicalpain	No	1	2.1
	Yes	47	97.9
Psychologicaldiscomfort	No	2	4.2
	Yes	46	95.8
Physicaldisability	No	10	20.8
	Yes	38	79.2
Psychologicalincapacity	No	3	6.3
	Yes	45	93.8
Social incapacity	No	14	29.2
	Yes	34	70.8
Social disadvantage	No	11	22.9
	Yes	37	77.1

Table 2. Distribution of the average ohip values before the beginning of treatment in relation to sex. n = 48 - curitiba/pr 2018

	OHIP- before				p*
Sex	Mean	Standard Deviation	Min.	Max.	
Male	15.50	7.15	6	21	0.085
Female	24.11	11.48	1	51	

*Mann- Whitney

The result showed a statistically significant difference ($p \leq 0.05$) for both comparisons, according Table 3. Thus, it is considered that the beginning of the treatment of the patient reflected in a decrease of the negative impact on the quality of life of the patients and can be considered an index of measurement of treatment efficacy, but a fluctuation in relation to the increase in the impact quality of life after 60 days of treatment. Where the data show the decrease in the difference in the impact of quality of life mainly with 90 days of treatment. With 120 days of treatment this difference tends to stabilize (Figure 1).

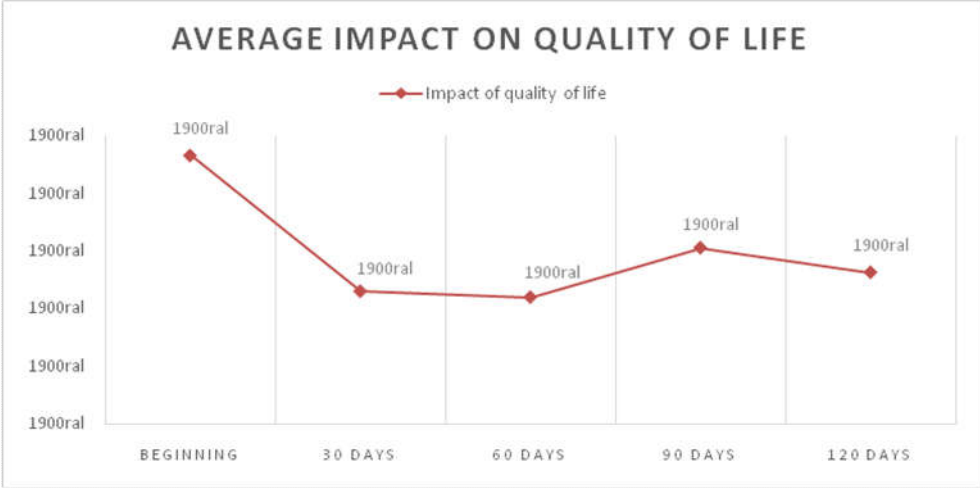
DISCUSSION

The results obtained in this study show that there was no statistically significant difference in mean negative impact on quality of life between the sexes, as well as in the study carried out in Campinas (Calderon, 2012) also with the study of 2013 (Rener-Sitar, 2013) and 2015 (Rodrigues *et al.,* 2015), but in the study of Blanco-Aguilera (2014) the female sex obtained higher values, reflecting a greater impact on the quality of life when bought to males, as well as in the other studies (Kuroiwa, 2011; Rusanen, 2012; Miettinen *et al.,* 2012; Dantas *et al.,* 2015 and Lima *et al.,* 2015). In other study (Lima, 2015) suggests in her study that women tend to seek pain-related care more often. Dantas (Dantas, 2015) justifies the relationship between female and TMD by the physiological conditions specific to women, such as greater ligament lassitude and hormonal conditions, which make them more sensitive in moments of physical and psychic tension, besides the difficulty of TMJ stability. The mean age observed in this study was 38.69 years, similar to the mean age obtained by Oliveira (Oliveira, 2003), andRodrigues (Rodrigues, 2015). In the present study, in which CDATM patients responded to the Oral Health Impact Profile (OHIP) questionnaire, according to their conditions, on the day of initiation of treatment and at 30, 60, 90 and 120 days thereafter, the pain/DTM with a high negative impact on the quality of life of the patients, being the factors: "physical pain", "psychological discomfort" and "psychological incapacity", the most affected in relation to quality of life.

Table 3. Difference of averages of qol indexes, before and after the beginning of the treatment with follow-up of 30, 60, 90 and 120 days. n = 48. - curitiba/pr 2018

	Averagedifference	SD	ConfidenceInterval (95%)		p*
			Inferior	Superior	
OHIP-14 beforetreatment - OHIP-14 after 30 daystreatment	11.79	8.10	9.44	14.14	.000
OHIP-14 beforetreatment - OHIP-14 after 60 daystreatment	12.37	8.17	10.00	14.75	.000
OHIP-14 beforetreatment - OHIP-14 after 90 daystreatment	8.27	6.95	6.25.	10.29	.000
OHIP-14 beforetreatment - OHIP-14 after 120 daystreatment	10.39	7.03	8.35	12.43	.000

SD= Standartd Deviation * t- Student test



Source: search result.

Figure 1. Demonstration of the impact on the quality of life before and during treatment

In a study carried out in Minas Gerais, in 2005, with 83 people, it was also demonstrated the prevalence of "physical pain" and "psychological discomfort" [8], similar to the Rodrigues study (Rodrigues, 2015), with 80 people who presented the following as more frequently reported: "Physical pain", "psychological discomfort" and "psychological limitation", two other studies also present "physical pain" as prevalence (Lemos, 2015 and Calderon *et al.,* 2012). In a study carried out in the city of Araraquara, there was a high negative impact on patients' quality of life6, the same occurred with a study by Rodrigues (Rodrigues *et al.,* 2015), agreeing with a transversal study of John[10], and in many other studies (Rodrigues *et al.,* 2015; Lemos *et al.,* 2015; Rener-Sitar *et al.,* 2013; Rusanen, 2012; Lima *et al.,* 2015; Reissmann *et al.,* 2007; Moreno *et al.,* 2007; Dahlström *et al.,* 2010; Studart, 2011; Strini, 2011; Silva, 2012; Cioffi *et al.,* 2014). In this study there is a significant improvement in the patients' quality of life. However, Strini e colaboradores (Strini, 2011), reported a small influence related to the initiation of treatment of patients. The mean score of quality of life impact before treatment in the present study was 23.40 (±11.38), being a high average compared to the other studies, but the highest is found in the work done in Germany, in 2007, with 42.9 (±15.8) (John, 2007), and the lowest in the study of Minas Gerais 11.44 (±5.03) (Cioffi, 2014), followed by the study in Units in Spain, with 20.57 (±10.73) (Rener-Sitar, 2013). The diagnosis related to patients' pain and TMD was not established neither in our study nor in the German study (John, 2007), a fact that may have a direct influence on the quality of life impact values. According to Alencar Júnior and Becker (Alencar Júnior, 2005), the great majority of patients seek care when the pain intensity is higher, thus, at the beginning of the treatment they present a decrease in signs and symptoms, consequently, presenting a decrease in the negative impact on the quality of life, as we can observe in the present study, this mean of the decrease occurred after 30 and 60 days of treatment. After 90 days there was a decrease in the difference in the impact on quality of life throughout the treatment, this impact stabilized as we found after 120 days of treatment. In the systematic review performed by Dutra (Dutra, 2016), he reports that it is of paramount importance in the clinical treatment of TMD, what the literature calls counseling: orientation, education and motivation of the patient. This motivation and orientation to the patient is of great value mainly after 90 days of treatment in which a decrease in the difference in the impact on the QV was verified, being able in this period the patient to be more prone to a discouragement in relation to the treatment and consequently a disinterest to finish it. It is observed that chronic pain is a public health problem, causing morbidity, incapacity and absence of activities, thus causing costs to health systems (Montini, 2012). The impact of OP/TMD on an individual's life is aggravated in the context of leisure, work, interpersonal relations and eating (Pessoa, 2007) because they suffer from biological, behavioral and psychosocial conditions, also affected by psychological and biomechanical factors (Conti, 2012) requiring a multidisciplinary treatment (Dantas, 2015), to solve the pain and the emotional tension, generating cost to the health. Pain associated with TMD can affect a person's performance in daily activities, psychosocial functioning, and quality of life. In the study by Cavalcante-Leão (Cavalcante, 2018) the practice of ballroom dancing is suggested as a more pleasant way of exercising that can

improve the level of physical conditioning and encourage a more active lifestyle and, consequently, a higher quality of life. This work aimed to show the negative impact of the debilitating condition of OP/TMD and to demonstrate how the treatment/control generates a positive impact. As limitations of the present study was the relation of the impact of the quality of life to the clinical diagnosis of TMD, as it is also observed in other studies that associates the disorders with the quality of life, but not specifically to the types of TMD. Future studies in this field should try to define relationship between quality of life and dimension in relation to motivation and commitment of the patient during treatment.

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